



**RusHydro**

**UNITING  
THE ENERGY**



**ANNUAL REPORT  
2017**

ANNUAL REPORT 2017  
OF PSJC FEDERAL HYDROGENERATING  
COMPANY - RUSHYDRO,  
INCLUDING INFORMATION ON  
SUSTAINABLE DEVELOPMENT



This Annual Report is preliminary approved by decision of  
the Board of Directors on May 25, 2018 and approved by  
decision of the Annual General Meeting of Shareholders  
on June 27, 2018

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The interactive version of the Report  
is available at:  
<http://ar2017.rushydro.ru/en>

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 Additional information  
on pages 208–220.



# Responsibility Statement

We hereby confirm that to the best of our knowledge:

- The consolidated financial statements of PJSC RusHydro and its subsidiaries (RusHydro Group), prepared in accordance with International Financial Reporting Standards, constitute a reliable assessment of the assets, liabilities, financial position, profit or loss of RusHydro Group;
- The annual report includes a reliable assessment of the development and business condition and the position of RusHydro Group, as well as a description of the main risks and uncertainties which the activities of PJSC RusHydro and its controlled entities are susceptible to.

**N. G. Shulginov**

Chairman of the Management  
Board – CEO

**Y. G. Medvedeva**

Chief Accountant

## Disclaimer on the publication of forecast data

The report contains information about the plans and intentions of RusHydro Group in the medium and long term. Plans and intentions are predictive in nature and their feasibility depends, among other things, on a number of economic, political and legal factors that are beyond the Company's influence (financial and economic and political conditions, key markets, changes in tax, customs and environmental legislation and etc.). For this reason, the actual performance indicators of future years may differ from the statements published in this Report.

# REPORT INFORMATION

The annual report of Public Joint-Stock Company Federal Hydro-Generating Company – RusHydro (PJSC RusHydro, the Company) for 2017 is the 13th annual report prepared by the Company and aimed at a wide range of stakeholders. [102-52]<sup>1</sup>

This annual report includes information previously disclosed in a separate report on corporate social responsibility and sustainable development. It also outlines the Group's performance in strategic and corporate governance and its financial and operating results for 2017. [102-50]

The report is prepared in accordance with the current laws and is also based on the following principles and requirements [102-54]:

- laws of the Russian Federation;
- rules of the Moscow Stock Exchange;
- rules of the London Stock Exchange;
- UK Disclosure Guidance and Transparency Rules;
- Code of Corporate Governance (recommended by the Bank of Russia);
- Corporate Governance Code of PJSC RusHydro;
- Regulations on the Information Policy of PJSC RusHydro;
- AccountAbility AA1000 series of standards;
- Global Reporting Initiative (GRI) Sustainability Reporting Standards at Core level<sup>2</sup> and the GRI sector guidance for electric utilities;
- International Integrated Reporting Framework (<IR>).



The annexes to this annual report are available in the Appendices Book – see <http://www.eng.rushydro.ru>



PJSC RusHydro's previous annual reports are available on the Company's website at <http://www.eng.rushydro.ru> [102-51]



PJSC RusHydro's previous reports on corporate social responsibility and sustainable development are available on the Company's website at <http://www.eng.rushydro.ru>

The representative of the senior management of the Company responsible for preparing the Annual Report and the quality of the data contained therein is the member of the Management Board, First Deputy CEO of the Company, who oversees the financial and corporate governance units. [102-32]

<sup>1</sup> Hereinafter GRI indicators.

<sup>2</sup> This report has been prepared in accordance with the GRI Standards: Core option.

# EXTERNAL ASSURANCE OF THE REPORT <sup>[102-56]</sup>

The report passed independent external verification in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (revised) Assurance Engagements Other than Audits or Reviews of Historical Financial Information. The independent auditor was JSC PricewaterhouseCoopers Audit. For the independent limited assurance report that provides limited confidence in the qualitative and quantitative information prepared in accordance with the GRI Guidelines and included in this Annual Report, see Appendix 18. The list of GRI disclosures covered by the independent assurance is available on page 211.

In the current reporting period, the Company strived to take into account the recommendations of the Russian Union of Industrialists and Entrepreneurs (RSPP) following the review of RusHydro Group's Corporate Social Responsibility and Sustainable Development Report for 2016. Certificate of the Report's verification by the RUIE experts will be available in Appendix 21.

In the course of preparation of the Report, the Company also incorporated comments and recommendations of expert committees on annual reports of the Moscow Stock Exchange and the Expert RA rating agency.

The report was submitted for the GRI Content Index Service, which confirmed its accuracy as per the GRI Standards.

During the preparation of the Report, public hearings on the draft report were held in 2018 and were attended by representatives of major stakeholder groups. This is the third consecutive year that the Group followed this procedure. In preparing the report, RusHydro also worked to take into account the recommendations of stakeholders received following the public hearings held in 2017.

# REPORT BOUNDARIES

The boundaries of this annual report related to the GRI social and economic metrics match those of the Group's consolidated financial statements under the IFRS, unless otherwise indicated in the notes to respective metrics.

The report's indicators for the remaining categories are disclosed for the Group's key controlled entities <sup>[102-7]</sup>, and the Group's controlled entities not included within the disclosure boundaries are not material for the reporting purposes. Exceptions on the boundaries of indicators are available in the GRI Content Index on page 210. <sup>[103-1]</sup>

No data has been restated for the reporting year; however, calculations of certain figures are indicated in footnotes. <sup>[102-48]</sup>

2017 saw no significant changes in the Group's range of activities. <sup>[102-10]</sup>



For a complete list of legal entities that are part of RusHydro Group's structure, including within the report boundaries, please see the section RusHydro Group's Structure on pages 24-25 <sup>[102-45]</sup>.

# DEFINING THE REPORT CONTENT

International standards (<IR> Standard and GRI Standards) recommend defining material aspects for disclosure in the Report in dialogue between the Company and stakeholders. In determining the content and scope of information included in the Report, RusHydro defined a procedure in 2018 for determining material aspects. <sup>[102-49]</sup>



For the table of stakeholders' recommendations and requests, see Appendix 19-20.



Accepted recommendations of stakeholders proposed during the public hearings on the Report for 2016 are indicated by an icon.



The recommendations of RSPP, proposed on the Report for 2016, are indicated by an icon.



## Preparation of preliminary list of material aspects

- GRI Standards, GRI sector supplement
- <IR> Standard
- Specifics of the energy industry

## Prioritising material aspects

- Polling external stakeholders (42 individuals)
- Polling managers of RusHydro Group (24 individuals)

## Identifying material aspects

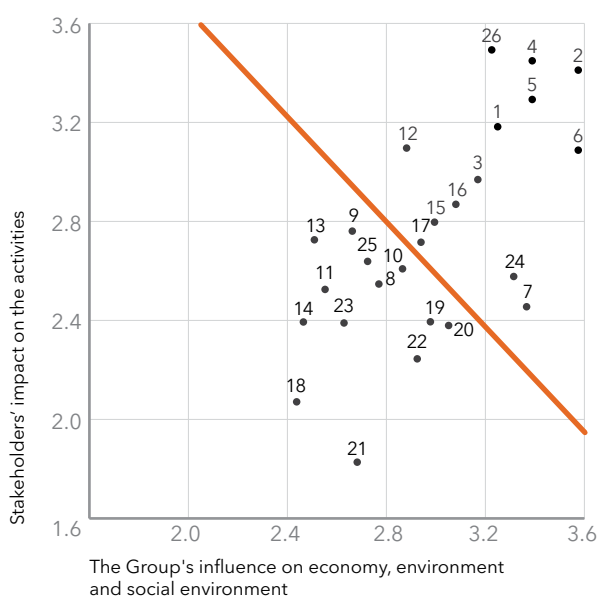
- Creation of a materiality matrix based on polling results
- Setting materiality thresholds

## Making additions to the list of material aspects

- Incorporating comments of stakeholders received during the public hearings
- Decision of the working group on the preparation of the Report

The report includes all the material and significant aspects.

## Materiality matrix [102-46]



## Material Topics [102-47]

Nº	Material topic <sup>1</sup>
1	<b><i>Implementation of the Long-term Development Programme of RusHydro Group</i></b>
2	<b><i>Role of RusHydro in the development of power generation in the Far East</i></b>
3	<b>Improving investment appeal</b>
4	<b><i>Investment policy and implementation of the investment programme, including the commissioning of new energy facilities and the replacement of obsolete capacities</i></b>
5	<b><i>Sustainable development of electric power generation, including the implementation of the Programme for Comprehensive Modernisation and the Technical Upgrading and Reconstruction Programme</i></b>
6	<b>Safety and reliability of RusHydro Group's facilities</b>
7	<b>Framework for the prevention of natural disasters and emergencies and their handling (including floods, high water, low water levels)</b>
8	Renewable energy development
9	Implementation of RusHydro Group's Innovative Development Programme
10	Energy efficiency and energy conservation
11	RusHydro's involvement in the digital transition of the Russian power generation industry
12	<b>Improving operational efficiency and financial sustainability</b>
13	Procurement management
14	Efforts against unfair competition
15	<b>Human capital development</b>
16	<b>Fostering the best working conditions and respect for the rights of employees</b>
17	<b>Occupational safety and health at work</b>
18	Charity
19	Implementation of RusHydro's Environmental Policy
20	Increasing efficiency of water usage
21	Managing the impact on biodiversity
22	Reduction of harmful emissions into the atmosphere (including greenhouse gases)
23	International projects
24	<b>Social and economic development of RusHydro's regions of presence</b>
25	Anti-corruption efforts
26	<b><i>Informational openness and transparency of activities</i></b>

<sup>1</sup> Material aspects shown in bold.

The most material aspects shown in bold italic.

# THE CHAIRMAN'S STATEMENT



## Dear shareholders, colleagues and partners!

The year of 2017 has been a fruitful year. RusHydro Group has made progress across all of its strategic areas: ensuring reliable and safe operations of its power facilities and hydroelectric units, sustainable development of electricity generation, advancing development of the Far Eastern energy sector, and growing the Company's value.

RusHydro has successful projects that matter for the Far East. The first stage of Yakutskaya GRES-2, the second one of the four power plants in the Far East, built in accordance with the Presidential Decree, was put into operation. Other projects in the region, such as Sakhalinskaya GRES-2, Vostochnaya CHPP and Nizhne-Bureyskaya HPP, are close to their completion and slated for commissioning within a year.

Following the launch of new and modernisation of existing facilities, combined with effective planning of energy and water regimes, electricity production of RusHydro Group, including Boguchanskaya HPP, reached a record high of 140.3 bn kWh in 2017, out of which 109.3 bn kWh was carbon-free production.

RusHydro continues to focus on energy efficiency. The Energy Efficiency and Improvement Programme for 2016-2020, updated in 2017, has already helped reduce electricity losses in grids in the Far East by 10%, or close to 375 mn kWh per year, equivalent to annual electricity consumption of a small city.

Infrastructure and investment projects aimed at fostering social and economic development in the Far East continued in 2017. The financial stability of RusHydro's facilities in the region improved as well. RAO ES East Subgroup's debt was refinanced in 2017. In the same year, a law came into effect to reduce electricity tariffs in the Far East to match the average tariffs in Russia, which will improve the business environment in the Company's key region of presence.

A series of measures to reduce costs and increase operational efficiency came into effect last year. The corporate governance structure of the Far Eastern assets was optimised as the headquarters of PJSC RusHydro and JSC RAO ES East were merged. RusHydro also completed the centralisation of its procurement activities, with centralisation and optimisation of certain functions in subsidiaries planned going forward.

Development of the regions of presence continues to be one of the top priorities for RusHydro Group. The Group's facilities are major employers in their regions, and projects to build new energy facilities help create additional jobs. RusHydro's contribution to communities, education, and the environment has been widely recognised and acknowledged.

According to a Decree by the President of the Russian Federation, 2017 was the year of the environment in Russia. Environmental responsibility has been of major importance for RusHydro ever since its inception. Last year, the Group confirmed its status as one of the leaders among Russia's environmentally and socially responsible businesses in the fuel and energy sector. In its operations, the Company pays particular attention to ensuring environmental safety, reducing the environmental footprint (including greenhouse gas emissions), and preserving biodiversity. Regular measures, including environmental and awareness raising activities, are in place to introduce the best available technologies in environmental protection, preservation of rare animals and plants, reproduction of valuable breeds of fish, and support of specially protected natural areas.

With its hydroelectric power stations and wind and solar energy projects, RusHydro Group boasts one of the lowest greenhouse gas emissions per kWh of electricity across Russia. The Group is also among the Russian leaders in sustainable development. The Company pays a great deal of attention to the activities of the Global Sustainable Electricity Partnership (GSEP). GSEP recognizes RusHydro's efforts in constructing new hydraulic, wind, and solar power capacities, and also in switching existing coal-powered power plants in the Far East to natural gas.

RusHydro Group ranks high among global energy companies in a variety of industry ratings. Its sustainable development efforts are in line with the strategic goal of increasing the value of the Company. In 2017, the Group was included into the UK's FTSE4Good Emerging Index, which comprises businesses committed to sustainable development. It serves as a benchmark for investors looking for companies that meet high standards in environmental protection, social responsibility, and corporate governance.

The Company was on the Top 100 of the S&P Global Platts Top 250 Global Energy Company Rankings in 2017, which helps to build recognition among the international financial community. The ongoing process to improve the Company's investment appeal is underway.

In order to maximise the Company's value and increase its value for shareholders, strategic and financial investors, the Board of Directors of RusHydro approved the Group's Value Growth Plan for the period up to 2021.

We thank our shareholders, partners, and employees for their contribution to the development of RusHydro and their trust in the Company's management bodies.

### **Yuri Trutnev**

Chairman of the Board of Directors  
PJSC RusHydro

# CEO'S STATEMENT



## Dear shareholders, colleagues and partners!

The year of 2017 was successful for us. We saw some good progress with all of our priority tasks such as completing key projects and commissioning new generation capacities. We set a new record in power generation proving that not only are we able to achieve meaningful results and sustain them but also to strive and go further raising the bar.

We continue our journey forward through introducing innovative technologies, upgrading our existing facilities, and improving our operating results.

Development of the infrastructure in Russia's Far East, as well as search for sources of investment to modernise our existing heat generation facilities in the region are still among our main goals. In 2017, we completed the integration of PJSC RusHydro's and JSC RAO ES East's executive offices and created a single management office with unified standards.

The company pays special attention to operational efficiency, opex optimisation, enhancing procurement practices and personnel policy to ensure its stable and long-term development.

The Group's electricity generation, including Boguchanskaya HPP, set an all-time record of 140.3 bn kWh, more than 1 bn kWh up year over year.

The record became possible through effective planning of energy and water regimes at the Volga-Kama Cascade HPPs, launch of new and upgrade of the existing stations. Strong operational performance of thermal power plants of the RAO ES East Subgroup, which produced 32.82 bn kWh in 2017, also contributed to the record of power generation. Heat supply by thermal plants of RAO ES East Subgroup amounted to 30.1 mn Gcal.

The installed capacity of RusHydro's power plants, including Boguchanskaya HPP, reached 39.04 GW in 2017, while the installed heat capacity across the Group increased to 18.5 thousand Gcal/h.

The Group spent RUB 92 bn on its investment programme in 2017. The preliminary consolidated investment programme for 2018-2023 is forecast at RUB 443.6 bn. A total of 1.5 GW of electric capacity and 1 thousand Gcal/h of thermal capacity are planned for commissioning.

The active construction phase of Far Eastern facilities such as Sakhalinskaya GRES-2 and a CHPP in Sovetskaya Gavan, carried out in accordance with the Presidential Decree, is under way. The second stage of Blagoveshchenskaya CHPP and the first phase of Yakutskaya GRES-2 were already commissioned in 2016 and 2017, respectively. Three major projects in the Far East electric grid system were launched: the construction of two 110 kV overhead lines Pevek-Bilibino in Chukotka, the modernisation of Magadanenergo substations to connect a new 220 kV overhead line, and the construction of approach lines to the 220 kV Maya substation in Yakutia. The construction of the gas turbine CHPP in Vladivostok is approaching the final straight, while the construction of Ust-Srednekanskaya HPP is progressing in line with the schedule as hydroelectric unit No. 3 is set for commission in 2018. We successfully completed the gasification project at Anadyrskaya CHPP.

RusHydro is poised to commission over 250 MW of capacity by 2023 following the upgrade and revamp of our power plants. We are striving to increase the efficiency of the upgrade and revamp programmes by reducing the



implementation time and unit cost of work, employing new technologies and advanced approaches in project management.

Boosting the technology has become one of the key goals of the Group's Innovation Development Programme until 2025. In 2017, the Interdepartmental Working Group on Implementing Innovation Development Priorities under the Presidium of the Presidential Council for Economic Modernisation and Innovative Development of Russia recognised the quality of our R&D as we received one of the highest ratings among the fuel and energy companies.

The cost optimisation process continued as well. Over RUB 6.5 bn was saved by streamlining the organisational structure, eliminating duplicate administrative and management functions, decreasing unit costs for maintenance, repair and fuel, and reducing transportation costs in 2017 alone. With the actual annual inflation of 3.68%, the Group's controllable operating expenses increased by less than 2%. Activities aimed at reducing costs and increasing productivity are under way.

We have completed the centralisation of our procurement practices within a designated controlled entity, which brought close to RUB 30 bn in savings over two years. A total of RUB 20.8 bn was saved by RusHydro Group's procurement function in 2017.

In 2017, RusHydro Group demonstrated sound operational and financial results. The consolidated revenue for the year amounted to RUB 380.9 bn, consolidated EBITDA increased by 3.7% and reached a record-high RUB 104 bn. The IFRS net profit amounted to RUB 22.4 bn.

Following the successful completion of a transaction with VTB Bank (PJSC) to raise equity, PJSC RusHydro received RUB 55 bn to repay loans of the Group's companies in the Far East. Savings in interest expenses of RAO ES East Subgroup were used to improve the reliability of its facilities.

The Group's strong operational performance and decreasing leverage helped reduce the Net Financial Debt / EBITDA ratio which characterises the company's financial stability from 1.6 at the end of 2016 to 1.4 by the end of 2017. In the current year, the downstream guarantee of PJSC RusHydro to Vnesheconombank under the loan agreement of PJSC Boguchanskaya HPP was excluded from the Group's leverage. As a result, RusHydro's financial debt decreased by another RUB 26 bn.

S&P and Moody's upgraded PJSC RusHydro's credit ratings to the sovereign level in 2017. Analysts rated a high level of government support to the company and ongoing improvement of RusHydro's financial and economic performance. This year, S&P upgraded PJSC RusHydro's long-term credit rating to an investment level of BBB- with a "stable" outlook.

In 2017, PJSC RusHydro became one of the first Russian companies partially owned by the government and the first company in the power sector to receive a top credit rating of "AAA (Ru)" from the Russian Analytical Credit Rating Agency (ACRA).

Successful placements of loan participation notes on the global exchange market in 2017 and 2018 confirm RusHydro's status as a reliable borrower. Investor demand for RusHydro's securities significantly exceeded the offer. The first issue was considered to be the best rouble deal on the international market according to Cbonds, while the second issue hit a historic low in the yield of rouble Eurobond issues among Russian corporate issuers.

Not only do we strive to improve our operational and financial results but also demonstrate maximum transparency of our activities. The leading rating agencies, business associations and public organisations recognised our progress in this direction in 2017 as well. By the end of the year, PJSC RusHydro was among the leaders of the Responsibility and Transparency Index of the Russian Union of Industrialists and Entrepreneurs and ranked among Top 3 most transparent companies in the electric power industry according to Transparency International.

Our activities aimed at sustainable development received a positive assessment internationally as well. In the reporting year, RusHydro ranked high in the RobecoSAM ranking used for the Dow Jones sustainability indices.

RusHydro Group employs thousands of hydro and thermal power engineers, service technicians and distributors, scientists, designers and other professionals across the country ranging from the Far East to St. Petersburg, from the south of Russia to Arctic regions. All of them work for the benefit of the company. I would like to thank all our employees for their hard work in supplying energy to consumers and ensuring the Group's sustainable development. We will keep doing our best to achieve RusHydro's strategic goals.

## Nikolay Shulginov

Chairman of the Management Board –  
CEO of PJSC RusHydro [102-14]





# WATER



# PEP



# EARTH





# SUN



# WIND



# ABOUT THE COMPANY

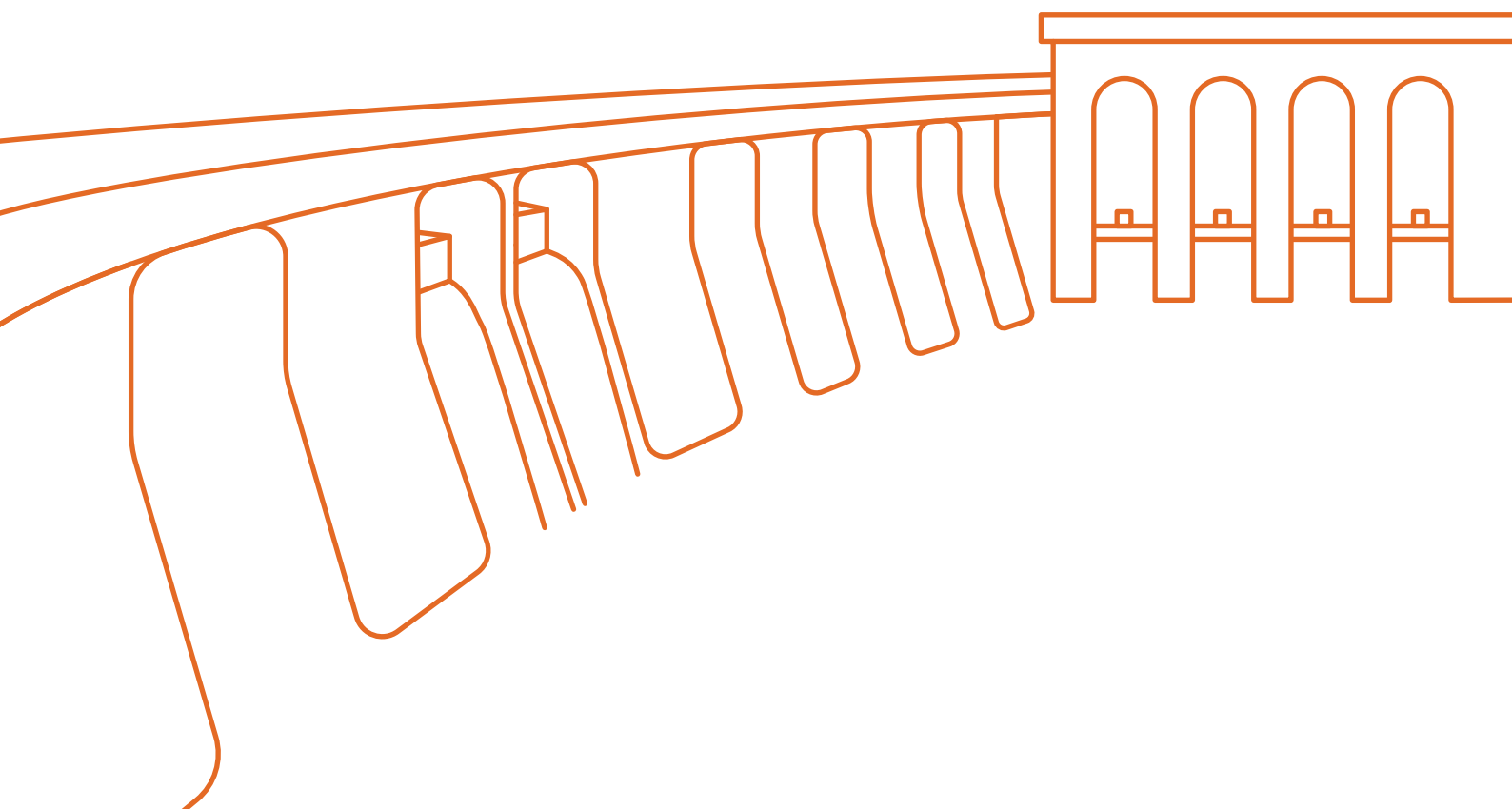
Public Joint-Stock Company Federal Hydro-Generating Company RusHydro is the largest energy company in Russia, Russia's first and the third largest globally in the hydropower industry. RusHydro Group is the leader in the renewable energy generation, producing renewable energy from water currents, sea tides, sun, wind, and geothermal sources.<sup>[102-1][102-2]</sup>

## 39.04

GW

Installed electric capacity of  
RusHydro Group's power plants

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## PJSC RUSHYDRO'S BRIEF HISTORY

PJSC RusHydro was established on 26 December 2004, in line with the government programme to reform the electric power industry as per RF Government Resolution No. 1254-r of 1 September 2003.

In 2008, the company united more than 50 HPPs in 18 regions of the constituent entities of the Russian Federation. In the same year, the company listed its shares on the Russian stock market, and launched a programme of depositary receipts, with the Bank of New York Mellon acting as the depositary bank.

In 2011, the Russian Federation contributed a controlling stake in JSC RAO ES East to the authorised capital of PJSC RusHydro, and the installed capacity of RusHydro Group increased from 26.1 to 35.2 GW.

RusHydro Group's companies are systemic organisations and key government institutions for development of the electric power industry in the country. In accordance with Presidential Decree No. 1009 of 4 August 2004, since 2012, PJSC RusHydro has been included in the list of strategic enterprises and strategic joint-stock companies.

The Company has been in operation for 13 years.

## RUSHYDRO'S OPERATIONS

RusHydro Group's operations are characterised by a wide geography: from St. Petersburg to the Primorye Territory, from the Chukotka Autonomous Area to the Republic of Dagestan. The Group has international presence, managing the Sevan-Hrazdan Cascade HPPs in Armenia. <sup>[102-4]</sup> The company is registered in Krasnoyarsk, while its headquarters are located in Moscow. <sup>[102-3]</sup>

RusHydro Group operates within the framework of the Unified Energy System (UES) of Russia. The installed capacity of the Group's assets is 39.04 GW.<sup>1</sup>

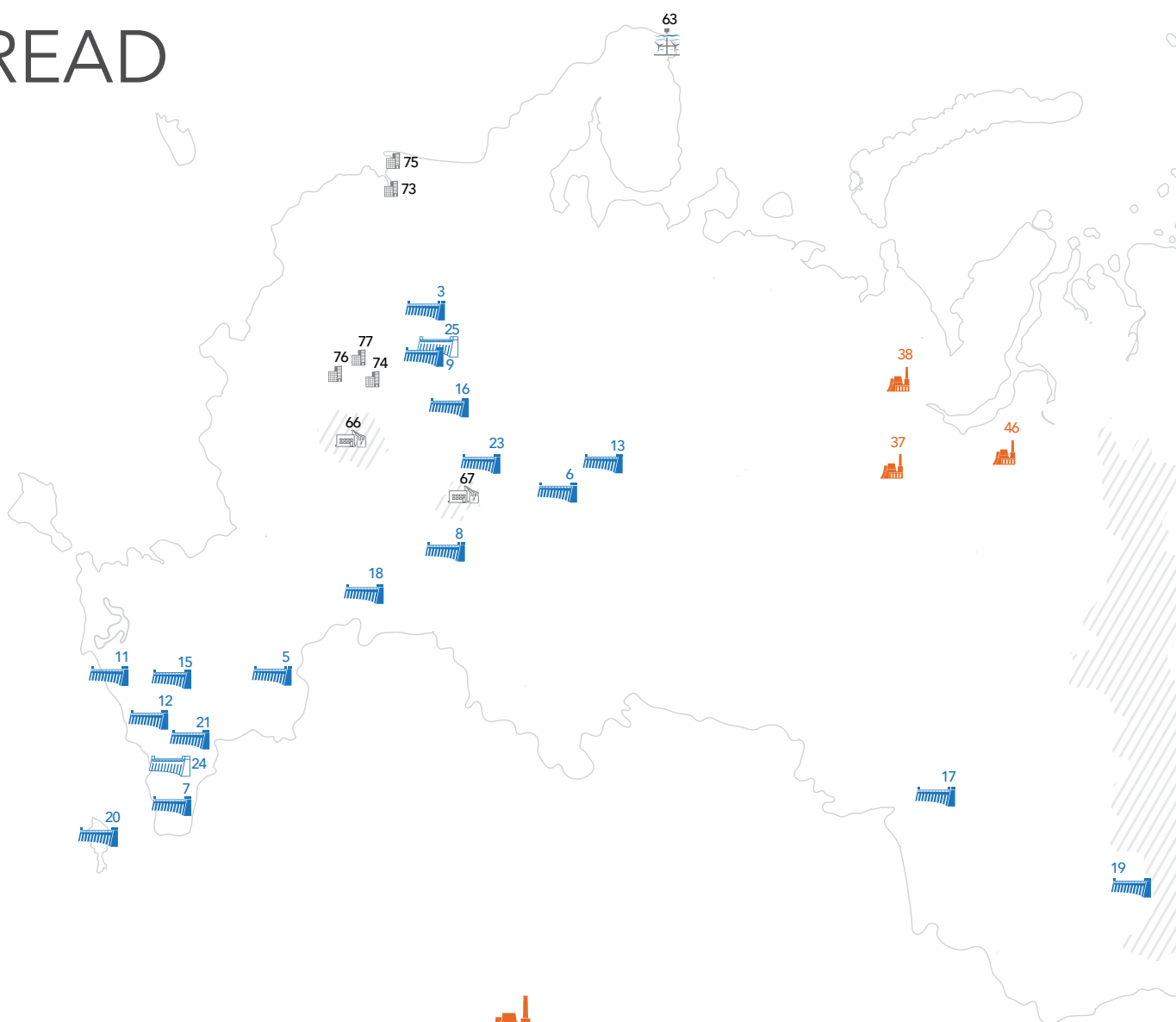
Currently, the Group embraces over 400 power facilities, including more than 90 renewable energy businesses (Russia's largest P. S. Neporozhniy Sayano-Shushenskaya HPP, with a capacity of 6,721 MW together with Mainsky Hydropower Complex). RusHydro also includes nine Volga-Kama Cascade HPPs with a total installed capacity of more than 10,000 MW, Zeyskaya HPP (1,330 MW), Bureyskaya HPP (2,010 MW), Novosibirsk HPP (475 MW), and several dozens of power plants in the North Caucasus. RusHydro Group manages geothermal stations in Kamchatka and the highly maneuverable capacities of pumped storage hydropower plants (PSPs).

An important asset of the Group is RAO ES East Subgroup – the power system of the Far Eastern Federal District. The installed electric capacity of RAO ES East Subgroup is 9,148 MW, while the installed thermal capacity is 18,497.1 Gcal/h.

RusHydro Group also includes IEC (MEK), which owns the Sevan-Hrazdan Cascade HPPs in the Republic of Armenia (seven plants with a total installed capacity of 561 MW).

<sup>1</sup> The indicator includes the electric capacity of the RAO ES East as well as the Boguchanskaya HPP, built and operated jointly with the United Company (UC RUSAL).

# GEOGRAPHICAL SPREAD



## HPPs

1. Boguchanskaya HPP
2. Byreyskaya HPP
3. Cascade of Verkhnevolzhskiy HPPs
4. Cascade of Viluy HPPs
5. Volzhskaya HPP
6. Votkinskaya HPP
7. HPP's of Dagestan branch
8. Zhigulevskaya HPP
9. Zagorskaya PSP
10. Zeyskaya HPP
11. Zelenchukskaya PSP
12. HPP's of Kabardino-Balkarian Branch
13. Kamskaya HPP
14. Kolymskaya HPP
15. Cascade of Kubanskiye HPPs
16. Nizhegorodskaya HPP
17. Novosibirskaya HPP
18. Saratovskaya HPP
19. Sayano-Shushensky Branch
20. Sevan-Hrazdan Cascade HPPs
21. HPP's of the Northern Ossetian Branch
22. Tolmachyovskiy HPPs
23. Cheboksarskaya HPP
24. Zaramagskiye HPPs
25. Zagorskaya PSP-2
26. Nizhne-Bureyskaya HPP
27. Ust-Srednekanskaya A. F. Dyakova HPP



## HPPs under construction



## Thermal PPs

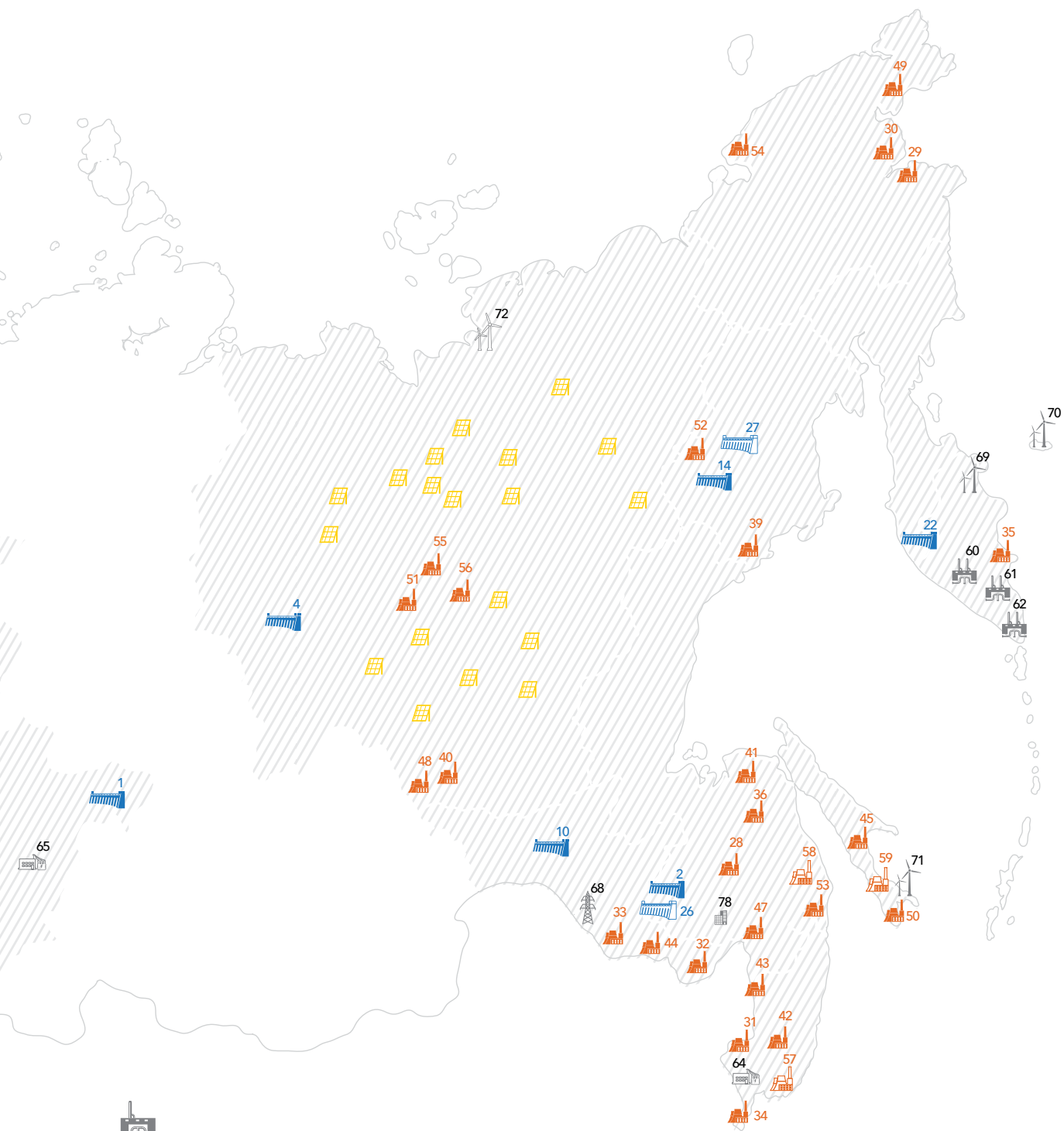
28. Amurskaya CHPP
29. Anadyrskaya Gas Engine CHPP
30. Anadyrskaya CHPP
31. Artyomovskaya CHPP
32. Birobidzhanskaya CHPP
33. Blagoveshenskaya CHPP
34. Vladivostokskiy CHPPs
35. Kamchatskiye CHPPs
36. Komsomolskiye CHPPs
37. Kyzym (Mobile PP)
38. Labytnangi (Mobile PP)
39. Magadanskaya CHPP
40. Nerunginskaya GRES
41. Nikolaevskaya CHPP
42. Partizanskaya GRES
43. Primorskaya GRES
44. Raychikhinskaya GRES
45. Sakhalinskaya GRES
46. Urengoy (Mobile PP)
47. Khabarovskiy CHPPs
48. Chulmanskaya CHPP
49. Egvekinotskaya GRES-1
50. Yuzhno-Sakhalinskaya CHPP-1
51. Yakutskaya GRES
52. Arkagalinskaya GRES
53. Mayskaya GRES
54. Chaunskaya CHPP
55. Yakutskaya CHPP
56. Yakutskaya GRES-2



## Thermal PPs under construction

57. Vostochnaya CHPP
58. Sovetskaya Gavan CHPP
59. Sakhalinskaya GRES-2





**GeoPPs**

- 60. Verkhne-Mutnovskaya GeoPP
- 61. Mutnovskaya GeoPP
- 62. Pauzhetskaya GeoPP



**Solar PP**

SPP in the Republic of Sakha (Yakutia), 19 power plants



**Tidal PP**

- 63. Kislogubskaya Tidal PP



**Retail companies**

- 64. Far-Eastern energy company (DEK)
- 65. Krasnoyarskenergosbyt
- 66. Ryazan retail energy company
- 67. Chuvash retail energy company



**Electric grid company**

- 68. Far Eastern distribution company (DRSK)



**Wind PPs**

- 69. WPP in Ust-Kamchatsk
- 70. WPP in Nikolskoe
- 71. WPP in Novikovo



**Wind PPs under construction**

- 72. WPP in Tiksy



**Research and design organizations**

- 73. Vedeneyev VNIIG
- 74. Hydroproject institute
- 75. Lenhydroproject institute
- 76. Mosoblhydroproject
- 77. NIIES
- 78. Khabarovsk Energy Technological Company

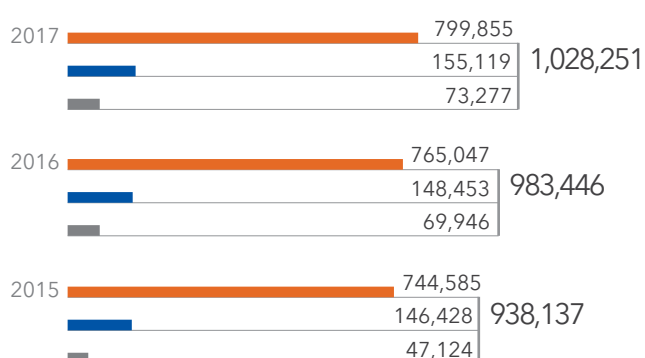


Territorial entity of the Russian Federation, where RusHydro operates

# KEY FIGURES [102-7]

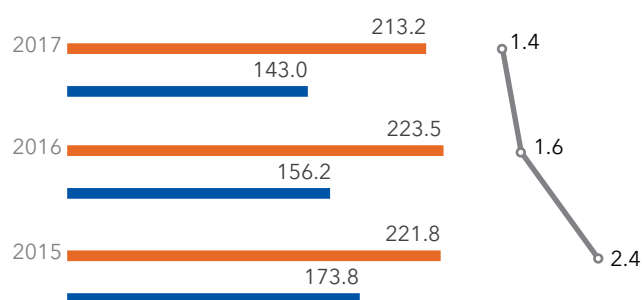
## FINANCIAL DATA IN ACCORDANCE WITH IFRS

### Assets, mn RUB



■ Fixed assets  
■ Current assets  
■ Other noncurrent assets

### Net and total financial debt<sup>1</sup>, bn RUB



■ Financial debt  
■ Net financial debt  
—○— Net financial debt / EBITDA

<sup>1</sup> The data is provided taking into account the guarantee obligation (cancelled from February 7, 2018) onwards between PJSC RusHydro and Vnesheconombank on PJSC Boguchanskaya HPP loan given out by the bank.

### Revenue<sup>2</sup>, mn RUB



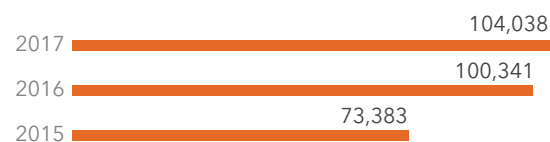
<sup>2</sup> Including government subsidies.

### Operating expenses<sup>4</sup>, mn RUB

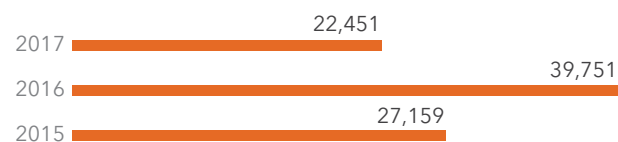


<sup>4</sup> Without taking into account impairment losses.

### EBITDA, mn RUB



### Net profit, mn RUB



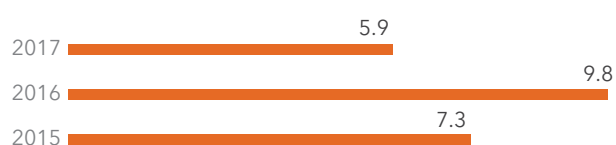
### CAPEX<sup>3</sup>, mn RUB



<sup>3</sup> Excluding VAT.

## FINANCIAL RATIOS

### Financial ratios, %

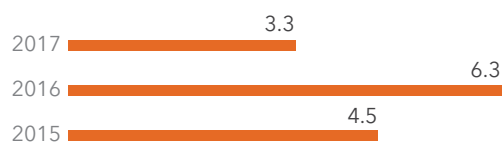


### EBITDA margin<sup>1</sup>, %

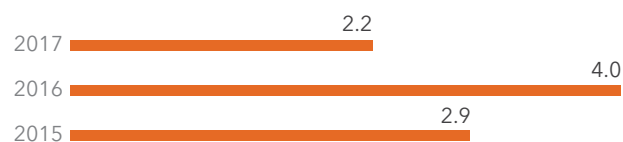


<sup>1</sup> The figures are calculated taking into account other operating income received by RusHydro Group in 2015 (RUB 8.2 bn), in 2016 (RUB 12.4 bn) and in 2017 (RUB 0.7 bn) in the form of insurance compensation, income from the sale of assets and controlled entities, and received dividends.

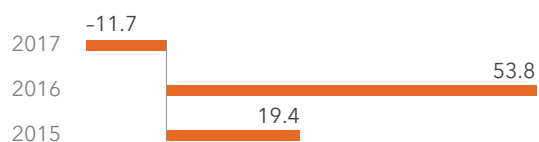
### Return on equity (ROE), %



### Return on assets (ROA), %



### Total Shareholder Return (TSR)<sup>2</sup>, %



### Leverage, %

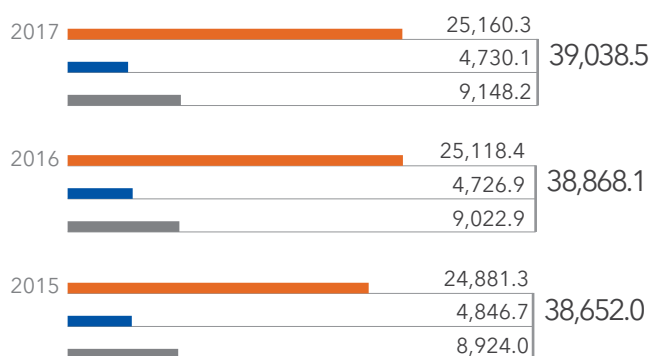


<sup>2</sup> In the annual report for 2016, the TSR for 2015 was calculated under a different methodology, hence the 2015 indicator in this report is different from the one disclosed in the 2016 report.



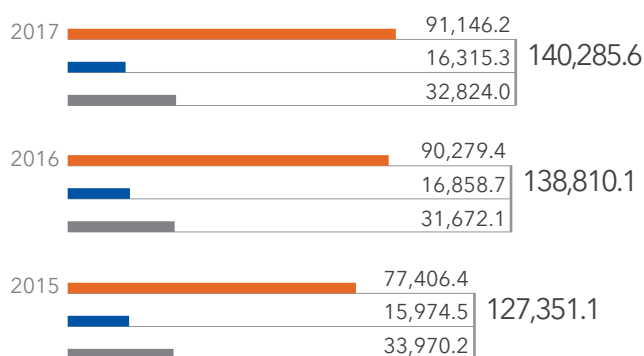
# OPERATIONAL PERFORMANCE

## Installed capacity<sup>1</sup>, MW



■ PJSC RusHydro  
■ Controlled companies of PJSC RusHydro  
■ RAO ES East Subgroup

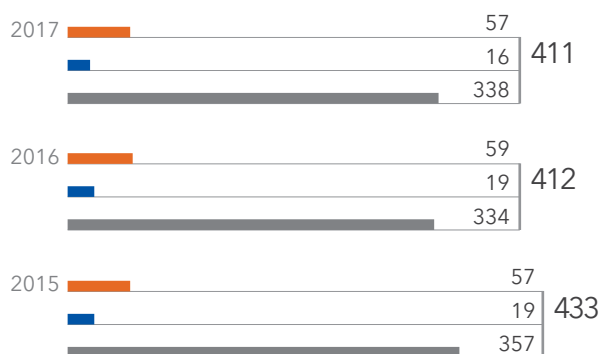
## Electricity generation<sup>1</sup>, mn kWh



■ PJSC RusHydro  
■ Controlled companies of PJSC RusHydro  
■ RAO ES East Subgroup

<sup>1</sup> The data are given taking into account the PJSC Boguchanskaya HPP (owned by PJSC RusHydro and UC RUSAL), inclusive of HPP-2 of PJSC KamGEK, excluding HPP-1 and HPP-3 of PJSC KamGEK in trust management of PJSC RusHydro.

## Number of generating facilities<sup>2</sup>, units



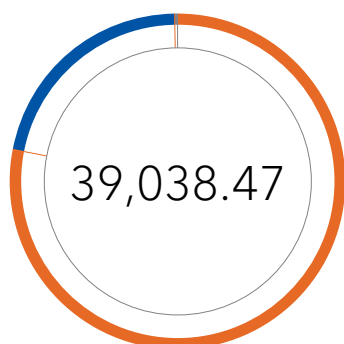
■ PJSC RusHydro  
■ Controlled companies of PJSC RusHydro  
■ RAO ES East Subgroup

## Heat supply by RAO ES East Subgroup, thousand Gcal



<sup>2</sup> The main part of generating facilities is concentrated in the perimeter of JSC RAO ES East.

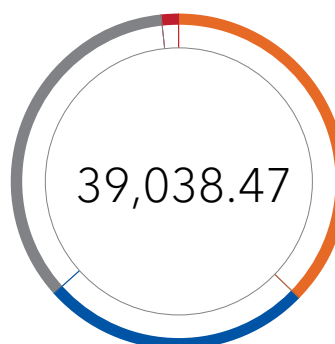
### The RusHydro Group's installed capacity by source of energy [EU1], MW



HPP, PSP	30,494.45
GRESGRES	8,465.94
RES¹	78.08

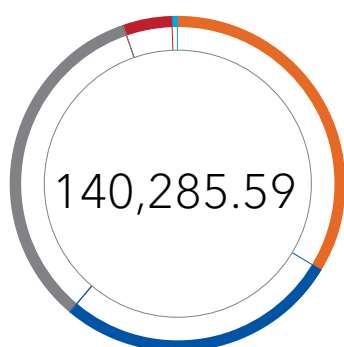
¹ Excluding HPP, PSP.

### The installed capacity of RusHydro Group in terms of the regulatory regime [EU1], MW



1st price zone	14,625.54
2nd price zone	10,193.00
Non-price zones and isolated energy systems	13,658.53
Republic of Armenia (market zone)	561.40

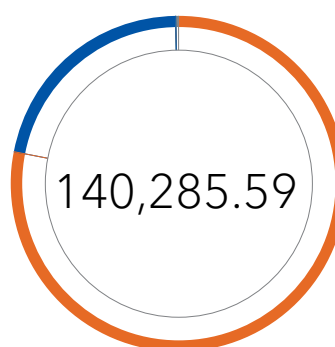
### Actual energy production by region [EU2], GWh



Far East²	47,344.24
Siberia	38,667.21
Centre	46,982.43
South	6,825.69
Armenia	466.02

² Heat supply 30,124.5 thousand Gcal.

### Actual energy production broken down by primary energy sources [EU2], GWh



Water resources³	109,736.14
Coal / natural gas / fuel oil / diesel fuel⁴	30,546.49
Wind, sun	2.96

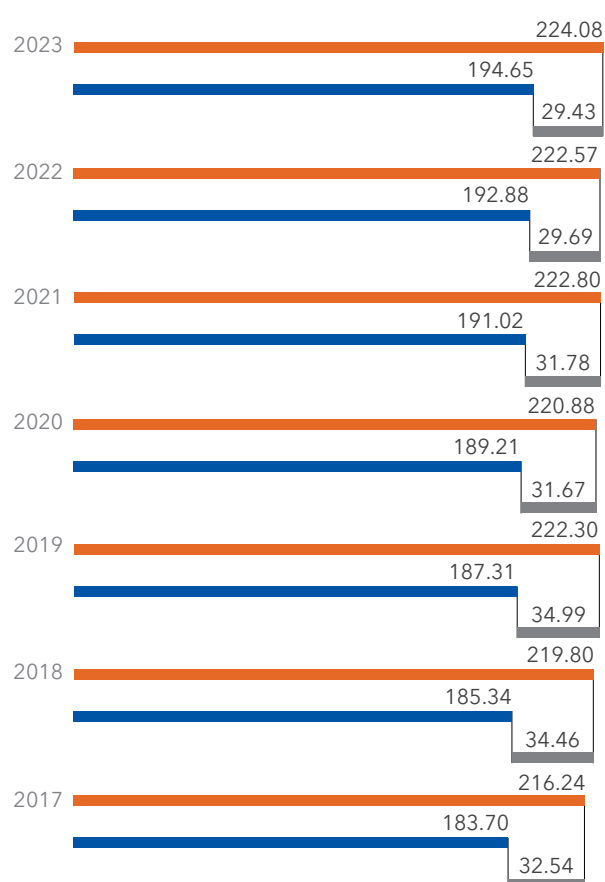
³ Taking into account geothermal sources.

⁴ Heat supply 30,124.5 thousand Gcal.

### Planned capacity in comparison with the forecast demand for electricity, by energy sources and regimes, thousand kW <sup>[EU10]</sup>

Source type	RAO ES East Subgroup			RusHydro Group without RAO ES East Subgroup			PJSC RusHydro		
	Installed capacity		Planned installed capacity <sup>1</sup>	Installed capacity		Planned installed capacity <sup>1</sup>	Installed capacity		Planned installed capacity <sup>1</sup>
	2017	2018	after 5 years	2017	2018	after 5 years	2017	2018	after 5 years
Water	681.7	681.7	681.7	29,812.74	30,343.47	30,883.27	25,161.54	25,208.04	25,357.04
Geothermal energy	0.0	0.0	0.0	74.00	74.00	-	-	-	-
Wind energy	3.0	3.9	3.9	-	-	-	-	-	-
Solar energy	1.6	1.6	1.6	-	-	-	-	-	-
Thermal generation:	8,461.9	8,727.12	8,934.52	3.57	3.57	3.57	-	-	-
type of fuel: coal (coal / gas, coal / fuel oil)	6,182.2	6,305.34	6,468.34	-	-	-	-	-	-
type of fuel: gas (gas / fuel oil)	1,879.3	2,018.80	2,018.80	-	-	-	-	-	-
type of fuel: diesel fuel, etc.	400.4	402.98	447.38	1.57	1.57	-	-	-	-

### Capacity balances for UES of Russia<sup>2</sup>, GW



■ Coverage of demand  
■ Demand for capacity  
■ Own surplus (+) deficit (-) of reserves

In accordance with the plans of the Ministry of Energy of Russia, the scheme and the development programme of the Unified Energy System of Russia for 2017-2023 approved in a Decree of the Ministry of Energy of Russia No. 143 of March 1, 2017 and based on the analysis of the Investment Programme and RusHydro Group's business plan, that the following scenario will most likely happen:

- in 2018 the share of generating facilities of RusHydro Group in the total output of the Russian Federation will stay the same as in 2017;
- the share of the installed capacity of RusHydro's power plants in the installed capacity of the Russian power plants will increase from 15.81% in 2017 to 15.93% in 2018, while the Group's installed capacity growth will be about 2%.

<sup>1</sup> Including commissioning of new capacity.

<sup>2</sup> Excluding isolated energy areas.

# GRID

## The length of overhead and underground transmission and distribution lines by the regulatory regime <sup>[EU4]</sup>

	WECM - Regulated prices	REM - Regulated prices
<b>The length of transmission lines, km (in chains)</b>		
<b>Overhead power lines</b>		
220 kV	-	5,179.9
110 kV	7,939.7	5,903.7
35 kV	8,806.9	6,997.1
<b>Cable power lines</b>		
110 (10) kV	40.1	1.6
35 kV	83.5	4.0
<b>Length of power distribution lines, km (by chain)</b>		
<b>Overhead power lines</b>		
6 (10) kV	20,539.6	10,957.3
0.4 kV	20,531.9	11,458.8
<b>Cable power lines</b>		
6 (10) kV	1,155.7	2,040.8
0.4 kV	1,120.4	1,450.7

## Number of and installed capacity of transformer substations <sup>[EU4]</sup>

	Number of transformer substations, pcs.	Installed capacity of transformer substations, MVA
<b>WECM - Regulated prices</b>		
220 kV	1	80.0
110 kV	242	7,370.8
35 kV	476	4,380.8
6 (10) kV	10,943	3,511.8
<b>REM - Regulated prices</b>		
220 kV	28	3,652.3
110 kV	140	4,496.3
35 kV	383	1,613.0
6 (10) kV	9,451	3,672.3

# STRUCTURE OF RUSHYDRO GROUP

- RusHydro's Executive office and branches and its Controlled Companies within report boundaries, excluding RAO ES East Subgroup.
- RAO ES East Subgroup's companies within report boundaries



The structure of the Group and its branches is available at Company's website: <http://www.eng.rushydro.ru>

## Branches

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### Industrial:

- PJSC RusHydro's branch Bureyskaya HPP
- PJSC RusHydro's branch Votkinskaya HPP
- PJSC RusHydro's branch Volzhskaya HPP
- PJSC RusHydro's Dagestan branch
- PJSC RusHydro's branch Zhigulevskaya HPP
- PJSC RusHydro's branch Zagorskaya PSP
- PJSC RusHydro's branch Zeyskaya HPP
- PJSC RusHydro's Kabardino-Balkaria branch
- PJSC RusHydro's branch Kamskaya HPP
- PJSC RusHydro's Karachayevo-Cherkesiya branch
- PJSC RusHydro's branch Cascade of Verkhnevolzhskiy HPPs
- PJSC RusHydro's branch Cascade of Kubanskiye HPPs
- PJSC RusHydro's branch Nizhegorodskaya HPP
- PJSC RusHydro's branch Novosibirskaya HPP
- PJSC RusHydro's branch Saratovskaya HPP
- PJSC RusHydro's branch Sayano-Shushenskaya HPP named after P. S. Neporozhniy
- PJSC RusHydro's North Ossetia branch
- PJSC RusHydro's branch Cheboksarskaya HPP

### Non-industrial:

- PJSC RusHydro's branch CorUnH

## Subsidiaries combining generation, transmission, and distribution of electricity

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- PJSC Kolymaenergo
- PJSC Yakutskenergo
- JSC Sakhaenergo
- PJSC Kamchatskenergo
- JSC SENK
- PJSC Magadanenergo
- JSC Chukotenergo
- PJSC Sakhalinenergo
- PJSC Peredvizhnaya Energetika

## Subsidiaries – Management companies

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- JSC MC HydroOGK
- JSC RAO ES East
- JSC ESC RusHydro

## Subsidiaries combining generation and construction

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- JSC Zaramagskiye HPPs
- JSC Ust-Srednekanskaya HPP A. F. Dyakov

## Retail subsidiaries

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- JSC Krasnoyarskenergosbyt
- JSC RESK
- JSC Chuvashskaya Power Supply Company
- PJSC DEK

## Generation subsidiaries

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- JSC DGK
- JSC Blagoveschenskaya CHPP
- JSC Geoterm
- JSC Pauzhetskaya GeoPP
- JSC Verkhne-Mutnovskaya GeoPP
- PJSC KamHEK
- CJSC MEK
- JSC NDES

## Other profiled companies

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- JSC DRSK
- JSC Teploenergoservis
- JSC LCM

## Subsidiaries under construction

- JSC GRESin Sovetskaya Gavan
- JSC Yakutskaya GRES-2
- JSC Sakhalinskaya GRES-2
- JSC Nizhne-Bureiskaya HPP
- JSC Zagorskaya PSP-2
- JSC SHPP KBR
- JSC Sulak Gidrokaskad
- LLC SHPP Stavropol and KChR
- LLC Verhnebalakarskaya SHPP

## Construction, repair and maintenance subsidiaries

- JSC Hydroremont VCC
- JSC ChirkeiHPPstroy
- LLC Montazhenergo
- JSC Ust-Srednekan HPPstroy
- JSC KhPRC
- JSC KhRAC
- JSC Neryungrienergoremont
- JSC VOSTEC
- JSC DETK
- JSC YaERC
- JSC Energotranssnab
- JSC Magadanenergoremont
- JSC Magadanelektrosetremont
- LLC Hydroproject-Servis

## Other service controlled and non-core companies

- JSC RHS
- LLC RusHydro IT Service
- LLC SNGR
- JSC Malaya Dmitrovka
- JSC Technopark Rumyantsevo
- JSC TC RusHydro
- JSC SC SSHPP
- JSC Hydroinvest
- LLC Energy Index - HydroOGK
- LLC EZOP
- LLC Vostok-Finans
- JSC Small HPPs of Altai
- JSC Motor transport enterprise LuTEK
- JSC AvtotransportEnerogo
- JSC HOUSING SERVICES
- LLC Duz
- JSC Rodnik Zdoroviya
- RusHydro International B.V.
- RusHydro International A.G.

## Subsidiaries – institutions

- JSC Vedeneyev VNIIG
- JSC NIIES
- JSC Lengidroproject
- JSC Mosoblhydroproject
- JSC Hydroproject Institute
- LLP VNIIG
- JSC KhETC

## BEMA's structure companies

- PJSC Boguchanskaya HPP<sup>1</sup>
- JSC BoHPP
- JSC BoAP
- HYDROOGK ALUMINIUM COMPANY LIMITED
- HYDROOGK POWER COMPANY LIMITED
- JSC Customer of construction of Boguchansky aluminum plant
- JSC Organizer Boguchanskaya HPP construction

## Subsidiaries not conducting significant activities or in the process of liquidation

- JSC ESCO UES
- JSC RHBE
- JSC Far East WES
- JSC GVTs of Energy
- JSC Karachayevo-Cherkesiya Hydrogeneration company
- JSC Hydroengineering Siberia
- JSC Yuzhno-Yakutsk GEC
- JSC SHPP of Dagestan
- LLC Fiagdonskaya SHPP
- LLC HOUSE of - 21 century
- JSC HRSC
- LLC Energokomfort Amur
- JSC Engineering center of renewable energy
- JSC Nizhne-Zeyskaya HPP
- JSC Leningradskaya PSP

<sup>1</sup> PJSC Boguchanskaya HPP is a joint venture of RusHydro Group and RUSAL Group, not part of RusHydro Group.

# AWARDS AND RATINGS



## MediaTEK

PJSC RusHydro received MediaTEK contest awards. In the nomination Social and Environmental Initiative the project Security and rescue operation Bureysky Mazai was the top pick. This project also received a special prize of the expert council "For systemic work on covering the development projects of the Far East."



## Cbonds Awards 2017

PJSC RusHydro won the 2017 Cbonds Awards in the nomination "The best ruble deal in the international market" upon placement of ruble-denominated Eurobonds.



## RobecoSAM Sustainability Award

PJSC RusHydro took the highest positions in the RobecoSAM ranking in the field of sustainable development among Russian companies. The Group was evaluated according to 26 criteria related to the economic, environmental and social spheres. Based on the evaluation of RobecoSAM, companies are selected for inclusion in the Dow Jones Sustainable Development Index family.



## Creating a Future

Corporate Hydropower University PJSC "RusHydro" became the winner in two categories of the Fourth All-Russian competition of the best practices of employers for the development of human capital "Creating a Future".



## Vigeo Eiris

PJSC RusHydro was included for the first time in the ranking of Vigeo Eiris 100 Best Companies in the Field of Sustainable Development from Emerging Markets (the only Russian energy company included in the list).

Annual Report of PJSC RusHydro and Corporate Social Responsibility and Sustainable Development Report of RusHydro Group for 2016:

- rose in the ranking of the contest of annual reports ReportWatch from index B to B+;
- received 5 stars (the highest quality) in the Competition of annual reports of Expert RA;
- entered the top five in the rating of corporate transparency of the largest Russian companies of the Russian Regional Network for Integrated Reporting;
- received the RSPP award in the nomination "For high quality of reporting in the field of sustainable development";
- was recognised in the category Golden in the nomination "Best Annual Report" of the International Corporate Communications Contest MarCom Awards 2017.



## Moody's

Moody's upgraded PJSC RusHydro's long-term credit rating to the sovereign rating of the Russian Federation ("Ba1" / "Stable" outlook).



## S&P

S&P upgraded PJSC RusHydro's long-term credit rating to the sovereign rating of the Russian Federation ("BBB-" / "Stable" outlook).



## Fitch Ratings

Fitch Ratings raised PJSC RusHydro's forecast to stable, confirming the company's long-term credit rating on the international scale at "BB+".



## ACRA

ACRA assigned PJSC RusHydro a national scale credit rating of the highest reliability level (AAA (Ru), "Stable" outlook).



## Environmental initiatives of Russian public companies

PJSC RusHydro became one of the leaders of the rating "Environmental initiatives of Russian companies in the media. Fuel and Energy and Metallurgy", prepared by the Institute of Modern Media in conjunction with the Living Planet TV channel.



## RBC

PJSC RusHydro improved its position in the annual ranking of the largest Russian companies RBC-500 by revenue. The Group demonstrated record operating results through effective planning of water and energy regimes, commissioning of new and upgrading existing power plants, and increasing electricity generation in the Far East.



## S&P Global Platts

PJSC RusHydro was included in the first one hundred of S&P Global Platts rating of the world's 250 largest energy companies and the Top 10 fastest growing companies in the macro-region of Europe, the Middle East and Africa.



# KEY EVENTS

## January

PJSC RusHydro was included in the new UK index in the field of sustainable development FTSE4Good Emerging Index. This indicator serves as a guide for investors interested in acquiring shares of companies that meet high standards in the field of environment, social responsibility, and corporate governance.

A separate section for the Group is available on the Unified electronic trading platform "Roseltorg", where most of the Group's procurement takes place. RusHydro's cooperation with the largest electronic trading operator for government customers and commercial enterprises is an important step in improving procurement efficiency.

## February

PJSC RusHydro published results of the Comprehensive Modernisation Programme for the five-year period of 2012-2016. Due to installation of more efficient equipment, the total capacity of the RusHydro HPPs increased by 267 MW after replacing 39 hydroturbines, 23 hydrogenerators, 41 transformers, more than 6,000 units of auxiliary and electrical equipment.

## March

PJSC RusHydro and VTB Bank (PJSC) carried out a unique-to-the-Russian-stock market transaction to acquire 55 billion ordinary shares of PJSC RusHydro, approximately 13% of the Company's share capital, and conclusion of a 5-year non-deliverable forward contract in respect of these shares. Upon settlement, RusHydro received 55 billion rubles in full to repay the debt of RAO ES East Subgroup.

## April

Management of the controlled entities of JSC RAO ES East was integrated with the executive office of PJSC RusHydro creating a synergy effect through reduction of management levels in RusHydro Group and centralisation of similar functions in a single management office.

International rating agency S&P Global Ratings raised the long-term credit rating of PJSC RusHydro on international and national scales to the sovereign level of "BB+" and to the level of "ruAA+" respectively. S&P experts recognized the Group's strong operational results and systematic improvement of the Company's financial performance in 2016.

## May

PJSC RusHydro completed the placement of an additional issue of 40 billion shares held for a deal with VTB Bank (PJSC). Following the additional issue, VTB Bank (PJSC) received approximately 9.4 % of the Company's shares. At the same time VTB Bank (PJSC) additionally acquired 3.5% of the Company's treasury shares.

## June

The Annual General Meeting of Shareholders of PJSC RusHydro approved record dividends in the Company's history. The total amount of dividend payments amounted to more than RUB 19.9 bn, almost RUB 5 bn more than last year's payments. The dividend per share increased 20%.

## July

The Resolution of the Government of the Russian Federation on equalising tariffs for electricity in the Far East to the average Russian level came into effect by introducing a premium to the price for capacity in the price zones. PJSC RusHydro was appointed as the recipient of a premium to the price for capacity, which is then transferred to the budgets of respective regions of the Far Eastern Federal District.

PJSC RusHydro conducted public hearings in the form of an open dialogue between the Company's management and representatives of stakeholders (stakeholders) on Corporate Social Responsibility and Sustainable Development Report for 2016.

Within the framework of the Development Programme of RusHydro Group's sales activities for 2017-2019, the authority of the sole executive body of PJSC DEK was transferred to the managing organisation of JSC ESK RusHydro.

## August

A formal ceremony of commissioning the first three hydroelectric units of Nizhne-Bureyskaya HPP was held. In addition to generating electricity, the station performs the functions of equalising the uneven water discharges of Bureyskaya HPP during the day and protecting settlements from flooding. The estimated installed capacity of 4 hydroelectric units of the station is 320 MW.

The Board of Directors of PJSC RusHydro approved preliminary results on the Company's participation in the Taishet aluminium smelter completion project.

## September

International rating agency Moody's raised the long-term credit rating of PJSC RusHydro on the international scale to the sovereign level of Ba1 ("Stable" outlook). The basis for improving the rating was the systematic improvement of financial and economic indicators, reduction in the debt burden, high liquidity level and government support.

RusHydro successfully placed ruble-denominated Eurobonds in the amount of RUB 20 bn with a maturity of 5 years and coupon rate of 8.125% per annum. Asian investors bought 40% of the issue. Placement and listing of Eurobonds took place on the Irish Stock Exchange.

PJSC RusHydro joined the UN Global Compact, the largest business initiative in the field of sustainable development. The company committed to uphold the Treaty, and to follow United Nations' ten principles in the field of human rights, labour relations, environmental protection, anti-corruption, and sustainable development by 2030.

During the Eastern Economic Forum-2017, the Company's management reached an agreement on cooperation with a number of partners. The Company has signed a number of agreements, including with the governments of the Magadan Region, the Chukotka Autonomous Region, the Kamchatka Territory, the Republic of Sakha (Yakutia), as well as with Japanese partners, such as the Japanese government organisation NEDO and Kawasaki Heavy Industries. Additionally, the Group has signed an agreement on strategic cooperation with ALROSA.

In Yakutia, the Group commissioned solar power stations in the villages of Sebyan-Kuel, Orto-Balagan and Kystatyam. New sources of energy partially substitute production of expensive diesel generation. A station with capacity of 50 kW saves approximately 15 tonnes of diesel fuel per year.

RusHydro has set sustainable development targets for the period until 2020. During the process, the Company took into consideration the main provisions of the Strategy of Ecological Safety of the Russian Federation until 2025, as well as the Concept of the Russian Federation's transition to sustainable development.

### October

ACRA assigned RusHydro a national scale credit rating of the highest reliability level "AAA (Ru)" ("Stable" outlook). PJSC RusHydro was the first company in power generation sector to receive such a rating.

The Board of Directors of PJSC RusHydro approved the PJSC Value Growth Plan for the period up to 2021. The plan's ultimate goal is to increase investment attractiveness of the Group's shares and maximise the Company's fundamental and market value by setting conditions for further sustained growth.

RusHydro organised public hearings on the Group's updated Environmental Policy. Representatives of the environmental community, expert and scientific organisations and business community supported the Group's policy to improve its environmental policy and praised the open nature of the company's public dialogue.

### November

PJSC RusHydro commissioned the first stage of the Yakutskaya GRES-2 with capacity of 193 MW, thermal power of 469 Gcal/h (inclusive of the peak water-heating boiler-house). It is the most powerful thermal power plant built in the Russian Far East in the post-Soviet period and the second completed project (out of four priority projects) for construction of new power facilities in the Far East, built by RusHydro in accordance with RF Decree No. 1564 of November 22, 2012.

RusHydro completed the comprehensive restoration of the Sayano-Shushenskaya HPP. The majority of the work took place in 2014 with the launch of the tenth hydroelectric unit that brought the station to its design capacity of 6,400 MW. The facility's reconstruction was brought to a conclusion in 2017 with the signing of all necessary documents. The power generation of the HPP by the end of 2017 amounted to 22 billion kWh, which corresponds to the facility's projected level.

### December

The construction of the Boguchanskaya HPP was completed. At full capacity of 2,997 MW, the station was commissioned in 2014, becoming the fifth largest hydroelectric power station in Russia. On the crest of the dam, RusHydro built a two-lane road, designed for travel of 2,000 cars per day that connects the banks of the Angara river. Commissioning of the road concludes the 40-year-plus history of construction of Boguchanskaya HPP.

Within the framework of the Comprehensive Modernisation Programme, ten hydroelectric units with a total capacity of 956 MW were updated at six hydroelectric power stations. Three hydroturbines were replaced at the Zhigulevskaya HPP, two hydroelectric units were replaced at the Volzhskaya HPP, and one hydro turbine was renewed at the Saratovskaya and Novosibirskaya HPPs. A new hydroelectric unit was commissioned at Votkinskaya HPP. The operating mode of the turbines was changed at Cheboksarskaya HPP as well.

RusHydro summarized its operational results. Electricity production of RusHydro Group along with the Boguchanskaya HPP in 2017 reached a historic record of 140.28 bn kWh, which is 1.1% more than in 2016. The installed capacity of the Group's power plants and Boguchanskaya HPP for the first time exceeded 39.04 GW. The installed heat capacity of the Group increased to 18.5 thousand Gcal/h.

The Board of Directors of PJSC RusHydro approved the Investment Programme of PJSC RusHydro for 2018 and took note of the investment plan for the medium term until 2022. The investment programme of PJSC RusHydro for 2018-2022 provides for financing of measures for technical rehabilitation and modernisation (TR&M) of operating generation facilities aimed at improving the safety and technical reliability of production equipment. Within the framework of the implementation of the TP&M programme, an additional 174.5 MW of capacity will be provided within 5 years without the construction of new generation facilities.

## Events after reporting date

### January

PJSC RusHydro is among the three most transparent companies in the electric power industry, according to Transparency International. In the course of the study, experts assessed the openness of the commercial sector in Russia, the overall level of transparency and public accountability of Russian companies, most of which are on the list of backbone enterprises of the Russian Federation.

### February

RusHydro was the first Russian issuer to place 3-year ruble Eurobonds in 2018. The company raised RUB 20 bn at the lowest rate in the Russian market - 7.4% per annum. The total amount of bids received for the purchase of bonds was 4 times higher than the volume required by the company. Approximately 2/3 of the issue were bought by foreign investors.

The international rating agency S&P upgraded the long-term credit rating of PJSC RusHydro to the investment grade BBB- ("Stable" outlook). The Company's short-term credit rating was upgraded to A-3. Analysts of S&P evaluated the high level of state support of the Company in conjunction with strong indicators of the independent creditworthiness of PJSC RusHydro.

The financial debt of RusHydro Group decreased by RUB 26 bn following exclusion of obligations under the guarantee of PJSC RusHydro to Vnesheconombank under the loan agreement of PJSC Boguchanskaya HPP concluded with the bank in 2010.

PJSC RusHydro signed an agreement with Japanese companies on construction in the Arctic village of Tiksi, the Republic of Sakha (Yakutia), a unique wind farm for the Russian Federation. The complex will include wind power plants and diesel generators with a total capacity of 3.9 MW, as well as an energy storage system and an automated control system.

### March

The Group converted Anadyrskaya CHPP with installed capacity of 50 MW to natural gas reducing emissions and accumulation of ash from coal combustion. The facility's efficiency improved as well as reliability of power supply for Anadyr's population.

On the Day of Water RusHydro held more than 40 sports and environmental education activities in the regions of presence. The World Day of Water is celebrated annually by the decision of the UN General Assembly to draw public attention to the problem of preserving and improving the quality and quantity of fresh water.

### April

The Board of Directors of PJSC RusHydro has approved a report on the Business plan execution for 2017, including reports on the implementation of the investment programme (including the programme for the comprehensive modernization of generating facilities) and the annual comprehensive procurement programme.

# STRATEGIC REVIEW

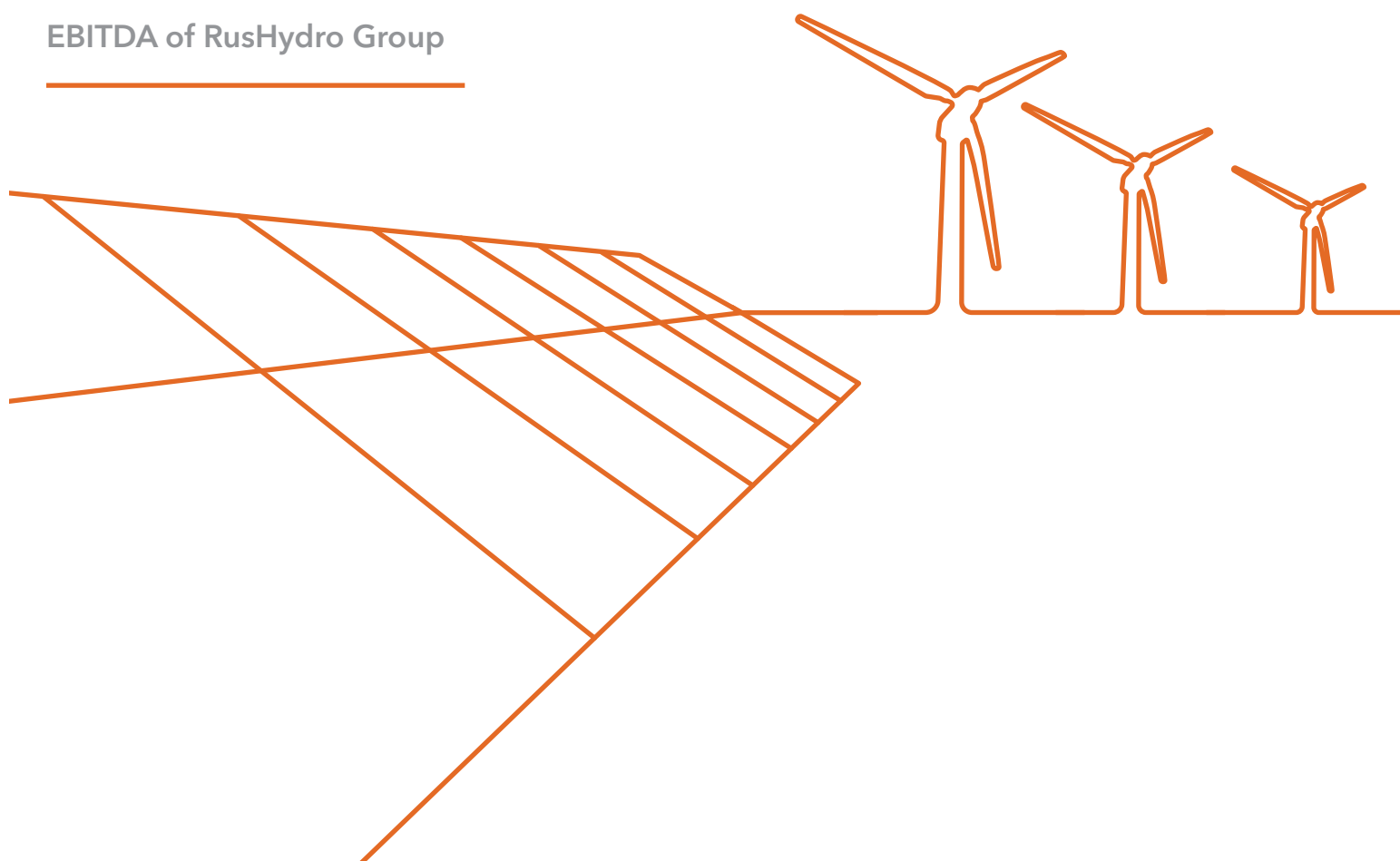
RusHydro Group sees its mission in efficient use of hydro resources, creating conditions ensuring reliability of the Unified Energy System of Russia as well as social and economic development of the Far East regions by ensuring the availability of energy infrastructure for existing and prospective consumers.

# 104

bn RUB

EBITDA of RusHydro Group

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# CORPORATE VALUES



## Clean energy

Environmental safety and respect for natural resources



## Engineering culture

Safe and reliable operation of the assets



## Prosperous society

Reliability and infrastructure development, sustainable use of water resources, development of the hydro generation potential and expanded use of renewable energy sources that promote development of the territories, economic growth and prosperity of the society



## Responsible business

Social policy that supports personnel and residents of the regions where the Company operates



## Leading company

Ensuring the Company's success and leadership by combining the efforts of the personnel, the usability of resources, and the excellence of business activities in the pursuit of high quality performance in every activity



## United team

Fair remuneration and development opportunities for employees to achieve the Company's competitive advantages in different areas of its activity (team spirit, self-expression, and personal fulfilment for each team member)



## Developing environment

New technologies and unlimited development opportunities



## Young energy

Professional development of the Russian youth at school

# BUSINESS MODEL OF RUSHYDRO GROUP

## Resources as of January 1, 2017

### Financial capital

**650.9** bn RUB  
equity

**332.51** bn RUB  
borrowed capital

### Nature capital

**16.8** mn tonnes  
amount of coal taken in 2017

**743.29** mn m<sup>3</sup>  
the volume of water used in 2017

**5,125.2** mn m<sup>3</sup>  
the volume of gas used in 2017

### Manufacturing capital

**38.9** GW  
installed electric capacity of power plants

**18,133.13** Gcal/h  
installed thermal capacity of power plants

**104.2** thousand km  
length of electric power lines

**412** generation facilities

### Intellectual capital

**7** design and research companies

**1** Corporate University of Hydropower Engineering

### Human capital

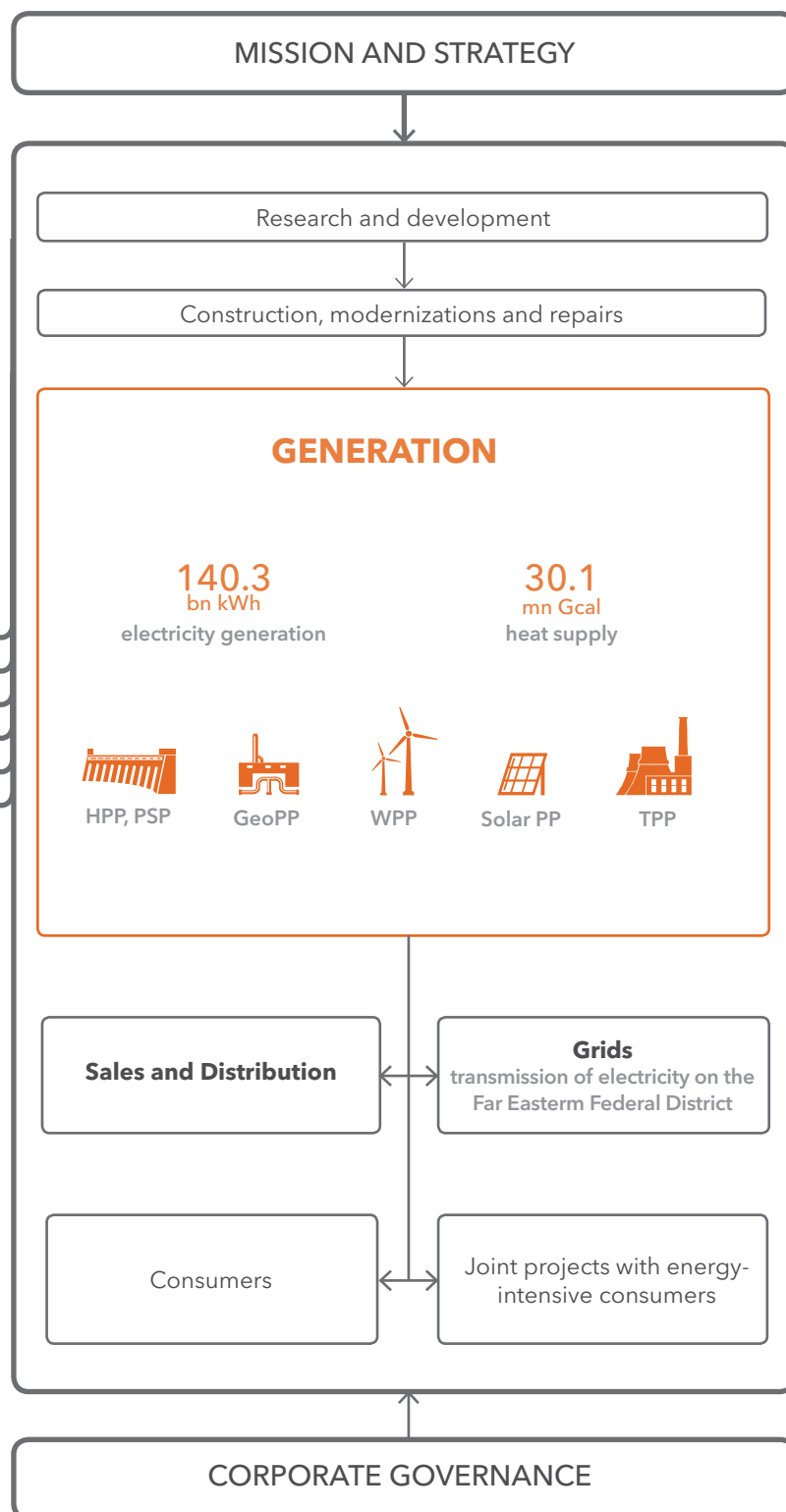
**71,528**  
number of employees

### Social and Reputational capital

The first in Russia and the third in the world  
company among analogical companies in  
power generating sector with HPPs predominant

Leader in Russia in the production of energy  
based on renewable sources

## Core business



The main economic activities of RusHydro Group companies are electricity generation by hydroelectric power stations, generation of electricity by thermal power plants, transmission, distribution and sale of electricity.

The resources at the input and the results at the output of the business model are grouped into six main capitals. As a result of capital transformation through core activities, the Group creates value for both external and internal stakeholders.

## Results of 2017

### For the Company

**104 bn RUB** +3.7% by 2016  
Consolidated EBITDA

**1.4 x** -12.5% by 2016  
net financial debt / EBITDA

**9% per annum** -1.2 p.p by 2016  
weighted average cost of ruble borrowings is reduced

### Financial capital

**19.9 bn RUB** +32.6% by 2016  
dividend payments

**55 bn RUB**  
fund raising from VTB Bank (PJSC)  
as part of the refinancing of the  
debt of the RAO ES East Subgroup

### For Stakeholders

### Nature capital

**1.6 bn RUB**  
expenses for environmental protection

**114.6 mn kWh** +12.9% by 2016  
overall effect of measures to improve energy efficiency  
of PJSC RusHydro

**109.7 bn kWh**  
RES and hydro generation

**585.31 mn m<sup>3</sup>** +0.4% by 2016  
the volume of discharges of sewage into water bodies

**271.1 thousand tonnes** -0.15% by 2016  
emissions into the atmosphere

### Manufacturing capital

**39.04 GW** +0.4% by 2016  
installed electric capacity of power plants

**18,497.1 Gcal/h** +1.8% by 2016  
installed thermal capacity of power plants

**92 bn RUB** +14.2% by 2016  
funding of the investment programme

**1.5 bn kWh** +1.06% by 2016  
increase in electricity generation

**22,617** +1.04% by 2016  
number of new connected consumers

**375 mn kWh** -10% by 2016  
reduction of power losses in networks in the Far East

### Intellectual capital

**2.19 bn RUB** +33% by 2016  
amount of funding of the Innovative Development Programme

**402.4 mn RUB** +28% by 2016  
R&D expenses

**22** partner universities

**1,174** students who completed on-the-job training

### Human capital

**2.1 bn RUB** -3.4% by 2016  
cost of labour protection

**27% employees**  
aged 35 years and less

**1,311** jobs created

**72.48 thousand RUB** +7.1% by 2016  
average salary

**305.1 mn RUB** +5% by 2016  
costs of human resources development

### Social and Reputational capital

**> 507 mn RUB**  
cost of improving the living conditions of workers

**Participation in the tariffs reduction**  
for consumers in the Far Eastern Federal  
District to the average Russian level

**80.4 bn RUB** +11% by 2016  
tax payments to budgets  
of different levels

#### Increase of long-term credit ratings of the company<sup>1</sup>:

- S&P: from BB ("Positive" outlook) to BBB- ("Stable" outlook)
- Moody's: from Ba2 ("Stable" outlook) to Ba1 ("Positive" outlook)
- Fitch: from BB+ ("Negative" outlook) to BB+ ("Stable" outlook)
- ACRA: assigned the highest rating AAA (Ru) ("Stable" outlook)

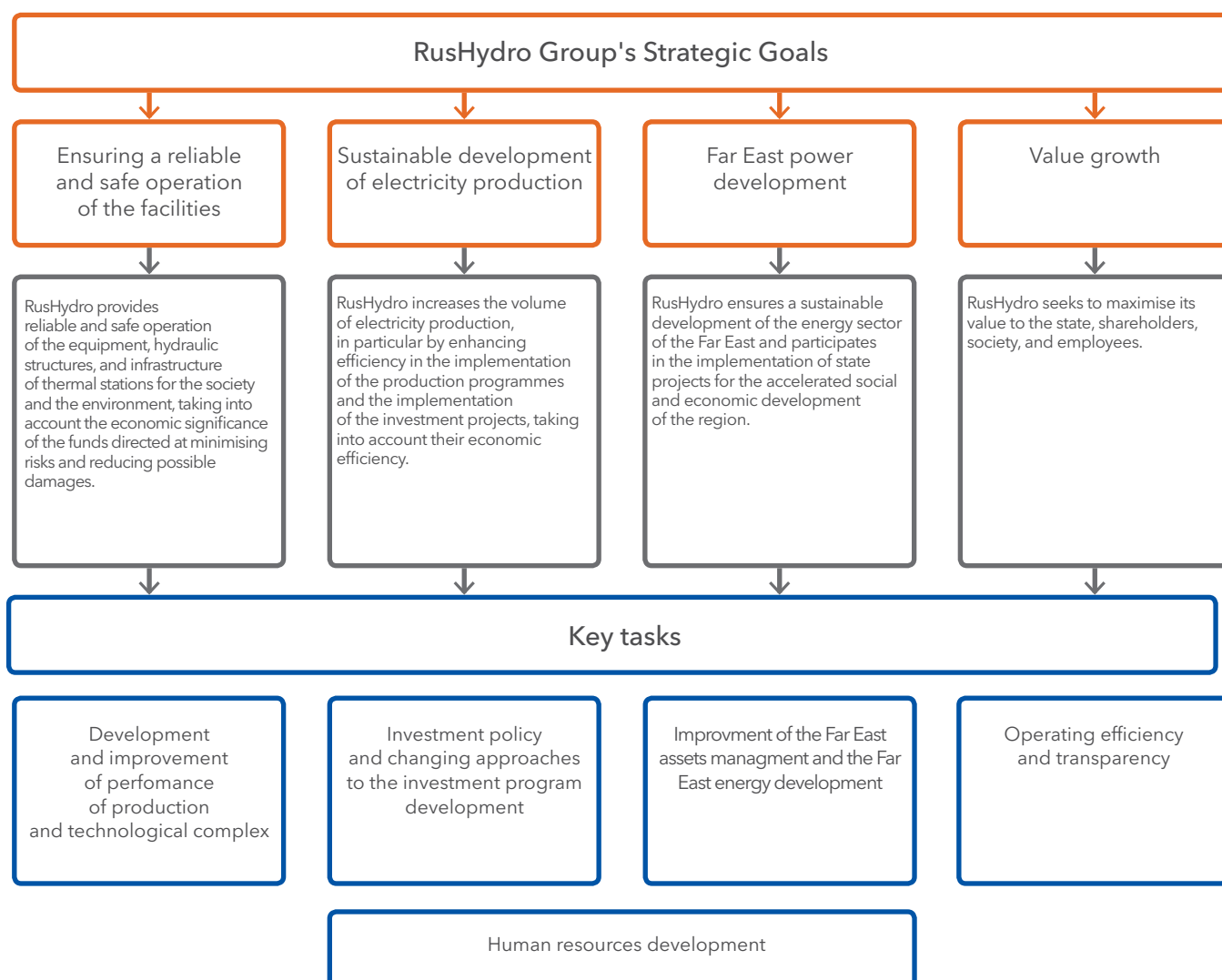
<sup>1</sup> As of April 27, 2018.



# STRATEGY AND ITS IMPLEMENTATION

## THE STRATEGY OF RUSHYDRO GROUP

In June 2016, the Board of Directors of PJSC RusHydro approved the Development Strategy of RusHydro Group for the period until 2020, with a prospect up to 2025<sup>1</sup>.



<sup>1</sup> Minutes of the Board of Directors No. 238 of June 8, 2016.

RusHydro Group developed the strategy in accordance with the following documents:

- Concept of long-term social and economic development of the Russian Federation until 2020;
- National Security Strategy of the Russian Federation;
- Long-term forecast of the development of the economy of the Russian Federation until 2030;
- Energy Strategy of the Russian Federation for the period up to 2035 (draft);
- Scheme and programme for the development of the Unified Energy System of Russia for 2015-2021;
- General layout of the location of electric power facilities until 2020;

- Regional strategies for social and economic development and energy strategies of regions;
- Sectoral strategies.

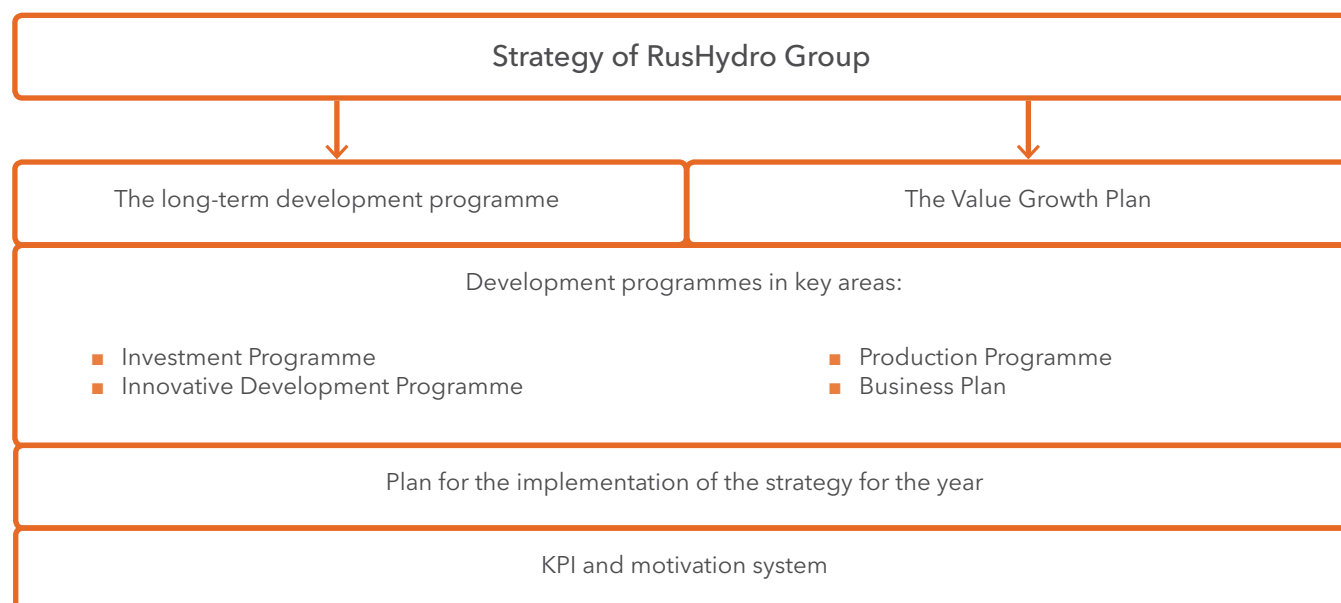
The strategy of RusHydro Group is based on the Energy Strategy of the Russian Federation for the period until 2035, in the development of which PJSC RusHydro actively participates. The central element of the sectoral strategy is the transition from resource-based to innovative development of the fuel and energy complex, with a special emphasis on the need for in-depth and comprehensive modernisation of the fuel and energy sector in Russia. Strategic objectives of RusHydro Group lie in implementing the tasks outlined in the Energy Strategy of the Russian Federation for the period up to 2035 (draft).

To achieve the strategic goals, specific tasks have been set for the main areas of activity.

## Mechanisms for implementing the Strategy

The Company has introduced a strategic management system that links the processes of strategic management with motivation system. The system was created taking into account the recommendations of the Federal Property Management Agency<sup>1</sup> for the development of key strategic documents.

The main tools for the implementation of the Strategy are the Long-term Development Programme of RusHydro Group and the Strategy Implementation Plan, which contain the Company's development priorities, as well as tasks and indicators aimed at achieving its strategic goals. Since 2017, RusHydro Group's Value Growth Plan has been included in the strategic documents system.



<sup>1</sup> Recommendations of the Federal Property Management Agency of RusHydro Group No. OD-11/18576 of April 29, 2014.

# RusHydro Group value growth plan

RusHydro Group's Value Growth Plan (hereinafter - VGP) for the period up to 2021 is designed to maximise the value of the Company and reinforce its attractiveness for shareholders and investors. The plan was approved by the decision of the Board of Directors of PJSC RusHydro dated October 27, 2017<sup>1</sup>.

The plan aims to increase the fundamental and market value of RusHydro. At the same time, the increase in fundamental value is a key factor for market capitalisation growth, which is especially important given significant current discount to the market price of the Company's shares, as well as other companies in the Russian electric power industry, compared to major foreign counterparts.

For the effective implementation of VGP activities, Company's management plans to implement a cost approach, ensuring focus on management processes, systems and solutions for maximising costs at the same time ensuring the safety of the operation of generating capacities.

VGP includes tasks and activities to improve efficiency of operational and investment activities, both controlled by the management, and dependent on external factors. In particular, VGP includes activities implemented as a result of the Group's expenses audit in 2016, additional measures aimed at improving efficiency and streamlining of the Company's operations, including reduction of losses in networks, receivables, and sale of non-core assets.

One of the key focuses of the VGP is interaction with federal executive bodies, including the development of normative acts aimed at creating investment-attractive conditions in the energy sector of the Far Eastern Federal District, improving mechanisms for guaranteed return on investment for new construction and modernisation projects. [103-2], [103-3]

In addition, VGP is used to improve the efficiency of the forward transaction and create conditions for the fulfillment of obligations of PJSC RusHydro to VTB Bank (PJSC).

It also identifies key areas of the Group's activities aimed at increasing transparency and openness of the Company for investors and minimising the gap between fundamental and market value by improving quality of corporate governance, ensuring consistently high and predictable dividend flow, enhancing liquidity of shares and depositary receipts and increasing the weight of shares in key indices.

## Strategy implementation plan

The Strategy implementation plan is a set of annual tasks and indicators assigned to specific structural divisions and officials of the Company to achieve strategic objectives of RusHydro Group.

The strategy implementation plan includes the Development Priorities, a list of priority key tasks and activities in the current year.

### Actions to implement the Strategy implementation plan

Priority tasks	Performance
Reliability as well as modernisation of existing assets, efficiency improvement of the production facilities	The long-term production programme has been updated for Technical rehabilitation and modernisation Programme projects as a constituent of the investment program of PJSC RusHydro
Improvement of operational efficiency and transparency of operations	The Plan of measures for cost optimisation is being implemented based on the results of an external independent audit of the costs of PJSC RusHydro and subsidiaries
Competitive recovery of the project facilities	In accordance with the approved timetable, the Concept for the reorganisation of the management system of the scientific and technological resources of PJSC RusHydro is being implemented
Efficiency improvement of the Far East asset management system and the development of power in the Far East	The Plan of measures for cost optimisation, formed on the basis of the results of an external independent audit of costs, is being implemented for the respective controlled organisations of JSC RAO ES East

<sup>1</sup> Minutes of the Board of Directors of the Company No. 259 of October 30, 2017.

Priority tasks	Performance
Preparation of strategic documents of the Company	The Long-term Development Programme of RusHydro Group for the period 2016-2020 has been updated
Improvement of corporate governance system	The number of norms and principles of corporate governance outlined in the Code of Corporate Governance and introduced into the practice of corporate management of PJSC RusHydro has been grown
Development of human resources	The implementation plan for professional standards is under way, taking into account the provisions of Federal Law No. 122-FL of 02.05.2015 "On Amendments to the Labour Code of the Russian Federation and Articles 11 and 73 of the Federal Law "On Education in the Russian Federation"

## LONG-TERM DEVELOPMENT PROGRAMME

The long-term development programme of RusHydro Group (hereinafter - LDP RusHydro) was composed during the period of 2016-2020 in accordance with the instructions of the President of the Russian Federation<sup>1</sup> and the Government of the Russian Federation<sup>2</sup>.

LDP RusHydro for the period of 2016-2020 approved by the resolution of the Board of Directors of the Company of November 23, 2016 (Minutes No. 244). By the decision of the Board of Directors of the Company dated April 18, 2017 (Minutes No. 251), changes were made to the LDP in terms of the list and methodology of key performance indicators of the LDP in accordance with the KPIs approved by the members of the Management Board of PJSC RusHydro and the KPIs of the Long-Term Motivation Programme of PJSC RusHydro<sup>3</sup>.

LDP was devised for the period of 2016-2020 and defines the main principles and directions ensuring the dynamic development of RusHydro Group for the effective use of hydro resources, creating conditions for ensuring the reliability of the Unified Energy System of Russia, and creating conditions for the social and economic development of the regions of the Far East by ensuring the availability of energy infrastructure for existing and prospective consumers.

Goals of LDP RusHydro are in line with the strategic goals of RusHydro Group

LDP RusHydro was formed in accordance with the Strategy for the development of RusHydro Group for the period until 2020, with the possibility of prolonging it until 2025<sup>4</sup>, on the basis of RusHydro's consolidated business plan and approved programme documents of RusHydro Group - production programmes, investment programmes, innovative development programmes.

LDP RusHydro contains proposals to improve the operational and investment performance of RusHydro Group, measures to improve the corporate governance system, personnel management system, anti-terrorism, information and economic security and international development system, analysis of risks associated with the implementation of activities, key performance indicators and methodology calculation and evaluation of key performance indicators of the Long-Term Development Programme.

The main activities aimed at implementing the LDP in the reporting year were carried out by means of production, investment and innovation programmes. Information on their implementation is available in see in sections Financial results, Production results, Investment and innovation activities

The audit of the implementation of LDP RusHydro is carried out in accordance with the Standard approved by the Board of Directors of PJSC RusHydro<sup>5</sup> for the implementation of the Long-Term Development Programme of RusHydro Group and the Terms of Reference for conducting an audit of the implementation of the DG RusHydro<sup>6</sup>, developed while taking into account the recommendations of the Government of the Russian Federation<sup>7</sup>.

<sup>1</sup> Decree of December 27, 2013 No. Pr-3086.

<sup>2</sup> Minutes dated January 30, 2014 No. 3, directive of the Government of the Russian Federation of July 17, 2014 No. 4955p-P13.

<sup>3</sup> The goals, objectives and course of LDP development have not changed.

<sup>4</sup> Minutes of the Board of Directors No. 238 of June 8, 2016.

<sup>5</sup> Minutes of the Board of Directors No. 206 of November 21, 2014.

<sup>6</sup> Minutes of the Board of Directors No. 227 of November 16, 2015.

<sup>7</sup> Decree of the Government of the Russian Federation of April 15, 2014 No. ISH-P13-2583.

# KEY PERFORMANCE INDICATORS

The system of key performance indicators (hereinafter referred to as KPI) of the management of PJSC RusHydro was developed taking into account item 4 of the list of instructions of the President of the Russian Federation No. Pr-1474 of July 5, 2013, instructions of the Government of the Russian Federation No. H-P13-2043 of March 27, 2014 and directives of the Government of the Russian Federation of April 25, 2014 No. 2579p-P13, of November 12, 2014 No. 7558p-P133 in accordance with the Methodological Guidelines of the Federal Property Management Agency and is aimed at improving the efficiency of the Company's operations and achieving the goals set by shareholders. Since 2017, the KPI management system includes the annual key performance indicators of the members of the Management Board of PJSC RusHydro and the key performance indicators of Long-term motivation programme RusHydro.

In 2016, based on the recommendations of an independent consultant<sup>1</sup>, a list, a methodology for calculating and estimating the annual KPIs of the members of the Management Board of PJSC RusHydro for 2017, as well as KPI of the long-term motivation programme of PJSC RusHydro's first stage for 2017-2019 were introduced, hence allowing to motivate the Company's management to implement strategic objectives and

thereby, to combine the interests of the management and shareholders of the Company. Calculation and evaluation of KPIs of members of the Management Board and KPI of the Company's long-term motivation programme is carried out on the basis of the procedure for calculating and assessing the annual KPIs of the members of the Management Board of PJSC RusHydro approved by the decision of Board of Directors from Minutes No. 245 of December 26, 2016 (taking into account the changes from Minutes No. 251 of April 18, 2017) and the Methodology for Calculating and Evaluating the Key Performance Indicators of the Long-Term Motivation Programme PJSC RusHydro of the first stage for 2017-2019 respectively.

The fulfillment of key performance indicators of the long-term motivation programme by 50% depends on the performance of the 3-year TSR indicator. According to the adopted methodology of the Long-Term Motivation Programme, the TSR, calculated as the sum of the change in the market price of the share and dividend yield for the reporting period, is considered to be met if the calculated actual value of the indicator exceeds the dynamics of the Moscow Stock Exchange Index for the reported 3-year period by a positive amount.

## ANNUAL KPIS OF MEMBERS OF THE MANAGEMENT BOARD OF PJSC RUSHYDRO FOR 2017

The annual KPIs of the members of the Management Board of PJSC RusHydro for 2017 include five financial and economic indicators and two industry indicators (which meet the requirements of the Federal Property Management Agency). The financial and economic indicators of the annual KPIs of the members of the Management Board of PJSC RusHydro include an indicator that is mandatory for use, according to the instructions of the Federal Property Management Agency - ROE. The basis for the calculation of financial and economic indicators in the Company is the Group's consolidated

financial statements under IFRS. Also, in 2017, the Board of Directors changed the methodology for calculating and evaluating annual KPIs of members of the Management Board of PJSC RusHydro (Minutes No. 251 of April 18, 2017) pursuant to the decision of the Board of Directors of the Company on proposals to improve the methodology for calculating and evaluating key performance indicators in terms of the implementation of capacity utilisation schedules and the plan for financing and development, (Minutes No. 245 of December 26, 2016).

<sup>1</sup> The recommendations of the independent consultant (Ernst & Young (CIS) BV) on the methodology of the payment system for members of the Management Board were 1 Decree of December 27, 2013 No. Pr-3086. approved by the Board of Directors (Minutes No. 241 of September 23, 2016).

The target values for the annual KPI of the members of the Management Board of PJSC RusHydro for 2017 and target values of KPI of the long-term motivation programme of PJSC RusHydro for the first stage for 2017-2019 were approved by the decision of the Board of Directors (minutes of the Board of Directors dated 26.12.2016 No. 245, taking into account the changes approved by the Board of Directors protocol No. 254 of June 22, 2017).

### Target and actual values of annual KPIs of members of the Management Board of PJSC RusHydro

Key Performance Indicators (KPI)	2017			Indicator weight	Achievement degree of KPI in 2017 compared to 2016
	Target Value	Actual value	Achievement		
Profit before taxes and depreciation (EBITDA) <sup>1</sup> , mn RUB	97,993	110,323	Completed	15%	-
Return on equity (ROE)	6.1 %	10.13 %	Completed	15%	100%
Proportion of purchases from small and medium enterprises, including:	≥18%	85%	Completed	10%	100%
based on the results of purchases only among small and medium-sized enterprises	≥10%	38%	Completed		
Prevention of the number of accidents from exceeding the maximum value:	0	0	Completed	20%	-
number of accidents at work, pcs.	25,2 <sup>2</sup>	14			
number of major accidents, pcs.	0	0			
Commissioning of capacity schedules and a plan for financing and development	85%	92.8%	Completed	20%	100%
Labour productivity, thousand RUB / person-hours	4.74	5.20	Completed	10%	-
Reducing operating costs	2%	2.26%	Completed (taking into account factors beyond the control of management) <sup>3</sup>	10%	-

<sup>1</sup> Based on the accepted KPIs calculation for the members of PJSC RusHydro's management board, approved by the resolution of the Board of Directors (minutes from December 26, 2016, No. 245), EBITDA is calculated based on the audited consolidated financial statements of RusHydro Group prepared in accordance with IFRS by the following formula: EBITDA = Earnings before tax + amortisation of fixed and intangible assets + non-cash expenses - non-cash income + interest.

This EBITDA calculation differs from EBITDA calculation disclosed in RusHydro Group's financial statements prepared in accordance with IFRS. Based on the note 5 of the audited consolidated financial statements of RusHydro Group prepared in accordance with IFRS, EBITDA is calculated as operating profit / loss excluding insurance compensation, depreciation of property, plant and equipment and amortisation of intangible assets, impairment of property, plant and equipment, impairment of financial assets, impairment of loans issued and accounts receivable, gain / loss on disposal of property, plant and equipment, gain / loss on disposal of subsidiaries and associates, profit on disposal of other non-current assets and other non-monetary items of operating expenses.

<sup>2</sup> Less than average for 5 years.

<sup>3</sup> Decision of the Board of Directors of PJSC RusHydro of April 24, 2018 (Minutes No. 269).

# KPI LONG-TERM MOTIVATION PROGRAMME OF PJSC RUSHYDRO FOR THE PERIOD OF 2017-2019

The KPI of the Long-Term Motivation Programme of PJSC RusHydro for the first stage of 2017-2019: three indicators are included: two financial and economic (one of which is Total Shareholder Return (TSR) is included in the list of mandatory ones in accordance with the requirements of the Federal Property Management Agency) and an integral innovative KPI approved by the decision of the Interagency Working Group on Implementing Innovation Development Priorities of the Presidium of the Council President of the Russian Federation for Economic Modernisation and Innovative Development of Russia (Minutes No. AD-P36-247pr of December 17, 2015). Integral KPI of innovation activity is included in the KPI list for 2017 in accordance with the directives of the Government of the Russian Federation dated March 3, 2016 No. 1472p-P13 and in accordance with the decision of the Board of Directors (Minutes No. 242 of October 10, 2016).

## Targets of key performance indicators of the long-term motivation programme of PJSC RusHydro for the first stage of 2017-2019<sup>1</sup>

KPI of the Programme	Target Value
Total shareholder return (TSR),%	100 %
Integral innovative KPI, %	85 %
Free cash flow (FCF), mn RUB	-84,097

Evaluation of the dynamics of key performance indicators of the long-term motivation programme of PJSC RusHydro for the first stage of 2017-2019 will be conducted at the end of the period for which the indicators are set.

# KPI THE LONG-TERM DEVELOPMENT PROGRAMME OF RUSHYDRO

The long-term development programme contains KPIs established for 2016-2020.

The target values of the KPI of the LDP for 2016-2020 were approved as part of the LDP RusHydro Group for 2016-2020 ( following the meeting of the Board of Directors of April 18, 2017 No. 251). The actual KPI values for 2017 are calculated in accordance with the Methodology for Calculating and Evaluating the Key Indicators of the Long-term Development Programme of RusHydro Group approved by the Board of Directors (Minutes No. 251 of April 18, 2017).

The calculation of KPI targets is in accordance with the parameters of the draft of RusHydro Group's consolidated business plan for 2017-2021, and taking into account the activities envisaged by the programmes of the Group.

The list of key performance indicators of the long-term development programme of RusHydro for 2016-2020 is similar to the KPI management system. [103-2], [103-3]

<sup>1</sup> In accordance with the decision of the PJSC RusHydro Board of Directors dated 04/25/2018 No. 269 on changing the Target values of performance indicators of the first stage PJSC RusHydro's Long-term Motivation Programme for 2017-2019.

## Target and actual values of KPI LDP RusHydro

Key Performance Indicators	2017			2018	2019	2020
	Value			Value		
	Target	Actual	Achievement	Target	Target	Target
Total Shareholder Return <sup>1</sup>	100 %	<100 %	Not Completed	100%	100%	100%
Return On Equity (ROE)	5.8 %	10.13 %	Completed	5.8%	7.4 %	7.4%
Income before interest, taxes and depreciation (EBITDA) <sup>2</sup> , RUB mn	95,993	110,323	Completed	93,878	115,248	116,626
Avoiding a higher number of accidents:	0	0	Completed	0	0	0
number of accidents at work, pcs.	≤ average for 5 years <sup>3</sup>	14	Completed	0	0	0
number of accidents, pcs.	0	0	Completed	0	0	0
Implementation of capacity schedules and plan for financing and development	85%	99%	Completed	85%	85%	85%
Proportion of purchases from small and medium-sized enterprises,	18%	85%	Completed	18%	18%	18%
including the results of purchases only among SMEs	10%	38%		15%	15%	15%
Labour productivity (revenue, thousand RUB / person-hours)	4.72	5.20	Completed	4.82	5.02	5.17
Integral Innovative KPI	85%	91%	Completed	90 %	95 %	95 %
Reducing operating costs	2%	2.26%	Completed <sup>4</sup>	2 %	2 %	2 %
Free cash flow (FCF), RUB mn	-39,875	-29,722	Completed	-8,202	25,727	34,540

<sup>1</sup> According to the agreed method of calculation, the TSR value in 2017 was -11.7%, while the value of the Moscow Stock Exchange index was -3.6%. The negative dynamics of shares in PJSC RusHydro is due primarily to the general decline in the market, which was exerted by geopolitical risks, as well as a decrease in interest in Russian companies by global investors. For most of the year, the dynamics of shares of PJSC RusHydro corresponded to the average market. At the end of the year, the main factors in the decline in the value of the shares were: the decision of the Board of Directors of the Company on temporary conservation of the construction project of Zagorskaya PSP-2, confirmation of information on the additional issue of the company's shares for financing the Pevek-Bilibino power transmission line project and other factors.

<sup>2</sup> The methodology for calculating EBITDA for LDP KPIs is similar to methodology of calculating EBITDA for KPIs the members of the Management Board.

<sup>3</sup> The value is 25.2.

<sup>4</sup> In accordance with the decision taken at the meeting of the Board of Directors of PJSC RusHydro dated 24.04.2018 (Minutes No. 269).



# SUSTAINABLE DEVELOPMENT

The company is aware of its economic, social and environmental responsibility as a producer of electricity necessary for the society. The sustainable development of a business is an important asset and is reflected in the mission and strategic objectives of RusHydro Group.

Ensuring reliable and safe functioning of the facilities for the society and the environment, taking into account the economic feasibility of the funds directed at minimising risks and reducing possible damages, is one of the strategic objectives of RusHydro Group.

The Company makes every effort to increase the share of renewable energy sources in the country's energy balance. The Group achieves this goal by introducing new generating capacities as well as increasing the generation of clean energy produced at the existing facilities of the Company while increasing energy efficiency.

A significant part of RusHydro Group's activities is contribution to the development of the regions of its presence. RusHydro Group contributes to the growth of well-being

not only by creating jobs at its enterprises, but also by a number of positive indirect effects from the energy infrastructure (the connection of new consumers to networks, domestic and drinking water supply, etc.). Cities of the Group's presence witness the Company's support in areas such as the development of education, protection of the environment, and assistance to socially unprotected categories of the population.

A comprehensive approach to overcoming the challenges facing RusHydro in the field of sustainable development (further - SD) ensures the most effective transition to low-carbon development with minimal damage to the environment, as well as compliance with all health and safety standards of workers and the public.

## SUSTAINABLE DEVELOPMENT MANAGEMENT

Key issues of sustainable development are considered at meetings of the Board of Directors and the Management Board of the Company.

An important role in the management of sustainable development issues of RusHydro Group is played by the Committee on Reliability, Energy Efficiency and Innovation under the Board of Directors PJSC RusHydro, which considers issues of long-term planning of hydropower and energy development based on other

renewable energy sources (hereinafter referred to as RES), the development of functional policies, (technical, environmental, and energy efficiency) and corporate standards in the field of technical regulation, etc.

The Company adopted a number of corporate documents that fix the approach and regulate activities in the field of Sustainable development and corporate social responsibility (hereinafter - CSR).

## Corporate documents

CSR Aspect	Regulatory documents
Sustainable production	<ul style="list-style-type: none"> <li>■ The development strategy of RusHydro Group for the period up to 2020 with a prospect up to 2025</li> <li>■ LDP RusHydro for the period of 2016-2020</li> <li>■ Technical policy of RusHydro Group</li> <li>■ Regulations on the Working Group on Technical Regulations of PJSC RusHydro</li> <li>■ Regulations on the process of investment management in the form of capital investments</li> <li>■ Regulations on the standardisation system of PJSC RusHydro</li> <li>■ Regulations on the management of the internal control system of PJSC RusHydro</li> </ul>
Procurement activities	<ul style="list-style-type: none"> <li>■ Regulations on the procurement of products for the needs of PJSC RusHydro and other local regulations of PJSC RusHydro, designed to specify the provisions of this document, including the Methods for testing reliability (business reputation) and financial status of participants in procurement procedures</li> </ul>
Ethics of business and counteraction to corruption	<ul style="list-style-type: none"> <li>■ Code of Corporate Ethics of PJSC RusHydro</li> <li>■ Anticorruption policy of PJSC RusHydro</li> <li>■ Regulations on the procedure for preventing and resolving a conflict of interests in PJSC RusHydro</li> <li>■ Regulations on the procedure for notification of gifts received by employees of PJSC RusHydro in connection with protocol events, official business trips and other official events</li> <li>■ Regulations on commissions on compliance with the norms of corporate ethics and conflict of interest regulation of PJSC RusHydro</li> <li>■ Rules of work for the Trust Line of RusHydro Group</li> <li>■ Comprehensive anti-corruption programme of PJSC RusHydro for 2016-2019</li> </ul>
Impact on the environment	<ul style="list-style-type: none"> <li>■ Environmental policy of PJSC RusHydro</li> <li>■ Environmental policy of JSC RAO ES East</li> <li>■ Energy saving and energy efficiency improvement programme of PJSC RusHydro for the period until 2020</li> <li>■ Energy saving and energy efficiency policy of the RAO ES East Subgroup</li> </ul>
Occupational Safety and Health	<ul style="list-style-type: none"> <li>■ Labour protection policy of PJSC RusHydro</li> <li>■ Occupational Health and Safety Policy of PJSC RusHydro controlled companies</li> </ul>
Charity	<ul style="list-style-type: none"> <li>■ The policy of charity and sponsorship of PJSC RusHydro</li> <li>■ Regulations on Charitable and Sponsorship Activities of PJSC RusHydro controlled companies</li> </ul>
Innovative development	<ul style="list-style-type: none"> <li>■ The programme of innovative development of RusHydro Group for 2016-2020, with a prospect up to 2025</li> <li>■ The programme of innovative development of the of JSC RAO ES East Holding for 2016-2020 with a prospect up to 2025</li> <li>■ Regulations on the decree of development and implementation of the innovative development programme of PJSC RusHydro</li> <li>■ Regulations on the process of R &amp; D management in the production activities of PJSC RusHydro</li> <li>■ Regulations for the preparation, adjustment and monitoring of the implementation of plans for the procurement of innovative and (or) high-tech products</li> <li>■ Methodology for assessing the technical and economic efficiency of innovation projects and the Temporary procedure for assessing the technical and economic efficiency of innovative projects implemented in the form of research and development</li> </ul>
Personnel Management	<ul style="list-style-type: none"> <li>■ Social policy of PJSC RusHydro</li> <li>■ Regulations on the organisation of trainings for employees of PJSC RusHydro</li> <li>■ Regulations on performance appraisal of the personnel of the branches of PJSC RusHydro</li> <li>■ Regulations on the creation of a database of candidates for posts in branches of PJSC RusHydro</li> <li>■ Regulations on the work with the back-up staff of PJSC RusHydro</li> <li>■ The concept of advanced human resource development From the new school to the workplace</li> </ul>



# THE RELEVANCE OF THE GROUP'S ACTIVITIES TO THE UN'S SUSTAINABLE DEVELOPMENT GOALS

In 2017, PJSC RusHydro joined the UN Global Compact as the largest business initiative in the field of sustainable development. The company shares ten principles in the field of human rights, labour relations, anti-corruption and environmental protection, and seeks to ensure development that meets the needs of present generations without compromising the ability of future generations to meet their own needs.

The company adheres to the corporate social responsibility outlined in the ISO 26000 standard. According to it, social responsibility is the responsibility of the organisation for the impact of its decisions and activities on society and the environment, transparent, and ethical behaviour that:

- promotes sustainable development, including public health and well-being;
- takes into account the expectations of stakeholders;
- complies with the applicable legislation and is consistent with international standards of conduct;
- is integrated into the activities of the whole organisation and applied in its relations.

The activities of RusHydro Group in the field of SD are aimed at achieving a number of sustainable development goals adopted by the UN in September 2015. The Company allocated 13 sustainable development goals, especially significant for its activities. RusHydro Group also concurs with other goals and contributes to its achievement.

Implementation of activity in the field of sustainable development is carried out by profile blocks in the zone of their functional responsibility:

- social responsibility - Personnel management block, Corporate Communications Department;
- interaction with authorities in the regions of presence and creation of a favorable social climate for effective development of the Company - Corporate Communications Department;
- economic responsibility - Block of economic planning and investments, Block of production activity, Block of capital construction, Block of financial and corporate law management;
- electricity generation, energy efficiency and environmental responsibility - a Block of production activities.

## The main goals, objectives and corporate programmes of the RusHydro Group to achieve sustainable development goals

### Goals, objectives of sustainable development

### Programmes, projects, measurers

#### ECONOMIC GOALS



Water regimes regulation system and protection of territories and population from floods.

Affordable energy. Increase in the share of renewable energy sources in the energy balance.

Maximising value / value for the state, shareholders, society and employees.

Innovative development.

Energy saving and energy efficiency.

- Programme for effective cooperation with the System Operator and Russian water resources in the planning and management of the hydroelectric power system of the HPPs
- Ensuring the functioning of the tariff equalization mechanism in five of the nine regions of the Far Eastern Federal District, where the average tariff for electricity for the consumer was above 4 RUB / kWh. RusHydro acts as the recipient of the premium on the price for capacity (CCA price) and transfers these funds in full to the regions of the Far Eastern Federal District in order to compensate for losses incurred as a result of the sale of electricity at subsidized tariffs
- The investment programme providing for 875 MW of non-carbon capacity commissioning (HPP and RES)
- The plan to increase RusHydro Group's value until 2021, aimed at increasing the company's fundamental and market value and preparing measures to introduce long-term tariff regulation in the Far Eastern Federal District
- Implementation of the Innovative Development Programme of RusHydro Group for 2016-2020 with a prospect up to 2025 and the programme of innovative development of the RAO ES East Subgroup for 2016-2020 with a prospect up to 2025
- Implementation of the Concept for Reforming the Scientific and Project Complex of PJSC RusHydro
- Implementation of the energy saving and energy efficiency improvement programme of PJSC RusHydro for the period up to 2020 and RAO ES East Subgroup

#### SOCIAL GOALS



Reducing the risks of injuries and occupational diseases.

Ensure the qualified personnel availability.

Fight against corruption and effective procurement activities.

Joining international initiatives and non-financial reporting disclosure.

- The policy in the field of occupational health and safety of JSC RAO ES East
- Programme of measures to improve industrial safety and reduce injuries of employees of the RusHydro Group, contractors and third parties
- Insurance of workers against accidents at work and occupational diseases
- Programmes of advanced development of personnel potential (the system of "Corporate elevators": escorting future specialists from school to joining RusHydro's enterprises)
- Agreements on partnership and cooperation with specialized universities
- Implementation of Anti-Corruption Policy and Conflict of Interest Management Policy
- Measures to comply with the Code of Corporate Ethics
- Observance and improvement of procurement provisions for the needs of PJSC RusHydro and JSC RAO ES East
- Joining the UN Global Compact
- Annual disclosure of information on sustainable development and corporate social responsibility according to GRI standards (since 2018 as part of integrated report)
- Obtaining and improving ratings from leading rating agencies in the field of socially responsible investment

#### ENVIRONMENTAL GOALS



Low-carbon development.

Biodiversity conservation.

Preservation and restoration of fish resources of water bodies.

Effective water use.

- Implementation of the Environmental Policy in terms of ensuring low-carbon development
- Development of targets for reducing greenhouse gas emissions and mechanisms for its achievement
- Development and implementation of a biodiversity conservation programme
- Activities to restore fish resources. Installation of fish protective devices. The project "Bureysky Compromise"
- Programmes of the RusHydro Group in terms of rational use of water resources
- Annual actions "oBEREGAI" for cleaning of rivers and reservoirs from garbage

# RISKS AND OPPORTUNITIES

## RISK MANAGEMENT SYSTEM AND RISK REGISTERING

The activities of PJSC RusHydro are associated with a number of risks, which in certain circumstances may adversely affect the Company's production and financial results, social and natural environment.

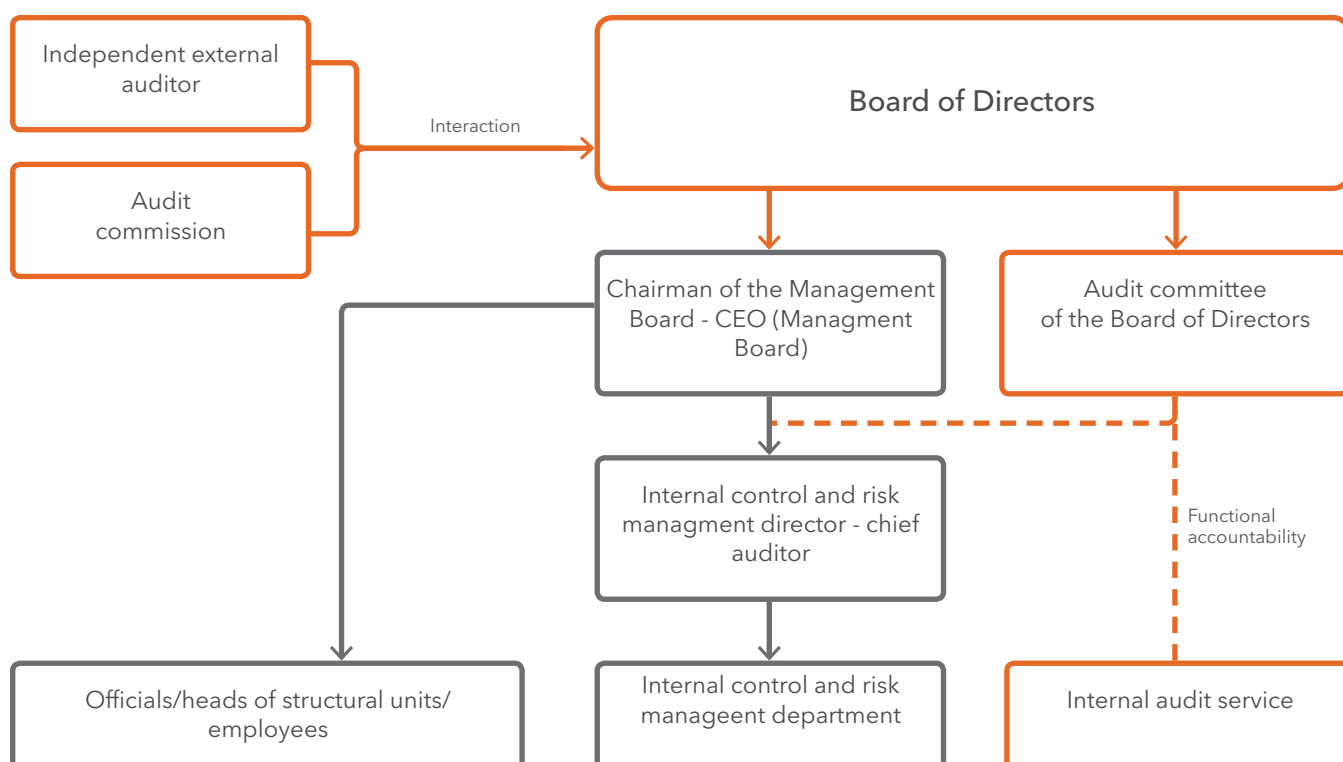
To reduce the negative impact of potential hazards and realise favourable opportunities, the Company has established a risk management system aimed at implementing the RusHydro Group Development Strategy for the period until 2020, with a prospect up to 2025.

For the organisation of risk management processes, the Risk Control and Risk Management Department (hereinafter - RCRMD) was established as part of the internal control and risk management unit.

The staff number of RCRMD as of December 31, 2017 is 22 people. RCRMD solves the following tasks:

- organisation of an effective corporate system of internal control and risk management in the RusHydro Group (hereinafter - CS ICRM);
- ensuring effective operational control in the RusHydro Group;
- interaction with external control bodies.

### Structure of control over financial and economic activities and risk management of PJSC RusHydro



## Independent assessment of the risk management system

The external evaluation of the effectiveness of CS ICRM is carried out regularly during the audit of the implementation of the Long-term development programme of the RusHydro Group, external audit of financial statements, surveys of RusHydro's facilities, mandatory due diligence in M & A risk assessment, audit and the Audit Commission of the Company.

The quality of the risk management system of PJSC RusHydro is regularly confirmed by an independent jury of international competitions (RusHydro's victory in risk management in the "Best Risk Management" competition in the category Production Organisations, wins in the nominations Best Comprehensive Management Programme risks, The best risk-manager of Russia, conducted by the Russian Risk Management Society Rus-Risk - the Russian National Association of Risk Managers, member of the Federation of European Risk Management Associations FERMA and others).



More information on the risk management policy is available at the Company's website: <http://www.eng.rushydro.ru>

## Risk Management Methods and Approaches

The list of methods and approaches to risk management is defined by the Internal Control and Risk Management Policy (approved by the Board of Directors decision, Minutes No. 227 of November 16, 2015). The Company uses the following set of methods and approaches to risk management:

- Risk management is an integral part of all organisational processes: risk management is not separate from the main activities and processes of the organisation;
- Risk management is part of the decision-making process. Risk management helps decision-makers to take informed choices, prioritise actions and identify optimal actions among alternative options;
- Risk management contributes to the continuous improvement of the organisation. In order to increase the level of maturity of risk management, the Company develops and improves the CS ICRM;

- The Company seeks to create a risk-oriented corporate culture;
- The top management of the Company ensures the priority of risk management, the dissemination of knowledge and skills in the field of risk management in the Company and RusHydro Group, promotes training in the basics of risk management and the adoption of a corporate culture of risk management;
- The Company's management ensures the possibility of effective information exchange and the introduction of communicative norms in the framework of corporate risk management.

According to the Regulations on the strategic management of PJSC RusHydro, the Company annually draws up the Registry of strategic risks with the definition of risk owners, which is approved by the Management Board of the Company. For risks classified as critical and significant, the Management Board approves an action plan for managing strategic risks, in which the terms, the responsible individuals and the expected results are determined. The execution of measures for managing strategic risks and KPIs is taken into account when bonuses are paid to employees. Monitoring of the execution of the plan and monitoring of its implementation is carried out by the company's risk managers.

### Stages of strategic risk management



Risk managers regularly interact with the Audit Committee under the Board of Directors of PJSC RusHydro in the framework of exercising control over the functioning of the risk management system of PJSC RusHydro, which corresponds to the Methodological Recommendations for the organisation of the work of the audit committees of the Boards of Directors of joint-stock companies with a stake in authorised capital of the Russian Federation (approved by decree of the Federal Property Management Agency No. 86 of March 20, 2014).

## Evaluation of the system of risk management and internal control

In 2017, the Board of Directors of PJSC RusHydro assessed the risk management system and internal control.

The valuation was carried out on the basis of a methodology previously agreed by the Audit Committee under the Board of Directors of PJSC RusHydro, which provides for determining the compliance of the current status of the elements of the internal control system and the risk management system with the criteria for the target state, as established by the methodology<sup>1</sup>.

Based on the results of the evaluation, a report was prepared on the functioning of the corporate internal control and risk management system approved by the Board of Directors on July 21, 2017. The Board of Directors noted the positive dynamics of the development of the internal control and risk management system relative to the level at the beginning of 2016 and also concluded that the internal control system and the risk management system are characterised by a moderate level of development - the state of the elements of both systems as a whole corresponds to the target state established by the methodology assessment of the effectiveness of the internal control and risk management system agreed by the Audit Committee of the Company.



For more information on the stages and methods of risk management, see the website: <http://www.eng.rushydro.ru>

## Corporate documents

The main document that defines the goals, objectives and principles of the corporate risk management system of PJSC RusHydro is the Internal Control and Risk Management Policy.



The Internal Control and Risk Management Policy is available at the Company's website: <http://www.eng.rushydro.ru>



## Improvement of internal control and risk management system

Within the framework of improving the corporate system of internal control and risk management in 2017, the following activities are presented.

### Corporate level

- The Board of Directors of PJSC RusHydro approved a report on the development of the internal control and risk management system and the effectiveness of strategic risk management.
- The Management Board of PJSC RusHydro approved the Strategic Risk Management Plan of RusHydro Group for 2017-2018. When approving the above-mentioned plan, the following are updated:
  - the registry of strategic risks of RusHydro Group;
  - a system of indicators for the implementation of strategic risks of RusHydro Group;
  - a list of measures to manage strategic risks of RusHydro Group.

Following the results of 2017, the Management Board approved the Report on the implementation of the Action Plan for the management of strategic risks of RusHydro Group for 2017.

<sup>1</sup> Recommendations of the Board of Directors of PJSC RusHydro on the improvement of the corporate system of internal control and risk management were not given.



## Documents regulating the operational management of major risks

Production risks	Investment risks	Market (sales risks)	Risks of mergers and acquisitions
Regulations on the process of creating production programmes	Regulations on the process of investment management in the form of capital investments	Regulations on the policy of PJSC RusHydro in the field of sales activities with respect to operating generation facilities in the price zones of the wholesale electricity and capacity market	Regulations on the planning, preliminary coordination, support and implementation of strategic and other material transactions
Recommendations of the Analytical Centre (as part of the annual report of the Analytical Centre)	Methodology for risk assessment of projects in terms Return on Risk Adjusted Capital	The procedure for determining the minimum (maximum) indices for electric energy of WECM	Registries and risk management plans for the strategic transactions under consideration as part of the strategic transaction passports approved by the Management Board
Regulations on the management of the T&M projects	Quarterly reports to the Management Board of investment entities on risk management of projects	Methodology for evaluating the internal rating of counterparties, the ratings of the Company's counterparties on the WECM, calibrated on the Moody's scale, with a limit on the credit rating of the portfolio of contracts	
Methodology for assessing the risk of production assets and the effect of options for upgrading the equipment based on the real option method and calculating VaR, taking into account the assessment of the reputational consequences of equipment failures	A typical list of risks for the implementation of investment projects as part of the Regulations on the process of investment management in the form of capital investments		
Set of standards of the organisation's production activities in terms of risk management of individual stages of the life cycle of the production assets	Risk registries, risk management action plans and monthly reports on the implementation of the action plan for investment projects		



For more information on regulatory documents, see the website: <http://www.eng.rushydro.ru>

- RusHydro Group's risk management framework was significantly expanded: internal control and risk management policies were approved in 18 RusHydro Group companies, including 14 companies operating in the Far East.
- Risk management plans for 2017-2018 were approved in 30 key companies controlled by PJSC RusHydro, including 15 companies operating in the Far East.
- In order to synchronise the processes of strategic management and risk management, a new version of the LNA was developed and approved, which regulates the procedure for developing and approving the strategic risk management plan, as well as reporting on the implementation of this plan.

## Business and operational level

- Branches and subsidiaries of PJSC RusHydro were evaluated and prioritised in terms of risk level and status of implementation of risk management procedures with the aim of forming a risk-oriented internal audit plan for PJSC RusHydro for 2018.
- A survey of the internal control system of the business process property management and the business process of interaction of JSC RGS with RusHydro Group companies within the framework of procurement activities.
- The project of a methodology for assessing the risks of information security of the Company was developed. Approbation of the methodology is planned for 2018.
- Regular monitoring of the implementation of measures to improve the internal control system of key business processes of PJSC RusHydro.



## The list of strategic risks of RusHydro Group

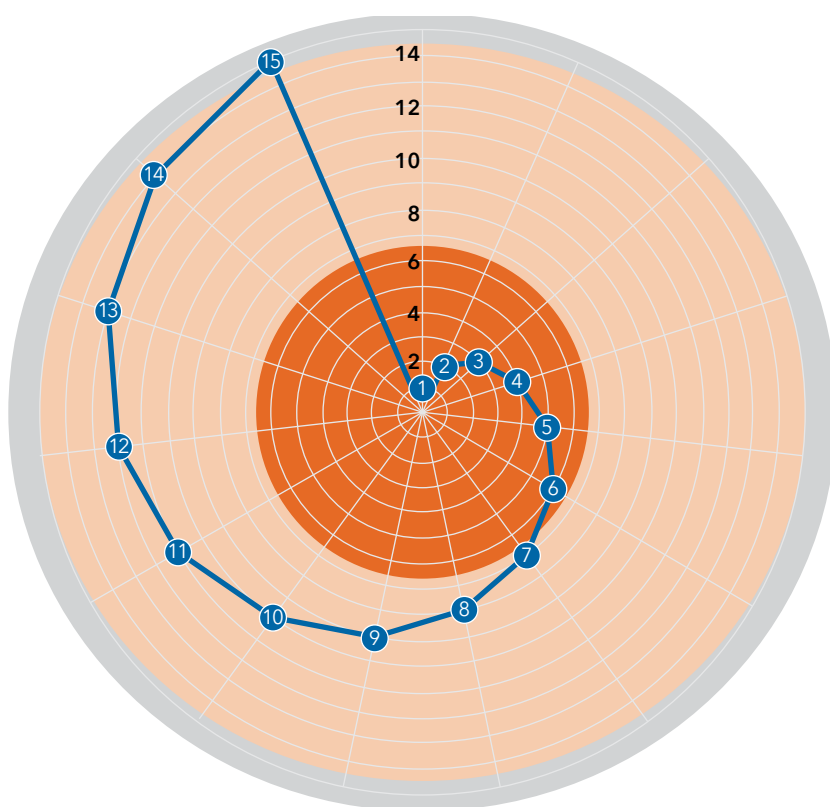
The Company annually composes the RusHydro Group's Strategic Risks Registry with the definition of risk owners. The registry is used both for the purposes of disclosure of information about risks to shareholders, rating agencies, the auditor and other interested parties, and for the purpose of further developing and monitoring the implementation of risk optimisation measures within the framework of RusHydro Group Strategy.

The priority of risks and opportunities is determined on the basis of their impact on key financial, environmental and social aspects of activities, taking into account the Company's strategic goals, development priorities and mission. [103-2], [103-3]

The current list of strategic risks of RusHydro Group was drawn up by the Company's management and approved by the Company's Management Board in 2017.

The diagram presents RusHydro Group's strategic risks radar, taking into account their ranking by the likelihood of implementation and the impact on the business in accordance with the strategic risks registry of RusHydro Group. [102-15]

### Radar of strategic risks of RusHydro Group for 2017-2018



#### Critical risks

- 1 The disruption of the timing of the commissioning of new facilities
- 2 The rise in the cost of capital construction projects
- 3 The decrease in revenue from the sale of electricity and capacity relative to the business plan
- 4 Adverse changes / violations of legislation (Legal risk)
- 5 Technogenic accidents and accidents at production facilities
- 6 Shortage of funds, incl. obtained from external sources (Financial risk)
- 7 Risk of non-fulfillment/decline in the efficiency of production programs

#### Significant risks

#### Low priority risks

- 8 Failure to meet targets by engineering companies
- 9 Terrorism
- 10 Disadvantages and errors of the management system
- 11 Reputational risks
- 12 Damage caused by natural disasters and man-made accidents not at the facilities of RusHydroGroup
- 13 Corruption risk
- 14 Growth of receivables for the supply of electricity, power and heat
- 15 Inefficiency of integration of companies

## Strategic risk management of RusHydro Group

Priority of risk <sup>1</sup>	Risk <sup>2</sup>	Influence on KPI LDP of RusHydro Group	Parties concerned	Key risk management activities
<b>Economic aspect</b>				
1	The disruption of the timing of the commissioning of new facilities (critical risk)	<b>Direct:</b> Implementation of capacity schedules and a plan for financing and development, % Return on Equity (ROE), % Income before interest, taxes and depreciation (EBITDA <sup>3</sup> ), RUB mn <b>Indirect:</b> Total shareholder return (TSR), %	Shareholders and investors Employees Federal authorities Regional authorities and local authorities Suppliers and contractors	Systematisation of data on projected objects: ■ development of a corporate project management system to systematise data on existing and projected facilities. Development of internal assessment of design and working documentation: ■ increasing the efficiency of the work of design institutes and procurement activities aimed at strengthening the role of its own design institutes in conducting internal assessment of project and working documentation; ■ regulation of activities for conducting internal assessment of project documentation. Control over the quality, timing and cost of work: ■ maintaining a list of unscrupulous designers, participating in the selection of subcontractors; ■ keeping a registry of violations by contractors of deadlines for the performance of contractual obligations under contracts for the implementation of the new construction programme and TR&M projects; ■ optimisation of the insurance and procurement system in terms of construction and installation activities (reducing the risk of project cost increase due to damage / destruction of the facility as a result of design and construction deficiencies and environmental impacts); ■ development of normative documents for the execution of certain types of work, the introduction of a system for the admission of personnel to perform such work with the possibility of personal suspension from the implementation of subsequent projects with the commitment of significant violations; ■ development of a quality control system for the supplied equipment (including the process of its production and shipment / delivery); ■ monitoring the progress of work on the creation of a grid infrastructure; ■ use of a system for supervising monitoring the timing and costs of new construction projects on the basis of the SAP information management system for fixed assets construction. In the materials for consideration of the investment programme for 2018-2023, the estimation of the profitability of investment projects of capital construction, taking into account risks, was carried out. ■ tightening of requirements for contractors to comply with contract terms; ■ complaints and lawsuits
2	The rise in the cost of capital construction projects (critical risk)	<b>Direct:</b> Return on Equity (ROE), % Income before interest, taxes and depreciation (EBITDA), RUB mn <b>Indirect:</b> Total shareholder return (TSR), %	Shareholders and investors Employees Federal authorities Regional authorities and local authorities Suppliers and contractors	■ Improvement of the methodology and automation of the outlining of water scenarios ■ Participation in the coordination of regulation for water management in interdepartmental working groups to establish the operating regimes of the hydrosystems ■ Implementation of the Comprehensive Modernisation Programme ■ Preparation of proposals on introducing amendments to normative legal acts in the electric power industry. Interaction with the Federal Social Insurance Fund and Association NP Market Council ■ Increase of the transparency of the business process of commercial dispatching
3	The decrease in revenue from the sale of electricity and capacity relative to the business plan (critical risk)	<b>Direct:</b> Return on Equity (ROE), % Income before interest, taxes and depreciation (EBITDA), RUB mn <b>Indirect:</b> Free cash flow (FCF) Total shareholder return (TSR), %	Shareholders and investors Employees Suppliers and contractors	■ Improvement of the methodology and automation of the outlining of water scenarios ■ Participation in the coordination of regulation for water management in interdepartmental working groups to establish the operating regimes of the hydrosystems ■ Implementation of the Comprehensive Modernisation Programme ■ Preparation of proposals on introducing amendments to normative legal acts in the electric power industry. Interaction with the Federal Social Insurance Fund and Association NP Market Council ■ Increase of the transparency of the business process of commercial dispatching

<sup>1</sup> Risk number in the registry / on the strategic risk radar.

<sup>2</sup> These risks were not realised in 2017.

<sup>3</sup> Further in this section, the indicator EBITDA is understood as the indicator used in KPI calculating.

Priority of risk <sup>1</sup>	Risk <sup>2</sup>	Influence on KPI LDP of RusHydro Group	Parties concerned	Key risk management activities
6	Shortage of funds, incl. those received from external sources (financial risks) (significant risk)	<b>Direct:</b> Implementation of capacity schedules and a plan for financing and development, %  <b>Indirect:</b> Return on Equity (ROE), %  Income before interest, taxes and depreciation (EBITDA), RUB mn  Total shareholder return (TSR), %	Shareholders and investors  Federal authorities  Suppliers and contractors	<ul style="list-style-type: none"> <li>■ Maintaining sufficient level of cash and sustaining the availability of financial resources through the provision of credit lines</li> <li>■ Implementing a balanced model of working capital financing through the use of short-term and long-term sources</li> <li>■ Monitoring the compliance with credit agreements to prevent violations of the Company's financial covenants</li> <li>■ Placement of temporarily available funds in short-term financial instruments (bank deposits)</li> <li>■ Conclusion of contracts with counterparties on standard financial terms</li> <li>■ Introduction of a methodology for managing interest and currency risks, taking into account the credit policy of PJSC RusHydro</li> <li>■ Work to prepare flood zones for reservoirs of hydroelectric stations under construction at the expense of the federal budget and budgets of the constituent entities of the Russian Federation</li> <li>■ Interaction with regional and federal executive authorities, in the field of tariff regulation, aimed at reducing the tariff gap in the Far East</li> <li>■ Optimisation of costs (in accordance with the VGP)</li> <li>■ Implementation of measures to sell non-core assets</li> <li>■ In order to reduce the debt burden of RusHydro Holding, an additional issue of shares was carried out and a deal was concluded for the acquisition of 55 billion shares of the Company by VTB Bank (PJSC)</li> <li>■ Within the framework of the approved methodology for managing the Company's currency and interest rate risks, currency risks and interest rate risk are calculated annually to assess and form a reserve for currency and interest risks in the Company's budget</li> </ul>
7	Risk of non-fulfilment / decline in the efficiency of production programmes (significant risk)	<b>Direct:</b> Prevention of the number of accidents from exceeding the maximum value  Return on Equity (ROE), %  Income before interest, taxes and depreciation (EBITDA), RUB mn  Commissioning of capacity schedules and a plan for financing and development, %  <b>Indirect:</b> Total shareholder return (TSR), %	Shareholders and investors  Employees  Suppliers and contractors	<ul style="list-style-type: none"> <li>■ Prompt execution of claims and lawsuits on the facts of poor quality of repairs, poor-quality equipment, and violation of delivery deadlines</li> <li>■ Use of recommendations of the Analytical Centre in the creation of production programmes</li> <li>■ Monitoring data on the financial status of suppliers and contractors to prevent the risk of bankruptcy of the counterparty.</li> <li>■ Optimisation of the process of contract approval, introduction of changes to the Company's local regulations on contractual activities</li> <li>■ Control of the implementation of technical re-equipment and reconstruction projects in accordance with the standards of the organisation</li> </ul>
8	Lack of achievement of targets by engineering companies (design, controlled companies institutes) (significant risk)	<b>Direct:</b> Integral Innovative KPI Return on Equity (ROE), %  Income before interest, taxes and depreciation (EBITDA), RUB mn  <b>Indirect:</b> Total shareholder return (TSR), %	Shareholders and investors  Suppliers and contractors	<ul style="list-style-type: none"> <li>■ Creation of a single project facility of PJSC RusHydro through reorganisation of controlled design companies</li> <li>■ Implementation of the programme for the development of controlled engineering companies</li> <li>■ Conducting the repair and project training programmes of international experience exchange</li> <li>■ Staff development and training of scientific personnel</li> <li>■ Development of standard sheets of the scope of work for the repair of equipment and hydraulic structures</li> <li>■ Creation and maintenance of a database of advanced and innovative technologies</li> <li>■ Minimisation of risks of ineffective management of non-core activities through its consolidation in specialised controlled service companies</li> </ul>

Priority of risk <sup>1</sup>	Risk <sup>2</sup>	Influence on KPI LDP of RusHydro Group	Parties concerned	Key risk management activities
9	Terrorism (significant risk)	<b>Direct:</b> Prevention of the number of accidents from exceeding the maximum value Implementation of capacity schedules and a plan for financing and development, % Return on Equity (ROE), % Income before interest, taxes and depreciation (EBITDA), RUB mn <b>Indirect:</b> Reducing operating costs Total shareholder return (TSR), %	Shareholders and investors Employees Suppliers and contractors Federal authorities Regional authorities and local authorities	<ul style="list-style-type: none"> <li>■ Provision of armed protection of facilities by forces of the private guards of Rosgvardia, FSUE "Okhrana" of Rosgvardia and FSUE "Departmental Security" of the Ministry of Energy of Russia.</li> <li>■ Developing and maintaining up-to-date plans for interaction with law enforcement agencies to protect the Company's facilities when committed or threatened to commit a terrorist act.</li> <li>■ Provision of on-site and in-site facilities on the territory of the Company's facilities.</li> <li>■ Carrying out measures along with law enforcement agencies identify, prevent and suppress acts of unlawful interference in the activities of the Company's facilities.</li> <li>■ Carry out an assessment of the most likely threats and develop plans for mitigation, together with the territorial bodies of EMERCOM of Russia in the constituent entities of the Russian Federation at the location of the Company's facilities.</li> <li>■ Equipping facilities with engineering and technical means of protection.</li> <li>■ Organisation and control of the access to information on the composition and status of engineering and technical means of protection.</li> <li>■ Property insurance of the Company for the risk of "Terrorism and Sabotage".</li> <li>■ Increase in the share of equipment certified by FSTEC of Russia, and increase locally produced equipment.</li> <li>■ Conducting an audit of information and technical security.</li> <li>■ Control of access to the firmware of control systems and information systems.</li> <li>■ Protection of remote access to corporate information systems of the Company and implementation of work to ensure information security of virtual means, mobile and cloud services.</li> </ul>
10	Disadvantages and errors of the management system (significant risk)	<b>Direct:</b> Implementation of capacity schedules and a plan for financing and development, % Proportion of purchases from small and medium-sized enterprises <b>Indirect:</b> Return on Equity (ROE), % Income before interest, taxes and depreciation (EBITDA), RUB mn Total shareholder return (TSR), %	Shareholders and investors Employees Suppliers and contractors	<ul style="list-style-type: none"> <li>■ Control over the implementation of federal authorities directives.</li> <li>■ Monitoring, analysis, and control of document management procedures.</li> <li>■ Civil liability insurance of members of management bodies and officials of the Company before third parties and the Company.</li> <li>■ Using an automated procurement management system based on SAP.</li> <li>■ Coordination and control of work on the regulation of the activities of structural units and officials.</li> <li>■ Implementation of the Company's IT strategy.</li> <li>■ Maintenance of information systems of the Company.</li> <li>■ Improvement of the system of regulation of activities and management of business processes.</li> </ul> <p>PJSC RusHydro implements corporate management standards in newly acquired or newly created controlled companies, as well as the introduction of management systems for organisational projects, grading of employees (grading - building a system of job levels, taking into account the assessment of the positions, strategy and corporate culture of the company), attestation of management personnel and fulfilment of individual employee development plans.</p>
14	Growth of receivables for the supply of electricity, power and heat (significant risk)	<b>Direct:</b> Return on Equity (ROE), % Income before interest, taxes and depreciation (EBITDA), RUB mn <b>Indirect:</b> Total shareholder return (TSR), %	Shareholders and investors Federal authorities Suppliers and contractors	<ul style="list-style-type: none"> <li>■ Claims, execution of settlements outside the authorised credit institution at the WECM in accordance with the Agreement on accession to the wholesale market trading system.</li> </ul>

<sup>1</sup> Risk number in the registry / on the strategic risk radar.

<sup>2</sup> These risks were not realised in 2017.

Priority of risk <sup>1</sup>	Risk <sup>2</sup>	Influence on KPI LDP of RusHydro Group	Parties concerned	Key risk management activities
<b>Ecological aspect</b>				
4	Adverse changes / violations of legislation (Legal risks)  (critical risk)	<b>Direct:</b> Return on Equity (ROE), % Income before interest, taxes and depreciation (EBITDA), RUB mn Reducing operating costs <b>Indirect:</b> Total shareholder return (TSR), %	Shareholders and investors Consumers Employees Unions Federal authorities Regional authorities and local authorities Local communities Ecological organisations Mass media Suppliers and contractors	<ul style="list-style-type: none"> <li>Constant monitoring of initiated and reviewed changes in legislation, which in the future may have an impact on activities.</li> <li>Monitoring and revision of existing standards and regulations in the field of technical regulation.</li> <li>Participation of representatives of PJSC RusHydro in measures to change legislation conducted by legislative, executive and judicial bodies, public associations, professional legal associations and associations.</li> <li>Regular conduct of environmental audits and implementation of the recommendations received.</li> <li>Participation in the activities of working groups of the Ministry of Energy of Russia on technical regulation conducting claims and lawsuits.</li> </ul>
5	Technogenic accidents and accidents at production facilities  (critical risk)	<b>Direct:</b> Prevention of the number of accidents from exceeding the maximum value <b>Indirect:</b> Return on Equity (ROE), % Income before interest, taxes and depreciation (EBITDA), RUB mn Reducing operating costs Total shareholder return (TSR), %	Shareholders and investors Consumers Employees Unions Federal authorities Regional authorities and local authorities Local communities Ecological organisations Professional communities and universities Mass media Suppliers and contractors Non-profit organisations	<ul style="list-style-type: none"> <li>Carrying out in full the repair work and the Technical rehabilitation and modernisation Programme.</li> <li>Development of a quality control system for the supplied equipment, including the process of its production and shipment / delivery, construction, installation and commissioning, as well as increasing the level of contractual responsibility of suppliers / contractors in the manufacturing and supply of equipment and materials.</li> <li>Complaints and lawsuits against unfair contractors / suppliers.</li> <li>Implementation of recommendations identified during the check-ups of the facilities of PJSC RusHydro.</li> <li>Tightening the control of contractors / subcontractors at production sites in terms of reducing injuries, fires, unethical behaviour, and theft.</li> <li>Development of normative and technical documents aimed at improving the quality of design and construction management processes.</li> <li>Introduction of modern methods for servicing equipment without stopping, modern technologies for managing production assets, including the necessary information technologies.</li> <li>Implementation of technical inspection of technical devices of hazardous production facilities, examination of industrial safety of technical devices of hazardous production facilities, buildings and structures at which dangerous production facilities are operated.</li> <li>Development of a life cycle management system for existing hydroelectric power plants.</li> <li>Control by officials of the implementation of regulations, instructions, etc. when performing work on operations, maintenance, etc.</li> <li>In order to minimise errors at the design stage of the facilities, an analysis of the design documentation by the customer's specialists is set up, and the staff of the general designer is trained.</li> </ul>

Priority of risk <sup>1</sup>	Risk <sup>2</sup>	Influence on KPI LDP of RusHydro Group	Parties concerned	Key risk management activities
12	Damage caused by natural disasters and man-made accidents not at the Company's facilities  (significant risk)	<b>Direct:</b> Prevention of the number of accidents from exceeding the maximum value Implementation of capacity schedules and a plan for financing and development, % Return on Equity (ROE), % Income before interest, taxes and depreciation (EBITDA), RUB mn <b>Indirect:</b> Reducing operating costs Total shareholder return (TSR), %	Shareholders and investors Consumers Employees Federal authorities Regional authorities and local authorities Ecological organisations Non-profit Organisations	<ul style="list-style-type: none"> <li>■ Modernisation in accordance with latest requirements of the centralised system emergency control systems</li> <li>■ Implementation of measures for civil defence and the prevention of emergency situations</li> <li>■ Research and development of methods for remote monitoring of the state of facilities and operating modes of HPPs</li> <li>■ Compliance with the legislation of the Russian Federation in the field of industrial safety and the use of a system of production control operating on its basis</li> <li>■ Property insurance of the Company</li> </ul>
<b>The social dimension</b>				
11	Reputational risks  (significant risk)	<b>Direct:</b> Total shareholder return (TSR), % <b>Indirect:</b> Return on Equity (ROE), % Income before interest, taxes and depreciation (EBITDA), RUB mn	Shareholders and investors Consumers Employees Unions Federal authorities Regional authorities and local authorities Local communities Ecological organisations Professional communities and universities Mass media	<ul style="list-style-type: none"> <li>■ Compliance with the regulations on the implementation of information activities, the regulations on participation in public events, the Regulation on Disclosure of Information</li> <li>■ Interaction with stakeholders in the main areas of the Company's activities, incl. through joint public events</li> <li>■ Preparation of press releases on a regular basis with the official position of the Company on activities</li> <li>■ Holding press tours and special events for the media</li> </ul>
13	Corruption risk  (significant risk)	<b>Indirect:</b> Return on Equity (ROE), % Income before interest, taxes and depreciation (EBITDA), RUB mn Total shareholder return (TSR), %	Shareholders and investors Consumers Employees Unions Mass media Suppliers and contractors Non-profit Organisations	<ul style="list-style-type: none"> <li>■ Implementation of procedures aimed at preventing conflicts of interest of employees</li> <li>■ monitoring of information on incomes, expenditures, property and liabilities of property issues of officials holding positions that are subject to corruption risks</li> <li>■ examination of procurement documentation</li> <li>■ checking counterparties for any conflicts of interest</li> <li>■ Trust line management, checking incoming complaints about the facts of illegal activities</li> <li>■ conducting official investigations related to the facts of illegal activities of employees. Development and adoption of measures to eliminate identified violations / deficiencies</li> </ul>

<sup>1</sup> Risk number in the registry / on the strategic risk radar.

<sup>2</sup> These risks were not realised in 2017.

# INFORMATION ON POSSIBLE CIRCUMSTANCES OBJECTIVELY IMPEDING THE GROUP'S ACTIVITIES

The risks associated with the geographical features of the regions include: the risk of loss (for example, the disruption of fixed assets) due to seismic activity, avalanches and mudflows, likely landslides and rain floods, as well as other unfavourable weather conditions (hurricanes, heavy snowfalls, frosts, etc.).

Most regions of the Group's operations are characterised by a developed transport infrastructure and are not subject to risks associated with the termination of transport links. At the same time, some generating assets are located in remote areas with harsh climate, including the Krasnoyarsk Region and parts of the Far Eastern Federal District. RusHydro Group is working to improve access to technologies and activities in severe climatic conditions in these territories. However, there can be no guarantee that additional costs will not be required to overcome the technical difficulties associated with the climate and the accessibility of these sites, which may have a negative impact on RusHydro Group's revenues, financial conditions, results of operations, and the subsequent prospects. In the foreseeable future, these risks are assessed as insignificant.



## Terrorism

In the event of possible military conflicts, as well as threats of terrorist attacks on sites (including aggravation of international relations), there are risks of danger to the lives of personnel and the damaging of its fixed assets. The registration region and the main part of the PJSC RusHydro's controlled companies business regions are characterised by a calm political environment. The probability of military conflicts, the introduction of a state of emergency in these regions is minimal, with the exception of the regions of the Russian Federation located near the border with Ukraine and in the North Caucasus Federal District. PJSC RusHydro is concerned about the possible risks associated with terrorist activity, including at facilities located in the North Caucasus. In connection with the possible exacerbation of the Georgian-Ossetian conflict, this risk may occur in the region of the Issuer's activities - in the Republic of North

Ossetia-Alania. To mitigate these risks, a comprehensive programme to ensure the safety of the facilities of PJSC RusHydro is being implemented. Regular checks of the anti-terrorism protection of the PJSC RusHydro's controlled companies' facilities and training of personnel are carried out, inclusive of the conduct of antiterrorist exercises and training.

Armed protection of sites and facilities is carried out by units of extra-departmental protection of Rosgvardia, FSUE "Okhrana" of Rosgvardia and FSUE "Departmental Security" of the Ministry of Energy of the Russian Federation. Plans for cooperation with law enforcement agencies on the protection of sites in the case of committing or the threat of committing a terrorist act have been developed. On the territory of the Group's facilities, access and intra-building access systems have been introduced. Together with law enforcement agencies, measures are taken to identify, prevent and suppress acts of unlawful interference in the activities of the PJSC RusHydro and its subsidiaries. The most topical threats are assessed and the plans for mitigating the consequences are worked out jointly with the territorial bodies of the Ministry of Emergencies of Russia in the regions of the Russian Federation (at the location of generating assets). The main equipment of the PJSC RusHydro and its controlled companies are insured, including against terrorist acts.

According to the global risks report of the annual Global Economic Forum in Davos (Global Risks 2018), in 2018 there was a rise in the level of risk of terrorist attacks in the Russian Federation in comparison with 2017. Therefore, international experts do not currently place the risk of terrorist attacks in the group of key risks of the Russian business community - the risk of terrorist attacks ranks 7th in the ranking on the significance of risks to doing business in the Russian Federation.



To find the rating see the website:  
<http://reports.weforum.org/global-risks-2018/global-risks-of-highest-concern-for-doing-business-2018/#country/RUS>



## Seismic hazardous areas

Most of the Group's facilities are located in seismically quiet regions; however, such facilities as Pauzhetskaya GeoPP and Verkhne-Mutnovskaya GeoPP are located in an earthquake zone, with a possible earthquake magnitude of up to 9 on the Richter scale. In 2014, the seismological chain of the Dagestan branch of VNIIG named after B.I. Vedeneev is established. In case of an earthquake, an emergency action plan has been developed, featuring constant monitoring of the situation, while seismic monitoring stations operate at the Group's facilities. Matters of transport links are worked out in advance considering the aforementioned risk, the scheme for the transportation of goods and people is optimised. All sites of the Group comply with the requirements of seismic standards.

## Zone of seasonal flooding

The risks of seasonal floods play an important role in the Company's operations and are included in the list of significant risks for the Group. For their minimisation, water management is carried out, including forecasting and monitoring of hydrological regimes regulation of reservoirs, construction and operation of spillways, and other measures.

To prepare for the spring-summer floods, flood commissions are created in the Company's branches. Their purpose is to ensure a trouble-free flood season.

The Group's facilities operate in accordance with the instructions of the interdepartmental working group under the Federal Agency for Water Resources.

## INSURANCE COVERAGE

Insurance coverage in RusHydro Group is based on the principles of rationing insurance protection system, optimisation of insurance coverage, unity of approaches to the organisation and continuity of insurance.

RusHydro Group has strict requirements to the insurance of its assets (property insurance against all risks and insurance against construction and installation risks). As a result of limited resources of the insurance market in the Russian Federation, the Group puts forward additional requirements and controls the reinsurance of risks. The Group pursues a policy of openness towards representatives of the foreign insurance community: it annually conducts engineering insurance inspections of the Company's facilities, "road show", negotiations, and execution of the reinsurers' recommendations.

Objectives of insurance protection:

- providing reliable guarantees for the compensation of possible losses of the Company in the event of unfavorable situations (insurance cases), minimisation of the Group's financial resources allocated for the limiting the consequences of such occasions;
- ensuring the social protection of employees and other persons insured by the Company, at the expense of a corporate social package using personal insurance mechanisms;
- reducing the cost of providing insurance protection by unifying the insured types of risks, a unified approach to the selection of insurance companies and reducing the amount of insurance premiums paid;
- reducing the terms of payment of insurance compensation in the event of insurance events;
- increasing investment attractiveness of the Company by maintaining the guaranteed amount of assets under insurance coverage.

## The choice of insurance companies and types of insurance

The choice of insurance companies is carried out on a competitive basis, taking into account the optimal ratio of the price and quality of insurance services. Requirements for the conditions of insurance coverage are laid out on the basis of an analysis of the current risk situation of the companies of the Group, analysis of offers in the insurance market, the corporate social policy, and legal requirements.

In 2017, the insurance protection of PJSC RusHydro and its subsidiaries was carried out in the main areas, including:

- property insurance;
- insurance of construction and installation risks;
- insurance of civil liability for causing damage due to shortcomings in construction work, preparation of project documentation and engineering check-ups;
- voluntary medical insurance;
- insurance against accidents and diseases;
- compulsory insurance of civil liability of the owner of a hazardous facility for causing damage as a result of an accident at a hazardous facility;
- transport insurance;
- cargo insurance;
- compulsory insurance of civil liability of the carrier for causing damage to life, health, property of passengers;
- civil liability insurance of officials and members of the Company's management bodies;
- general liability insurance of the Company.

## Insurance of liability of officers and members of management bodies

Within the framework of the requirements of Federal Law No. 223-FL of July 18, 2011 On Procurement of Goods, Works, Services by Individual Types of Legal Entities and the Regulations on the Organisation of Insurance Coverage of PJSC RusHydro an open one-stage tender was conducted without preliminary qualifying selection for the right to conclude a liability insurance contract and financial risks of directors, officers of the Company.

Based on the results of the competition, SOGAZ JSC was the top pick for the right to conclude an agreement on civil liability insurance of officials and members of the Company's management bodies in 2017, as an insurance organisation capable of providing the most reliable and fully-fledged insurance coverage for this type of insurance.

Insurance period is from January 1, 2017 to December 31, 2017. The insured amount is 2,011,536,000 RUB, which is equivalent to 30,000,000 USD at the rate of the Central Bank of the Russian Federation as of July 31, 2016, the total additional insurance for independent directors is 134,102,400 RUB, which is equivalent to 2,000,000 USD at the CBR rate as of July 31, 2016.

The insurance contract covers:

- property interest of insured persons related to the obligation to reimburse losses incurred by other persons;
- the property interest of the company and (or) any subsidiary company associated with the compensation of any losses by such a company;
- the property interest of the company and (or) any subsidiary associated with the obligation to reimburse the losses incurred by other persons.

# MARKETS

## POSITION IN THE INDUSTRY

In the Russian electricity generation market, RusHydro Group holds leading positions: the main competitors are independent Russian energy companies established following the reform of RAO UES of Russia and the State Corporation Rosatom.

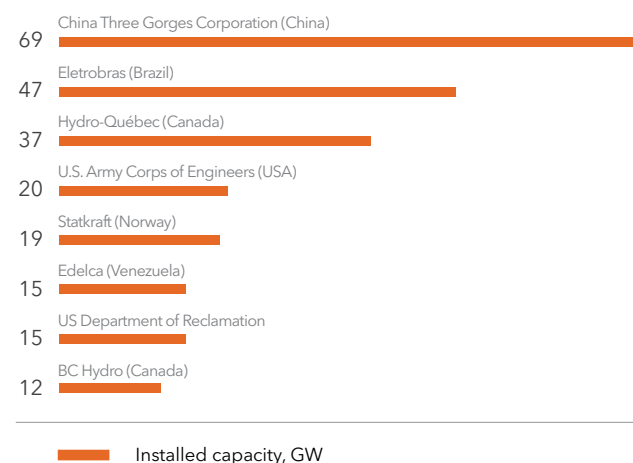
The main factors affecting the state of the industry:

- GDP growth rates, which determine the demand for electricity and require the schedules of its consumption, the level of investment in the creation of new capacities;
- legislative framework that determines the payback of projects in the energy sector, the sources and structure of the investment portfolio of energy companies, the level of competition, etc.;
- level of state stimulation of the development of separate types of generation;
- state of the basic production assets of the enterprises of the industry;
- socio-economic climate in the country;
- availability of capital markets, including credit resources;
- level of payment discipline of electricity consumers.

The share of RES and hydropower on the Group's energy balance is 78%. Competitive advantages of HPPs:

- Environmentally friendly. Hydraulic resources are a renewable and the most environmentally friendly source of energy, the use of which allows to reduce emissions of thermal power plants into the atmosphere and to preserve hydrocarbon fuel reserves.
- High maneuverability - hydroelectric power plants are most maneuverable and capable of significantly increasing production volumes in a matter of minutes, covering peak loads.
- Absence of a fuel component in the cost price of production - independence from changes in prices for energy carriers and as a result the possibility of long-term guarantees of the price for consumers.

### Similar companies abroad

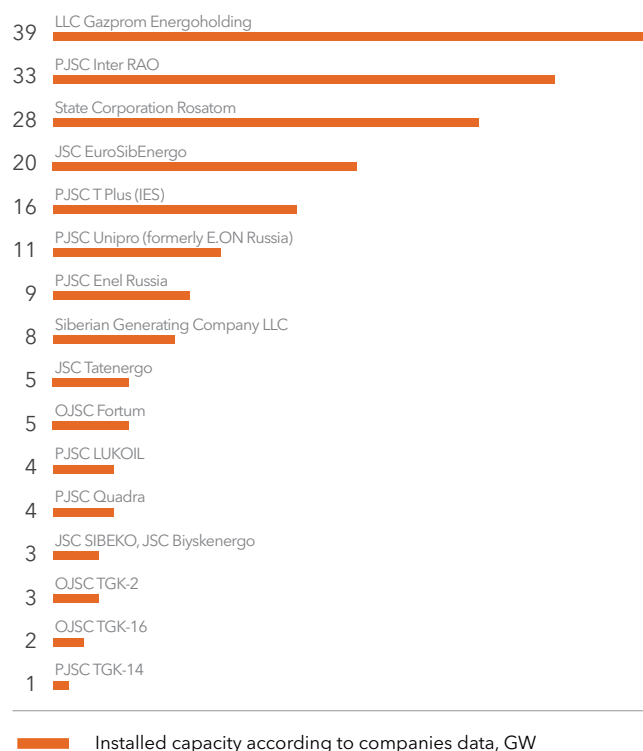


### RusHydro Group's share in the market

Year	Electricity output, bn kWh			Installed capacity, GW		
	Russian Federation	RusHydro Group <sup>1</sup>	Share, %	Russian Federation	RusHydro Group <sup>1</sup>	Share, %
2015	1,049.90	127.35	12.13	243.20	38.65	15.89
2016	1,071.80	138.81	12.95	244.10	38.87	15.92
2017	1,073.70	140.29	13.07	246.90	39.04	15.81

<sup>1</sup> Data are given taking into account the PJSC Boguchanskaya HPP (a joint venture of PJSC RusHydro and UC RUSAL), taking into account the HPP-2 of PJSC KamGEK, without taking into account the HPP-1 and HPP-3 of PJSC KamGEK located in trust management.

### The main competitors of RusHydro Group<sup>1</sup>



In 2011, RusHydro Group acquired a 90% stake in the Sevan-Hrazdan HPPs Cascade with 561.4 MW of installed capacity in the Republic of Armenia. Thus, entering the electricity market of Armenia, PJSC RusHydro gained a significant share of this market.

## MARKET OVERVIEW

RusHydro Group companies operate with electricity and capacity in the wholesale electricity and capacity market, as well as in retail markets - the electricity market and the heat energy market. [102-6]

### Electricity and capacity market

The electricity and capacity market in the Russian Federation is divided into wholesale (WECM) and retail (REM) markets. According to the requirements of the law, all owners of power generation (capacity) facilities with an installed capacity of over 25 MW sell electricity (power) only on the Wholesale Electric Capacity Market.

Stations with a capacity below 5 MW operate only on REM, stations from 5 to 25 MW can sell electricity (capacity) on both markets.

Participants in the wholesale electricity and capacity market are: generation companies, electricity export / import operators, energy sales organisations, electric grid companies (in terms of acquiring electricity to cover transmission losses), large-scale consumers. The wholesale electricity and capacity market operates in price and non-price zones. The first price zone includes the territories of the European part of Russia and the Urals, the second - Siberia. In non-price zones (Arkhangelsk and Kaliningrad regions, the Komi Republic, regions of the Far East) wholesale trade in electricity (capacity) is carried out according to special rules (4-sided contracts). The rules of the retail electricity market are enforced on the territories of the country, which are not categorised in price and non-price zones and different from REM zone rules

For some zones of the Far East, there is a special premium, which is collected in the first and second price zones of the WECM. This premium is aimed at reducing tariffs in the Far East to the average Russian level. PJSC RusHydro is appointed by the Government of the Russian Federation to collect and transfer such allowance to the Far East.

### Electricity market zones



<sup>1</sup> Without taking into account the capacities used by the companies - consumers of electricity for their own production needs.

## Wholesale electricity and capacity market

There are several sectors that differ in terms of transaction and delivery terms in the WECM:

- regulated contracts (RC);
- quadrilateral agreements;
- day-ahead markets (DAM);
- balancing markets (BM);
- free electricity and / or capacity purchase and sale contracts (FECC, FCC);
- free bilateral contracts for the sale of electricity (FBC);
- competitive capacity auctions (CCA);
- purchase and sale agreements for the capacity of new nuclear and hydroelectric power stations (including pumped storage power plants) (DPMs) put into operation;
- bilateral agreements in non-price zones (BA in NPZ).

In the United Energy Systems of the East (UES of the East), a wholesale market model with a single purchaser is implemented. Electricity and capacity suppliers sell electricity and capacity at the tariffs set for them to a single purchaser. Buyers of the wholesale market purchase electricity and capacity from a single buyer at prices calculated by the Administrator of the Trading System, on the basis of indicative prices set for the buyers of FAS Russia.

In accordance with clause 170 of the Russian Federation Government Decree No. 1172 of December 27, 2010, the functions of a single purchaser are assigned to an energy sales organisation created as a result of the reorganisation of joint-stock companies of power and electrification functioning in the indicated territory and supplying to the retail market more than half of the volume of electric energy consumed in the territory of the Far East. This organisation is PJSC DEK - a guaranteed supplier in the territories of the Amur Region, the Jewish Autonomous Region, the Khabarovsk and Primorye Territories. The total supply volume of PJSC DEK in the retail market is more than 85% of the power consumption of the UES of the East.

## Retail electricity markets

Work on REM in price zones is carried out under free bilateral contracts with consumers provided for by the rules of the retail market. Tariff regulation in this sector of the market is absent. Electricity is sold at a contract-based market price.

Within the retail electricity markets, electricity is sold from the wholesale electricity and capacity market, as well as electricity generated by generating companies that are not participants in the wholesale market. In the territories of the constituent entities of the Russian Federation, united in non-price zones of the wholesale market, when determining the prices for electricity supplied to retail markets to end-users, the principles of wholesale-to-retail market prices mark-up are applied. The wholesale-to-retail market prices mark-up is carried out with respect to all final consumers, with the exception of the population and equivalent categories of consumers.

Electricity supply to the population and to equivalent categories of consumers is carried out at regulated prices (tariffs) established by the executive authority of the region (the territorial entity) of the Russian Federation in the field of state regulation of tariffs.

In addition, there are regions in the territories of which only the retail market operates - isolated power systems of the Kamchatka Region, the Magadan Region, the Chukotka Autonomous Region, the Western and Central regions of the Republic of Sakha (Yakutia) and the Sakhalin Region that do not have technological links with the unified energy system of the country. Because of absence of a free market in the territories of isolated power systems, the sale of electricity to all categories of consumers is carried out at 100% regulated prices approved by the executive authorities of the regions of the Russian Federation in the field of state regulation of tariffs in the territory where these power systems are located.

Tariffs for stations of isolated REM zones are established by regional authorities in the field of tariff regulation (hereinafter referred to as the Regulator), in accordance with the developed methods of the Federal Tariff Service of Russia:

- Decree of the Federal Tariff Service of Russia No. 20-e / 2 of August 6, 2004 (method of economically justified costs);
- Decree of the Federal Tariff Service of Russia No. 275-e / 4 of July 5, 2005 (indexing method).

The choice of the method of regulation is proposed to the regulated organisation, but always remains at the discretion of the Regulator.

## Performance at WECM 2017

### Dynamics of average tariffs and required gross revenue (RGR) for electricity generation

Market zones	2016		2017		2017 - 2016		2017/2016	
	Average selling price		Average selling price		Average selling price		Average selling price	
	RGR		RGR		RGR		RGR	
	RUB / thousand kWh	mn RUB	RUB / thousand kWh	mn RUB	RUB / thousand kWh	mn RUB	%	%
Wholesale market, including:	385.07	27,599.3	385.82	29,742.1	0.75	2,142.8	100.20	107.76
RC	342.91	21,499.3	340.67	23,049.8	-2.24	1,550.5	99.35	107.21
Centre	443.61	17,813.6	444.96	18,784.1	1.36	970.6	100.31	105.45
Siberia	148.40	3,275.2	151.51	3,780.0	3.11	504.8	102.10	115.41
Caucasus	873.01	410.5	978.26	485.6	105.26	75.2	112.06	118.32
NPZ <sup>1</sup>	679.49	6,100.0	709.88	6,692.3	30.39	592.3	104.47	109.71
Far East	679.49	6,100.0	709.88	6,692.3	30.39	592.3	104.47	109.71

Reasons for tariff increase on the Wholesale Electricity and Capacity Market:

- indexation of tariffs;

- increase in tax rates for the use of water bodies without water usage for the purposes of hydropower (in accordance with the Tax Code of the Russian Federation for 2017, tax rates are applied taking into account the coefficient of 1.52);

- increase in the prices of DPM in 2017 for previously introduced hydroelectric power plants - the facilities of the DPM.

The main reason for the increase is the higher average yield of long-term government liabilities.

### Sales volumes of electricity and capacity at the WECM by generating companies of RusHydro Group (price and non-price zones) for 2017<sup>2</sup>

Company	Type of goods	2016	2017	2017/2016, %
PJSC RusHydro	Electricity, mn kWh	95,960.9	96,324.8	0.38
	Capacity, MW	21,663.6	21,644.8	-0.09
JSC DGK	Electricity, mn kWh	20,065.82	21,245.22	5.88
	Capacity, MW	5,591.06	5,629.64	0.69
PJSC Peredvizhnaya Energetika	Electricity, mn kWh	143.07	98.97	-30.82
	Capacity, MW	121.09	121.97	0.73
<b>Total</b>	<b>Electricity, mn kWh</b>	<b>116,169.79</b>	<b>117,668.99</b>	<b>1.29</b>
	<b>Capacity, MW</b>	<b>27,375.75</b>	<b>27,396.41</b>	<b>0.08</b>

PJSC RusHydro, JSC DGK, PJSC Peredvizhnaya Energetika are represented in the wholesale market as generating companies. The total volume of electricity sales on the Wholesale Electricity and Capacity Market in 2017

amounted to 117,669 mn kWh; compared with 2016, sales grew by 1.29%. The total volume of capacity sales on the Wholesale Electricity and Capacity Market in 2017 was 27,396 MW; compared to 2016, sales grew by 0.08%.

<sup>1</sup> The indicators are reflected only in the part of the Bureyskaya and Zeyskaya HPP.

<sup>2</sup> The data is given taking into account the retail market.

**Structure of electricity and capacity sales at the markets by generating companies of RusHydro Group<sup>1</sup>**

Index	2016	2017	2017/2016, %
Sales volume, mn kWh, including:	116,449.4	117,940.3	1.3
under regulated contracts	41,348.9	43,244.6	4.6
on the day ahead market	65,871.4	66,880.3	1.5
on the balancing market	5,687.7	5,061.3	-11.0
under free bilateral contracts	3,261.7	2,482.8	-23.9
on the retail market	279.6	271.3	-3.0
Capacity, MW, including:	27,375.7	27,396.4	0.1
under regulated contracts	13,383.4	13,796.3	3.1
as a result of competitive auction	11,380.7	5,110.9	-55.1
under free bilateral contracts	2,487.2	8,210.9	230.1
under DPM	124.4	278.3	123.6

**Electricity**

The increase of 1.3% in the volume of electricity sales by power plants for the reporting period in comparison to the indicators of 2016 is due to the following factors:

- 4.6% increase in the sales under regulated contracts is due to a change in the binding of volume and value indicators between counterparties for the RC for 2017 in comparison to 2016 and the growth in sales volumes under 4-sided contracts in NPZ WECM;
- 1.5% increase in the volume of electricity sales at the day-ahead market is due to a corresponding increase in the generation of electricity at HPPs in price zones;
- 11.0% decrease in electricity sales at the balancing market is due to the regulatory instructions of the System Operator to ensure reliable operation of the UES;
- 23.9% decrease in the volume of electricity sales under free bilateral contracts was due to a decrease in sales volumes under bilateral agreements in the non-price zone of the Wholesale Electricity and Capacity Market because of a decrease in the production of HPPs of non-price zones compared to 2016;
- 3.0% decrease in the volume of electricity sales in the retail market was due to a 4.5% decrease in the sales of Nikolaevskaya CHPP in comparison to the values of 2016 and partially offset by an increase in the inflow and accordingly, the electricity generation by small HPPs in the North Caucasus region.

**Capacity**

The 3.1% increase in the sales of capacity by RC is due to the change in the binding of volume and cost indicators between counterparties for the RC for 2017 in comparison to 2016.

The conclusion of free bilateral contracts for the purchase and sale of capacity (an increase of 230.1%) is due to the need to improve payment discipline in the WECM. As a result of the conclusion of the FCC, the share of non-payers for the capacity sold through the competitive power take-off mechanism has been reduced, thereby increasing the overall level of payment for the delivered capacity.

The increase in sales of capacity by FCC led to a 55.1% decrease in sales volumes in the CCA due to the actual redistribution of capacity between FCC and CCA.

The 123.6% increase in the volume of capacity sales under DPM was primarily due to the lifting of restrictions on the delivery of capacity at the Gotsatlinskaya HPP as part of the Dagestan branch, as well as the commissioning of the Zelenchukskaya HPP-PSP in the Karachayevo-Cherkesiya branch.

<sup>1</sup> The data is given taking into account the retail market.



### The prices for the sale of electricity and capacity at the WECM (price and non-price zones)

Company	Type of goods	2016	2017	2017/2016, %
PJSC RusHydro	Electricity, RUB / MWh	805.7	818.8	1.6
	Capacity, RUB / MW per month	141,684.4	251,766.6	77.7
JSC DGK	Electricity, RUB / MWh	1,307.1	1,367.9	4.6
	Capacity, RUB / MW per month	247,272.4	258,105.2	4.4
PJSC Peredvizhnaya Energetika	Electricity, RUB / MWh	1,880.9	1,938.6	3.1
	Capacity, RUB / MW per month	235,379.8	235,593.4	0.1
<b>Total</b>	<b>Electricity, RUB / MWh</b>	<b>893.6</b>	<b>918.9</b>	<b>2.8</b>
	<b>Capacity, RUB / MW per month.</b>	<b>163,663.5</b>	<b>252,997.1</b>	<b>54.6</b>

The average selling price of electricity at the WECM in 2017 was 918.9 rubles / MWh; compared to 2016, the price growth was 2.8%. The average selling price of capacity at the WECM in 2017 was 252,997.1 rubles / MW per month; compared with 2016, the price increase was 54.6%. The sharp increase is due to a surcharge on the price of capacity in the price of CCA.

There was introduced an premium for capacity in the first and second price zones (by Federal Law No. 508-FL of December 28, 2016 On Amendments to the Federal Law "On Electric Power"), thereby tariffs in the Far East are reduced to a basic level determined by the Government of the Russian Federation.

### The prices for the sale of electricity and capacity at the energy markets of power plants by generating companies of RusHydro Group

Index	2016	2017	2017/2016, %
<b>Prices (tariffs)</b>			
Average output price for electricity (capacity), rubles / MWh	1,369.2	1,638.8	19.7
Electricity, RUB / MWh, including:	907.5	933.5	2.9
under regulated contracts	566.7	623.9	10.1
on the day ahead market	1,081.7	1,096.6	1.4
on the balancing market	1,088.4	1,066.3	-2.0
under free bilateral contracts	898.9	967.4	7.6
on the retail market	6,664.7	7,296.8	9.5
Capacity, RUB / MW per month, including	163,664.1	252,997.1	54.6
under regulated contracts	174,299.3	181,225.4	4.0
as a result of competitive auctions	140,498.0	574,900.3	309.2
under free bilateral contracts	115,348.8	118,185.7	2.5
other types of capacity purchase and sale	2,104,833.0	1,876,756.7	-10.8

The 10.1% increase in the price (tariff) of the sale on RC, taking into account the sale of 4-sided contracts in NPZ WECM, is due to the indexation of regulated tariffs and the magnitude of the positive cost imbalance in NPZ in the reporting period.

The 2.0% decrease in selling prices on the BM is due to the redistribution of the volumes of electricity sold by the hour of the day due to the regulatory instructions of System Operator, which, when the indicator was averaged, led to its derivation.

In 2016, the sale under FBC was carried out only in the NPZ WECM. In 2017, in addition to the supply under BCs to the NPZ, sales were made in the first price zone of the WECM at a price close to the DAM, which far exceeded the maximum possible selling price of hydroelectric power in the NPZ (no higher than the double tariff for electricity in accordance with the WECM Rules). Accordingly, the average selling price for the FBC in 2017 increased by 7.6% in comparison to 2016.

The 9.5% increase in the price of electricity sold at REM is due to the actual redistribution of the volumes of electricity sold between HPPs of the REM relative to the planned indicators, incl. during the reporting period, as well as by the hour of the day, and a corresponding increase in the transmission prices of the guaranteed suppliers, as well as an increase in the tariff for the electricity supplied by the Nikolaevskaya CHPP.

The rate for energy at the stations of MPP Kazym and MPP Urengoy PJSC Peredvizhnaya Energetika, approved by a decree of FAS Russia dated November 30, 2016 No. 1692/16, supplying to the WECM in a forced mode, for the second half of 2017 saw an increase of 4.8% and 3.7% to the first half of 2017 respectively. No significant tariff growth in capacity has been detected.

### Proceeds from the sale of electricity and capacity at WECM (price and non-price zone) by RusHydro Group of companies, RUB mn

Company	Type of goods	2016	2017	2017/2016, %
PJSC RusHydro	Electricity	77,313.5	78,867.1	2.0
	Capacity	36,832.7	65,393.2 <sup>1</sup>	77.5
	Total electricity + capacity	114,146.2	144,260.4	26.4
JSC DGK	Electricity	26,228.9	29,061.4	10.8
	Capacity	16,590.2	17,436.5	5.1
	Total electricity + capacity	42,819.1	46,497.9	8.6
JSC Peredvizhnaya Energetika	Electricity	269.1	191.9	-28.7
	Capacity	342.0	344.8	0.8
	Total electricity + capacity	611.1	536.7	-12.2
<b>Total</b>	<b>Electricity</b>	<b>103,811.5</b>	<b>108,120.4</b>	<b>4.2</b>
	<b>Capacity</b>	<b>53,764.9</b>	<b>83,174.5<sup>1</sup></b>	<b>54.7</b>
	<b>Total electricity + capacity</b>	<b>157,576.4</b>	<b>191,295.0</b>	<b>21.4</b>

The total sales of electricity and capacity on the WECM by generating companies in 2017 amounted to RUB 191,295.0 mn; compared to 2016, revenue growth was 21.4%.

Net revenue from the sale of electricity (capacity) increased by 22.2% compared to the level of 2016 due to the following factors:

- receiving a premium to the price of capacity;
- growth in sales volume under FECC;
- 3.8% growth in the price at DAM in the second price zone;
- 1% increase of output;
- indexation of tariffs in markets with regulated pricing.

<sup>1</sup> The revenue from the sale of capacity in the amount of the premium RUB 23,995 mn is reflected in the consolidated financial statements of RusHydro Group under IFRS deducted with the amount of free-of-charge targeted contributions to the budgets of the constituent entities (regions) of the Russian Federation, rolled up with the cost of its transfer.

## Revenues from sales of electricity and capacity on energy markets by generating companies of RusHydro Group, RUB mn

Index	2016	2017	2017/2016, %
<b>Cost indicators</b>			
<b>Revenues for electricity and capacity, total</b>	<b>159,519.9</b>	<b>193,357.0</b>	<b>21.2</b>
Wholesale market, including	157,576.4	191,295.0	21.4
Electricity, including	103,811.5	108,120.4	4.2
under regulated contracts	23,432.9	26,981.6	15.1
at the day ahead market	71,256.1	73,340.0	2.9
at the balancing market	6,190.5	5,397.1	-12.8
under free bilateral contracts	2,932.1	2,401.8	-18.1
Capacity, including	53,764.9	83,174.5	54.7
under regulated contracts	27,992.5	30,002.9	7.2
as a result of competitive auctions	19,187.6	35,259.1	83.8
under free bilateral agreements	3,442.7	11,644.9	238.2
other kinds of capacity purchase and sale	3,142.1	6,267.6	99.5
Electricity supplied to the retail market	1,863.5	1,979.8	6.2
Reactive capacity control services (SO services)	79.9	82.2	2.8
Net revenue for electricity (capacity)	152,340.2	186,186.4	22.2
<b>Purchase Costs</b>			
purchased electricity	7,161.7	7,159.7	0.0
purchased capacity	18.0	10.9	-39.6
<b>Total costs</b>	<b>7,179.7</b>	<b>7,170.6</b>	<b>-0.1</b>

## Electricity supply at the retail market and sale to consumers by PJSC RusHydro's controlled companies (excluding RAO ES East Subgroup), mn kWh

Name	2016	2017	2017/2016, %	Reasons
PJSC Krasnoyarskenergosbyt	13,580	12,540	-9	The main impact on the decline in output in 2017 relative to the previous year was the entry of large consumers in WEEM, in accordance with the corporate strategy. The following factors influenced the growth of volumes in the Population group: <ul style="list-style-type: none"> <li>high rates of newly introduced housing;</li> <li>temperature factor</li> </ul>
PJSC RESK	2,711	2,661	-2	Reasons for the decline: <ul style="list-style-type: none"> <li>withdrawal in 2017 to the wholesale market of an energy-intensive enterprise - LLC Guardian Steklo Ryazan, a decrease of 49.6 mn kWh;</li> <li>a significant reduction in electricity consumption by JSC Mezhhregionen-ergosbyt, a decrease of 22.8 mn kWh;</li> <li>reduction of losses for grid companies acquiring electricity to compensate for losses in their networks, a decrease of 18.6 mn kWh</li> </ul>
JSC Chuvash Retail Energy Company	3,274	3,320	1	The increase is due to the increase in the consumption of the population and the growth of average weighted unregulated prices transmitted from the wholesale electricity (capacity) market for consumers in the retail electricity market
JSC ESC RusHydro	2,360	2,186	-8	The decrease is due to the cancellation of contracts with consumers in the Republic of Bashkortostan in the 4th quarter of 2017. At the same time JSC ESC RusHydro concluded contracts with new customers in other constituent entities of the Russian Federation
<b>Total</b>	<b>21,925</b>	<b>20,707</b>	<b>-6</b>	

## Tariffs for electricity and electricity production in the Far Eastern Federal District

Activities in the non-price and isolated zones of the Far Eastern Federal District are carried out at tariffs set by the state federal executive bodies (FTS of Russia - until July 21, 2015, after July 21, 2015 - FAS Russia) and executive authorities of the regions of the Russian Federation in the field of state regulation of tariffs hereinafter - regional regulating bodies), in accordance with the pricing principles and the rules of state regulation of tariffs for electrical and thermal energy in the Russian Federation. Prices in the Far Eastern Federal District are not market-based.

Federal Law No. 35-FL of March 26, 2003 "On the electric power industry" sets out the main principles for regulating prices (tariffs) in the sphere of electric power and the authority of regulators. The basic principles, methods of regulation, as well as the procedure for calculating and approving tariffs for thermal energy are defined

in Resolution of the Government of the Russian Federation No. 1178 of December 29, 2011 "On Pricing in regulated prices (tariffs) in the electric power industry".

When approving tariffs, regulators adhere to the following methods of tariff regulation

- tariffs for electricity (capacity) to JSC DGK, supplied in NPZ WECM, are approved by Decree of FAS Russia of December 8, 2016 No. 1736/16, calculated by indexing;
- tariffs for electricity transmission services for DRSK JSC (except for the South Yakutsk Electric Networks branch), are approved by using the RAB method;
- Sales increase for the PJSC DEK - in accordance with the Guidelines for calculation of sales mark-ups for guaranteed suppliers, approved by Decree of the Federal Tariff Service of Russia of October 30, 2012 No. 703-e;
- Electricity tariffs for the end user in an isolated area - using the method of economically justified costs.

### Dynamics of average tariffs for electricity supplied to consumers, kopecks / kWh

Companies	2016	2017	2017/2016, %
<b>Isolated zone</b>	<b>605.27</b>	<b>658.17</b>	<b>8.7</b>
PJSC Yakutskenergo	614.73	680.85	10.8
PJSC Kamchatskenergo	572.28	641.73	12.1
PJSC Magadanenergo	457.70	523.65	14.4
PJSC Sakhalinenergo	520.08	526.35	1.2
JSC Chukotenergo	980.47	1,091.99	11.4
JSC SENK	2,438.58	2,419.34	-0.8
<b>Non-price zone (tariffs for the zone of PJSC DEK)</b>	<b>296.89</b>	<b>318.97</b>	<b>7.4</b>
Primorsky Krai	312.13	333.05	6.7
Khabarovsk Region	329.90	343.33	4.1
Amur Region	258.14	278.21	7.8
Jewish Autonomous Region	232.13	319.02	37.4

The average increase in tariffs for electricity delivered to end users by JSC RAO ES East in an isolated zone in 2017 grew by 8.7% to the level of 2016. The minimum increase in tariffs was 1.2% for PJSC Sakhalinenergo, the maximum - 14.4% for PJSC Magadanenergo. With a decrease of 0.8%, the average tariff rate for JSC SENK is set, which is due to the adjustment of expenditures - falling income, excess income, and the increase in output is 1.7% compared to 2016.

The decrease in electricity sales volumes under free bilateral contracts by 29.1% was due to a decrease in sales volumes for Bilateral Contracts in the NPZ WECM because of a decrease in the production of non-price zones compared to 2016.

In the territory of the non-price zone of the WECM, from July 1, 2016 onwards, no numerical values of tariffs for other consumers are established. The growth of tariffs in the NPZ WECM was from 4.1% to 37.4%.

**Dynamics of average tariffs for electricity production in isolated areas, RUB / thousand kWh**

Companies	2016	2017	2017/2016, %
<b>Isolated areas of the Retail Market</b>			
JSC Geotherm	2,695	2,715	100.71
JSC Pauzhetskaya GeoPP	6,395	6423	100.44
Kolymskaya HPP	1,032	1,203	116.60
Kolyma Electric grids	2,040	2,372	116.25
PJSC KamGEK	3,355	4,027	120.01

In 2017, according to the objects of the REM, which produces electricity (power) at HPPs, GeoPPs and regulated by the method of economically justified costs, growth was achieved above the deflator index.

**Electricity supply in the retail market and sales to consumers in the Far East including VAT 18%**

	2016		2017		2017/2016	
	mn kWh	mn RUB	mn kWh	mn RUB	Net supply, %	Revenue, %
Total for RAO ES East Subgroup	32,309.1	127,027.0	31,495.2	116,046.6	-2.5	-8.6

In comparison to 2016 there was a decrease in the supply of electrical energy. This was influenced by the change in electricity consumption by the companies of PJSC DEK and PJSC Yakutskenergo.

Main reasons:

- decrease in the output for grid companies acquiring electricity in order to compensate for losses,
- the transition of a part of consumers from the retail electricity market to the wholesale market.

**Structure of the net supply of electricity in the Far East**

Consumer group	Revenues <sup>1</sup> , mn RUB	Share, %
Network organisations that purchase electricity to compensate for losses	8,463.3	7.3
Industry	21,943.9	18.9
Transport and communications	5,176.7	4.5
Agriculture	1,398.0	1.2
Enterprises financed by the federal budget	6,424.9	5.5
Enterprises financed by the local (regional) budget	5,112.2	4.4
Heat supply organisations	7,758.1	6.7
Housing and utilities	11,136.9	9.6
Population, on direct calculations	23,124.1	19.9
UK, HOA, HBC	4,986.8	4.3
Other	20,521.7	17.7
<b>Total</b>	<b>116,046.6</b>	<b>100.0</b>

<sup>1</sup> Including VAT 18%.

## Reflection of the premium to the price of capacity. Changes in legislation in 2017

Federal Law No. 508-FL of December 28, 2016 and No. 129-FL of June 30, 2017 "On Amendments to the Federal Law" On Electric Power Industry introduced a premium to the price for capacity in the first and second price zones, due to which tariffs in the Far East were reduced to the national average.

This change provides for the application of a surcharge to the price of capacity sold by the Company in the price zones of the wholesale electricity and capacity market, with the subsequent transfer of funds received as a result of the application of this allowance to the budgets of constituent entities of the Russian Federation such as a part of the Far Eastern Federal District in the form of targeted contributions.

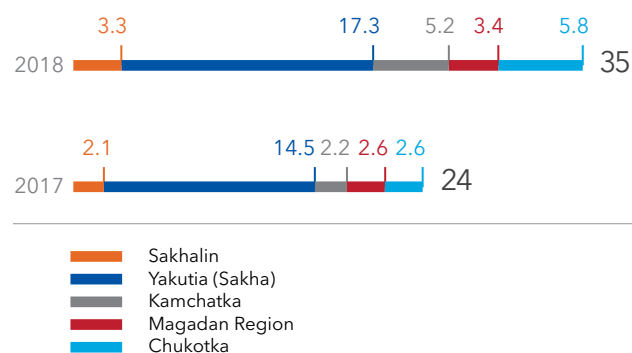
As part of the introduction of a mechanism for bringing prices (tariffs) for electricity (capacity) to consumers of the Far Eastern Federal District, with the exception of the population, a number of by-laws have been adopted to the basic levels (Decree of the Government of the Russian Federation No. 895 of July 28, 2017; Decree No. 1614 of the Government of the Russian Federation of July 28, 2017, Decree of the Government of the Russian Federation of July 28, 2017 No. 1615-p), after the enforcement of which, consumers (industrial consumers) of the five regions of the Far East (isolated systems: the Republic of Sakha (Yakutia), Magadan Region, Chukotka Autonomous District, Kamchatka Territory, Sakhalin area) already in 2017 received tariffs for electricity aligned to the average Russian level (the base level). The base level of prices (tariffs) for electricity (capacity) by the decree of the Government of the Russian Federation for 2017 is set at 4.00 RUB / kWh. The current average tariff for industrial consumers in the above-mentioned territories in the current year is from 4.7 RUB / kWh to 11.3 RUB / kWh.

As part of the implementation of the mechanism to bring prices to the basic level in the Far East, in accordance with the decision of the Government for 2017, the premium for 2017 is determined at the amount of RUB 23,995.28 mn.

Work is underway to formulate proposals for changing the tariff regulation in respect to tariffs for electricity (capacity), which are currently established by the method of economically justified expenditures. This is done to introduce long-term methods of regulation that ensure the preservation of the effect obtained by optimising costs and improving the efficiency of energy companies and getting a return on capital (profitability) when implementing new investment projects.

## Levelling tariffs in the Far Eastern Federal District. Impact on regions and RusHydro Group

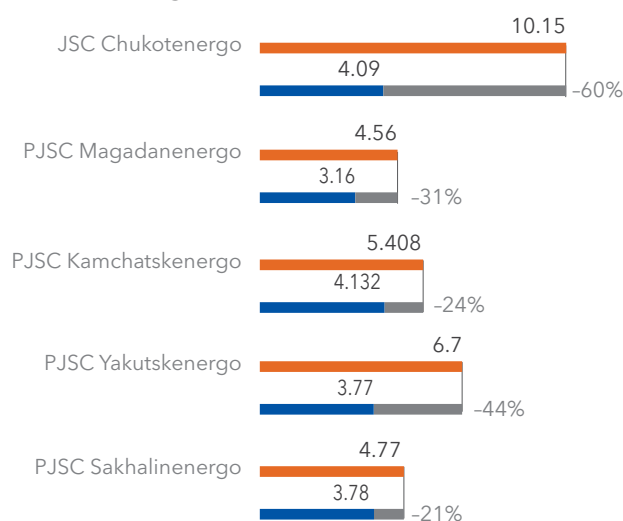
### Amount of premium, bn RUB



In 2017, the mechanism was introduced in five of the nine regions of the Far Eastern Federal District, in which the average tariff for electricity for consumers was above 4 rubles / kWh.

The reduction of tariffs does not lead to a decrease in revenues, as it is completely compensated by subsidies allocated from budgets, which are paid at the expense of the surcharge to the price of CCA. The total amount of subsidies received by guaranteed suppliers - enterprises included in the Group (within the Decree of the Government of the Russian Federation of July 28, 2017 No. 895), amounted to RUB 17,254 mn. In addition, other subsidies received by the RusHydro Group amounted to RUB 15,491 mn. [201-4]. The situation with accounts receivable will improve as a result of replacing part of the proceeds from consumers with direct subsidies from regional budgets.

### Tariff levelling, RUB / kWh



■ Tariff for the beginning of 2017  
■ Tariff after premium setting  
■ Decrease in tariff, %

## Heat energy market

In the heat (thermal) generation market, RusHydro Group is represented through the activities of the RAO ES East Subgroup, as well as through the activities of the Bureyskaya and Zeyskaya HPPs.

The supply of heat energy is carried out centrally from thermal power plants and boiler houses operated by power systems. At the same time, a number of power systems are engaged to supply thermal energy, carrying out activities for the production and distribution of thermal energy, others - only carry out activities for the production of thermal energy.

The sale of thermal energy, in accordance with the legislation of the Russian Federation, is a fully regulated type of activity.

Federal Law No. 190-FL of July 27, 2010 On Heat Supply sets out the main principles for regulating prices (tariffs) in the sphere of heat supply and the authority of regulators in the field of price (tariff) regulation in the heat supply sphere. The basic principles, methods of regulation, as well as the procedure for calculating and approving tariffs for thermal energy are defined by Russian Government Decree No. 1075 of October 22, 2012 On Pricing in the Sphere of Heat Supply.

The prices (tariffs) for thermal energy sold by energy companies for all consumer groups are approved by the executive authorities of the regions of the Russian Federation in the field of state regulation of prices (tariffs) within the limits of tariff levels approved by the FAS of Russia.

### Dynamics of tariffs for thermal energy in the Far East

Name	2016, RUB / Gcal	2017, RUB / Gcal	2017/2016, %
<b>PJSC RusHydro</b>	<b>749.49</b>	<b>765.02</b>	<b>102.1</b>
Branch of PJSC RusHydro - Bureyskaya HPP <sup>1</sup>	701.29	708.63	101.0
Branch of PJSC RusHydro - Zeyskaya HPP <sup>1</sup>	797.68	821.41	103.0
<b>JSC DGK</b>	<b>1,397.31</b>	<b>1,450.80</b>	<b>103.8</b>
Amur Region	806.86	856.79	106.2
Primorye Territory (Primorskaya Generation, PTS)	1,689.95	1,767.85	104.6
Primorye Territory (LuTEK)	1,268.54	1,328.28	104.7
Khabarovsk Territory (Khabarovsk Generation, HTSK)	1,287.44	1,339.78	104.1
Khabarovsk Territory (Volochevskaya Boiler-house)	1,503.88	1,909.15	126.9
The Jewish Autonomous Region (Birobidzhan CHPP)	1,896.37	1,929.28	101.7
Republic of Sakha (Yakutia) (Neryunginskaya GRES)	1,867.96	1,980.23	106.0
<b>Isolated zones:</b>	<b>3,200.64</b>	<b>3,312.29</b>	<b>103.5</b>
PJSC Yakutskenergo	1,452.32	1,620.14	111.6
PJSC Kamchatskenergo	5,029.23	5,459.45	108.6
PJSC Magadanenergo	4,029.84	4,203.02	104.3
PJSC Sakhalinenergo <sup>2</sup>	848.26	826.66	97.5
JSC Chukotenergo <sup>2</sup>	3,339.38	3,546.96	106.2
JSC SENK	13,042.15	13,599.96	104.1
JSC Sakhaenergo	9,323.52	10,384.74	111.4
JSC Teploenergосervis	5,444.32	5,359.91	98.4

<sup>1</sup> It supplies thermal energy produced by electric boiler houses.

<sup>2</sup> PJSC Sakhalinenergo, JSC Chukotenergo carry out the release of heat energy from collectors to wholesale consumers-resellers.



The growth of tariffs for thermal energy produced in the mode of combined generation of electrical and thermal energy by heat energy sources with an installed generating capacity of electrical power production of 25 MW or more is limited to the minimum and maximum tariff levels approved by the FAS of Russia Decree No. 1646/16 of November 21, 2016.

Starting from 2016, tariffs for heat energy supplied by heat supply organisations to other consumers are not limited to the maximum level of tariff growth, and the growth of tariffs for heat energy for the population is limited by the index of changes in the amount of utility payments paid by citizens for the constituent entities of the Russian Federation, defined by Russian Government Decree of November 19, 2016 No. 2464-r.

According to the zone of activity of JSC DGK as a whole, the increase in the average tariff was 3.8%, including a minimum growth of 1.7% for the Jewish Autonomous Region, and a maximum of 26.9% for the Volochaevskaya Boiler House in the Khabarovsk Territory.

In the isolated zone as a whole, the increase of average tariffs for thermal energy supplied to end-users amounted to 3.5%. The minimum increase in tariffs was 4.1% for JSC SENK, the maximum - 11.6% for PJSC Yakutskenergo. According to PJSC Sakhalinenergo, the average delivery rate was set at 2.5% lower than the approved one for 2016, which is due to the adjustment of costs for individual aspects of expenditure, incl. dropping incomes, without taking into account that the increase in tariff for 2017 as compared to 2016 is 1.0%.

### Sale of thermal energy in the Far East including VAT 18%

	2016		2017		2017/2016, %	
	thousand Gcal	RUB mn	thousand Gcal	RUB mn	Net supply	Revenue
Total	23,661.1 <sup>1</sup>	46,447.1	22,717.2 <sup>1</sup>	46,288.5	-4.0	-0.3

The following factors influenced the decrease in the net supply of heat energy in comparison with 2016:

- higher average monthly temperatures of outdoor air during the heating season of 2017,
- application of energy saving technologies, installation of metering devices.

### Structure of the supply of thermal energy in the Far East

Consumer group	Revenues <sup>2</sup> , mn RUB	Share, %
Industry	1,615.5	3.5
Agriculture	228.3	0.5
Federal budget	2,243.9	4.8
Regional, local budget	5,175.2	11.2
Heat supply, housing construction cooperative, Management Companies	5,905.5	12.8
Population	21,723.3	46.9
Heat supply organisations	4,865.1	10.5
Other	4,531.7	9.8
<b>Total</b>	<b>46,288.5</b>	<b>100.0</b>

<sup>1</sup> Net supply for consumers of thermal energy.

<sup>2</sup> Including VAT 18%.

# INTERNATIONAL ACTIVITY

## Tasks of international activity

The main objectives of RusHydro Group's international operations are to attract investment, innovative technologies and equipment for RusHydro Group's projects, as well as to expand the presence of the Group's engineering and scientific and design complex in foreign markets, taking into account the vast experience in design, construction, and operation of energy facilities.

RusHydro Group strives to ensure that cooperation with foreign partners is long-term, mutually beneficial, and at the same time in the geo-strategic interests of the Russian Federation.

Main directions of international activity:

- representation of RusHydro Group and Russian energy interests on the political, industrial, and business stage;
- cooperation with foreign electricity companies and producers of power equipment in the field of modernisation of existing HPPs, service maintenance;
- attracting foreign investment in RusHydro Group projects;
- promotion of RusHydro's engineering services on foreign markets;
- monitoring of processes occurring in the world energy sector.



### 1. Armenia

Operation of Sevan-Hrazdan hydropower plants cascade in Armenia

### 2. Turkey

Cooperation with Rosatom Group on nuclear power plants construction projects in Turkey

### 3. Austria

Cooperation with Voith Hydro in the sphere of hydropower in Russia Federation

### 4. Uzbekistan

Cooperation with Uzbekhydroenergo in the sphere of hydropower in Uzbekistan

### 5. Tajikistan

Cooperation with OJSC "Rogun HPP" (Tajikistan), Salini Impregilo (Italy) and Sangtuda 1 Hydroelectric Power Plant (Russia) in the sphere of hydropower in Tajikistan

### 6. India

Cooperation with Rosatom Group on nuclear power plants construction projects in India

### 7. Lao PDR

Cooperation with Xekaman Power Company Ltd. in the sphere of hydropower in Lao PDR

### 8. Japan

Cooperation with Mitsui & Co., Ltd (Mitsui), KOMAIHALTEC, Kawasaki Heavy Industries and NEDO on wind power, geothermal power and hydrogen energy projects in Russia Federation

### 9. Kazakhstan

Providing design and research services for hydropower projects in Kazakhstan

## International cooperation

Together with the Japanese companies Mitsui & Co, Ltd, KOMAIHALTEC Inc, Kawasaki Heavy Industries, NEDO, we are exploring opportunities for the joint implementation of projects in the field of development of wind energy.

In particular, there is being carried out the development of a wind-diesel complex construction project with a capacity of up to 4 MW in the Tiksi settlement of the Sakha Republic (Yakutia) using wind turbines produced by Komai in the Arctic version.

The cooperation with Voith Hydro on the project of localisation of production and modernisation of equipment of hydroelectric power plants of RusHydro is continuing.

In 2017, RusHydro's project organisations carried out work on the execution of contracts for the provision of engineering services for the construction of nuclear power facilities in Turkey and India. In 2017, a number of new contracts for the provision of engineering services were concluded within the framework of hydroelectric projects in Uzbekistan and Laos.

Since 2011, RusHydro has owned a 90% stake in CJSC IEC, which owns seven hydroelectric power stations in the Sevan-Hrazdan cascade with an installed capacity of 561 MW on the Hrazdan River (one of the main electricity producers in the Republic of Armenia). Within the framework of the policy of reconstruction and technical re-equipment of the Cascade stations conducted by RusHydro, the reconstruction of Yerevan HPP-1 was completed with upgrading the maximum capacity of the station to 50 MW.

## Interaction with international organisations

In the reporting year the Company concluded a number of agreements with the largest foreign energy corporations on cooperation and implementation of joint projects.

### The agreements signed by PJSC RusHydro in 2017

Agreement	Direction of cooperation	Benefits
Memorandum of Understanding between Mitsui & Co, Ltd, KOMAIHALTEC Inc, PJSC RusHydro and the Government of the Chukotka AO for a wind power project in the village of Lawrence in the Chukotka Autonomous Okrug - September 7, 2017	Cooperation in the field of joint development of strategic cooperation for the implementation of a wind power project using technologies of the Japanese counterparty in the village of Laurentia	Opportunities to attract investments and advanced foreign technologies
Memorandum of Understanding between Mitsui & Co, Ltd, KOMAIHALTEC Inc, PJSC RusHydro and the Government of the Kamchatka Krai for the construction of additional capacity of a wind farm in the village of Ust-Kamchatsk in the Kamchatka Territory - September 7, 2017	Cooperation in the field of joint development of cooperation on the construction of additional capacity of a wind power plant in the village of Ust-Kamchatsk	Opportunities to attract investments and advanced foreign technologies

Agreement	Direction of cooperation	Benefits
Agreement on cooperation between Kawasaki Heavy Industries, Ltd, PJSC RusHydro and the Government of the Magadan Region in the field of hydrogen energy - September 6, 2017	Cooperation and joint implementation of the project in the field of liquefied hydrogen production in the Magadan Region territory	Opportunities to attract advanced foreign technologies
Declaration of Intent between the New Energy and Industrial Technology Development Organisation of Japan (NEDO), the Government of the Republic of SAKHA (Yakutia) and PJSC RusHydro for the implementation of a demonstration project for the construction of a wind farm in the village of Tiksi - September 6, 2017	Implementation of energy infrastructure and testing of Japanese equipment, including wind power plants, in the Arctic climatic conditions in the village of Tiksi in the Republic of Sakha (Yakutia)	Opportunities to attract investments and advanced foreign technologies
Memorandum of Understanding and Cooperation between PJSC RusHydro and JSC Uzbekhydroenergo (Uzbekistan) in the field of hydropower - November 16, 2017	Establishment of cooperation in the field of hydropower on the basis of RES and the development of a generation facility based on the energy of water flows	Promotion of RusHydro's engineering services in the field of hydropower and renewable energy on foreign markets

RusHydro takes part in the work of intergovernmental commissions on trade, economic, scientific, and technical cooperation between Russia and other countries.

The Company cooperates with international governmental and public organisations and integration associations, including the Eurasian Economic Union in the work with the Eurasian Economic Commission, the CIS Electric Power Council, the Asia-Pacific Economic Cooperation Organisation, the Shanghai Cooperation Organisation, the BRICS, and others.

PJSC RusHydro is an active participant in major international forums, exhibitions and conferences on the topics of hydro and heat power engineering, renewable energy sources, and heat supply.

In 2017, RusHydro acted as a partner of the Eastern Economic Forum, which is a reputable platform for establishing and strengthening relations with foreign partners, especially from the APR countries, and attracting investors to projects for the development of the energy infrastructure of the Far East. Equally crucially, another traditional platform for RusHydro's presence is the St. Petersburg International Economic Forum.

**Representatives of RusHydro Group work in committees and working groups of a number of non-profit partnerships and international organisations, of which the Company is a member, including:**

- **The Global Sustainable Electricity Partnership;**
- **International Hydropower Association;**
- **The International Commission on Large Dams;**
- **The World Energy Council;**
- **Russian-Chinese Business Council.**

# COMPANY ON THE SECURITIES MARKET

## AUTHORISED CAPITAL

### The authorised capital of PJSC RusHydro (as of December 31, 2017)

Authorised capital, RUB	Number of ordinary shares, pcs.	Nominal 1 share	Declared ordinary shares in accordance with the Charter, pcs.	State registration number of the issue	Date of state registration of the issue
426,288,813,551	426,288,813,551	1 ruble	14,013,888,828	1-01-55038-E	22.02.2005

Information on the Company's shares:

- The existence of a special right to participate in the management of society ("golden share") - this right is not provided for;
- At the request of the executive bodies, there is no information on the existence of ownership interests in shares exceeding five percent, in addition to those already disclosed by the Company;
- The number of the Company's voting shares, by categories (types) of shares: 426,288,813,551 ordinary registered shares. The Company did not place preferred shares or ordinary shares with different par value;
- There are no own shares at the Company's disposal;
- There are 3,852,267,925 shares under the legal entities, controlled by the Company, which is 0.9% of the Company's authorised capital<sup>1</sup>.



See request here:  
<http://www.eng.rushydro.ru>

### Number of shares in the possession of controlled companies by the Company


Controlled company	Number of shares, pcs.	Share in authorized capital, %
Zaramagskiye HPP JSC	271,302,097	0.063642
LLC Index of Energy - HydroOGK	1,571,912,023	0.368743
LLC EZOP	1,858,179,291	0.435897
ChirkeyGESstroy JSC	29,205,310	0.006851
JSC RAO ES East	48,520,232	0.011382
PJSC DEK	73,093,031	0.017146
PJSC Yakutskenergo	55,941	0.000013

<sup>1</sup> The shares of the Company belonging to the controlled entities of PJSC RusHydro did not participate in voting at the annual General Meeting of Shareholders held on June 26, 2017.

## Information on changes in the authorised capital in 2017

In November 2016, the Board of Directors of the Company decided to increase the authorised capital by 40,429 mn rubles by placing additional shares through open subscription. The decision on the additional issue of shares was registered by the Bank of Russia on December 7, 2016, the additional issue was assigned the registration number 1-01-55038-E-042D.

In January-March 2017, 40,033,348,661 pcs. additional shares were placed, including 40 bn shares in the interest of VTB Bank (PJSC). The report on the results of the additional issue was registered by the Bank of Russia on June 5, 2017. The individual number (code) of this issue was cancelled on September 7, 2017. Changes in the Charter of the Company in terms of increasing the authorised capital and reducing the number of announced shares were registered by the tax authorities on August 4, 2017.

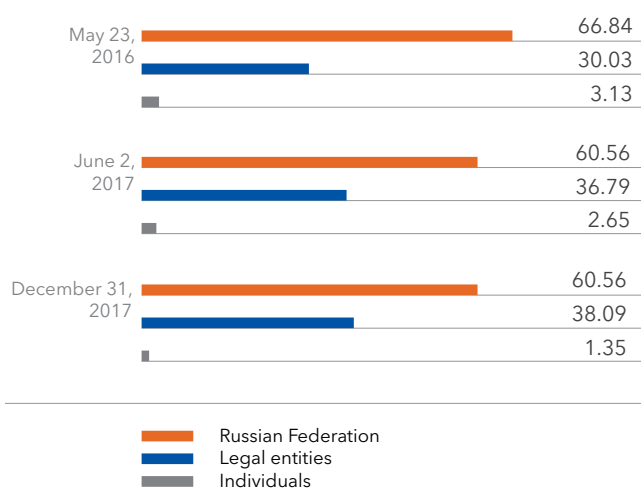
 For more details, see subsection "Refinancing of the Debt of RAO ES East Subgroup"

**Nature of ownership: PJSC RusHydro is a mixed Russian form of property with a share of federal ownership.** [102-5]

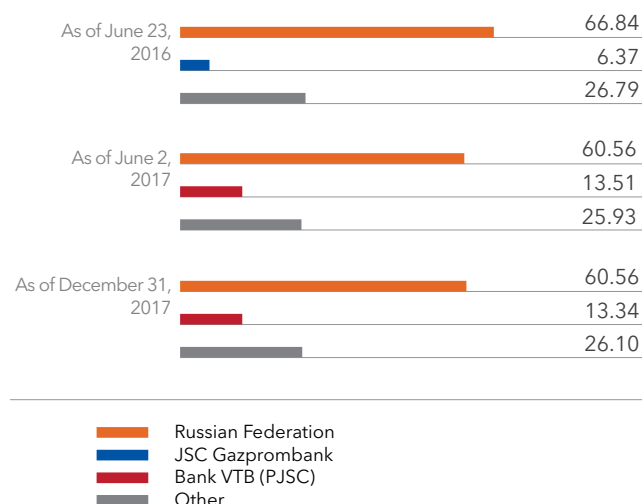
## SHAREHOLDERS

The Company's shareholders constitute about 350 thousand Russian and foreign investors. The Russian Federation owns a controlling stake in the amount of 258,161,784,133 pcs. (which is 60.56% of the Company's authorised capital)<sup>1</sup>.

### Change in the structure of share capital by category of shareholders, %



### Changes in the range of shareholders who have the right, directly or indirectly, to dispose of not less than 5% of the votes attributable to the voting shares of the Company (% of the authorised capital)



### Shareholders of the Company whose share in the authorised capital is more than 2 percent as of December 31, 2017, %



### Shares free-float<sup>2</sup>

Date	The coefficient of free-float
The last trading day of 2015	0.34
The last trading day of 2016	0.23
The last trading day of 2017	0.25

<sup>1</sup> The Russian Federation (federal property) owns the Company's shares through the Federal Agency for State Property Management (258,161,535,606) and through the Federal State Unitary Enterprise "Information Telegraph Agency of Russia (ITAR-TASS)" (248,527).

<sup>2</sup> In accordance with the methodology for calculating the coefficient of free-float, approved by the PJSC Moscow Stock.

## CIRCULATION OF SHARES

Shareholders of PJSC RusHydro may enter into shareholder agreements, including those providing for the receipt by any shareholder of the degree of control disproportionate to their participation in the share capital.

### Information on received notifications about concluded share agreements by PJSC RusHydro

Parties to the shareholder agreement	Date
<ul style="list-style-type: none"> <li>The Russian Federation represented by the Federal Agency for State Property Management</li> <li>VTB Bank (PJSC)</li> </ul>	March 7, 2017
<ul style="list-style-type: none"> <li>The Russian Federation represented by the Federal Agency for State Property Management</li> <li>The controlled companies of PJSC RusHydro<sup>1</sup>: JSC Hydroinvest, LLC EZOP, LLC Index of Energy - HydroOGK</li> </ul>	June 23, 2016



Information on the possibility of acquisition or acquisition by a certain shareholder of the degree of control disproportionate to their participation in the authorised capital of the Company, including on the basis of shareholder agreements or due to the availability of ordinary and preference shares with different nominal value, see <http://www.rushydro.ru>

the Company's shares have been admitted among the first on the Russian stock market to trading in the system T+2 with partial collateral and deferred execution of transactions.

The company's shares are components of the most important indices of the stock market, such as the Moscow Stock Exchange, RTS, MOEX Electric Utilities Index, RTS - Power, MOEX BMI, the index of shares of companies with state co-ownership (SCI) MOEX, and international: MSCI Russia, FTSE All World Emerging Europe.

## The circulation of PJSC RusHydro shares on the Russian market

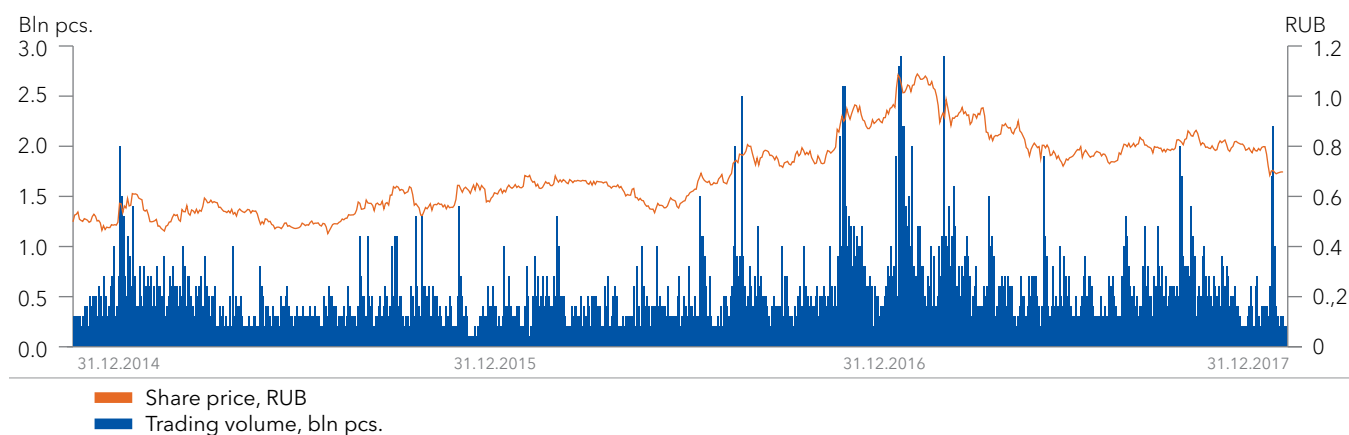
Shares of PJSC RusHydro are included in the first-level quotation list and have been traded on the Moscow Stock Exchange (formerly the MICEX Stock Exchange) under the ticker HYDR since 2008, and since March 2013

### Trading results on the stock market

	2015	2016	2017
Trading mode	T + Shares and DRs	T + Shares and DRs	T + Shares and DRs
Currency of trades	RUB	RUB	RUB
Maximum transaction price	0.679	0.994	1.100
Minimum transaction price	0.496	0.575	0.717
Transaction price at the end of the year	0.679	0.926	0.729
Trading volume, pcs.	116 bn	134 bn	173 bn

A source: <http://moex.com/>

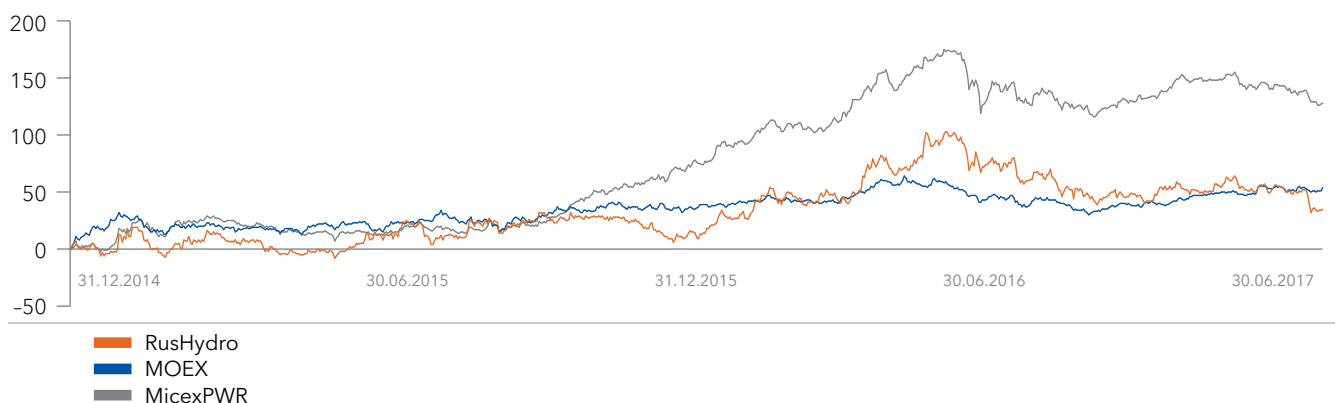
### Value of Company's shares and trading volume



<sup>1</sup> As of March 7, 2017, JSC Hydroinvest ceased to be a shareholder of the Company, and the aggregate share of LLC EZOP and LLC Index of Energy - HydroOGK in the Company's authorised capital decreased to 0.8% due to the alienation of shares in the interest of VTB Bank (PJSC).



### Dynamics of Company's share price compared to key indices for 2015-2017, %



During the period from 2015 to 2017, the value of RusHydro's shares increased by 34%, the Moscow Stock Exchange index (formerly the MICEX index) increased by 47%, the branch indicator of the Power Industry of the Moscow Stock Exchange grew by 127%.

with the conclusion of a forward contract; consolidation of the stake in RAO ES East in order to bring the ownership to 100%. An additional factor of growth was the Company's implementation of large assets for a total of more than 15 billion rubles.

## 2015

In 2015, the MOEX index added 26%, the MOEX Electric Utilities Index - 18%, RusHydro shares increased by 25%. Support for the Russian market as a whole was provided by the improvement of the attitude of global investors to the assets of emerging markets amid the persistence of a soft monetary policy of the world's leading central banks and the expectation of a recovery of the Russian economy in the medium term. An additional positive factor for RusHydro's shares was the continuation of the liberalisation of the sale of the capacity of Siberian hydroelectric power stations, the results of CCA, the increase in electricity prices in the second price zone, the introduction of new capacities by the Company, and the Company's efforts to improve the financial profile of RAO ES East.

## 2017

In 2017, the MOEX index decreased by 6%, MOEX Electric Utilities Index by 8%, RusHydro's shares fell by 21%. Pressure on the Russian market as a whole was a result of geopolitical risks, including discussion of the introduction of new sanctions by the US, as well as general decrease of interest in Russian companies by global investors amid tightening of monetary policy in the US and volatility in oil prices.

For most of the year, the dynamics of RusHydro's shares corresponded to the general market. At the end of the year, an additional negative pressure on shares came following the information on the decision of the Board of Directors of RusHydro to temporarily suspend construction of the Zagorskaya PSP-2.

## 2016

In 2016, the MOEX index added 27%, the MOEX Electric Utilities Index - 110%, RusHydro shares increased by 36%. Support for the Russian market as a whole was provided by the expectations of the recovery of the Russian economy and the strengthening of the ruble exchange rate in the second half of the year. The growth of RusHydro's shares was promoted by high dividend payments, the completion of the liberalisation of the sale of the capacity of the Siberian hydroelectric power stations, as well as the strong operating results of the hydrogen-generating segment against the background of rising water availability. In addition, a positive factor for the shares were measures to optimise operating and investment costs, making decisions on refinancing the debt of the RAO ES East Subgroup by raising equity financing in the amount of 55 billion rubles from VTB Bank (PJSC)

### Company's market capitalisation<sup>1</sup>, RUB mn

Reporting period Date	Value	Trader on the securities market
30.12.2015	257,787	CJSC "MICEX Stock Exchange" <sup>2</sup>
30.12.2016	356,166	PJSC Moscow Stock Exchange
29.12.2017	309,656	PJSC Moscow Stock Exchange

Source of information - the official website of PJSC Moscow Stock Exchange: <http://www.moex.com/s26>

<sup>1</sup> Market capitalisation is calculated as the product of the number of shares of the corresponding category (type) by the market price of one share, disclosed by the trader.

<sup>2</sup> On December 19, 2016 CJSC "MICEX Stock Exchange" ceased its activities by reorganisation in the form of a merger with PJSC Moscow Stock Exchange.

## Circulation of shares on the international market

The number of shares traded outside the Russian Federation in the form of ADR and GDR as of December 31, 2017 is 18,650,555,600 shares, which is 4.38% of the Company's charter capital.

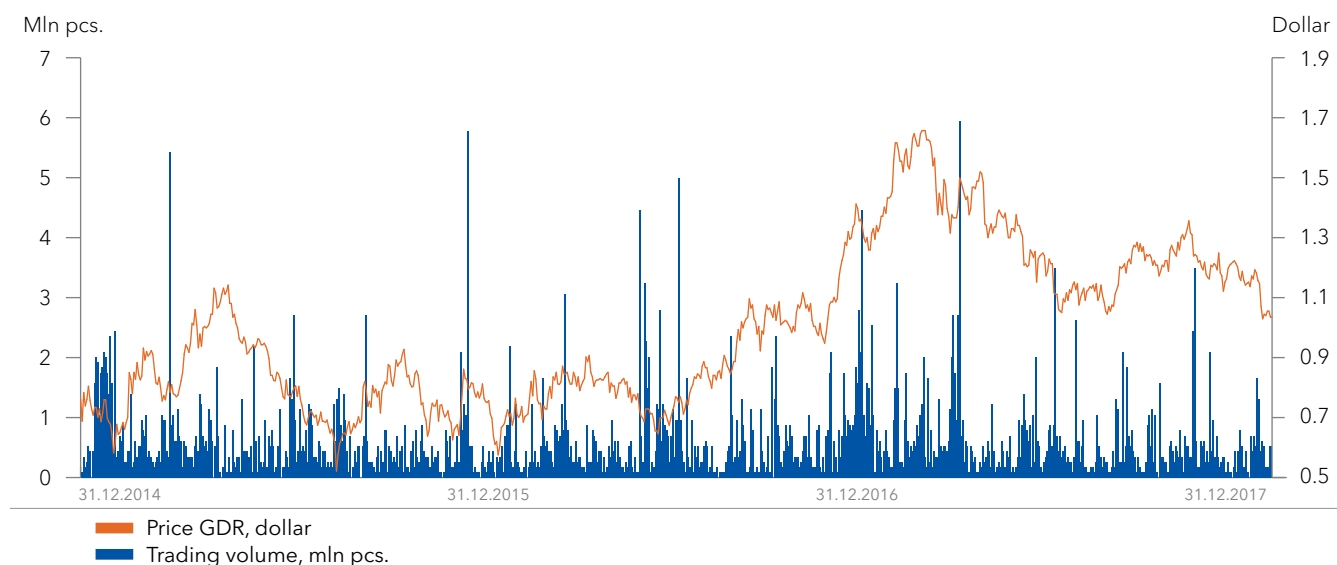
### Holders of GDRs and ADRs as of December 31, 2017

Type of programme	Programme start date	Depository Bank	Ratio	Ticker symbol	Number on December 31, 2017, pcs.	Trading platforms
GDR by Rule 144A	17.06.2008	The Bank of New York Mellon	1 GDR = 100 ordinary shares	HYDR	78,273	London Stock Exchange (Main Market - IOB)
ADR Level 1	07.08.2009	The Bank of New York Mellon	1 ADR = 100 ordinary shares	HYDR	186,427,283	OTCQX

### Trading results of depositary receipts on the LSE

	2015	2016	2017
Ticker	HYDR	HYDR	HYDR
Currency of trades	USD	USD	USD
Maximum transaction price	1.305	1.57	1.81
Minimum transaction price	0.697	0.75	1.20
Transaction price at the end of the year	0.956	1.455	1.20
Trading volume, pcs.	182 mn	188 mn	175 mn

### GDR trade performance



## PJSC RUSHYDRO DIVIDEND POLICY

The main objective of the Company's dividend policy is to ensure the strategic development of PJSC RusHydro and the growth of the well-being of its shareholders through the establishment of an optimal balance between dividend payments to shareholders and capitalisation of profits.

To ensure transparency in determining the amount of dividends and their payments to PJSC RusHydro there is a Regulation on dividend policy approved by the decision of the Board of Directors of PJSC RusHydro (Minutes No. 195 of March 28, 2014). The Board of Directors provides its recommendations on the amount of the dividend for approval by the General Meeting of Shareholders, based on the net profit figure determined in accordance with the consolidated financial statements of RusHydro Group for International Financial Reporting Standards and Russian Accounting Standards, and the Company's need for financing the investment programme. No less than 5% of the profit for the period determined in the consolidated financial statements of RusHydro Group under IFRS can be channelled for the payment of dividends for the fiscal year (<http://www.rushydro.ru/investors/dividends/>).



The Company's dividend policy is available at website: <http://www.eng.rushydro.ru>

In accordance with the Development Strategy of RusHydro Group for the period until 2020, with possibility to prolong it until 2025, the share of net profit allocated for dividend payment is at least 50%. In this regard, the Company will strive to ensure a high level of dividend yield to its shareholders.

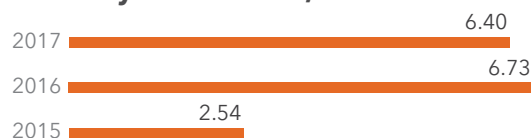
## Report on the payment of declared (accrued) dividends on the Company's shares for 2016

According to the decision of the annual General Meeting of Shareholders dated June 26, 2017, 19,875,502,787.41 rubles (47.5% of net profit under RAS or 50% of RusHydro's net profit under IFRS) were allocated to pay dividends

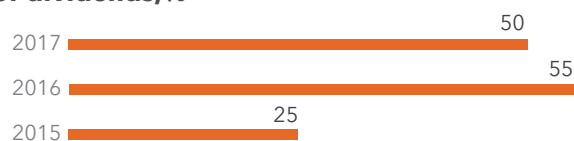
for 2016. As of December 31, 2017, payments were made in full to all shareholders, with the exception of 61,722,074.31 rubles, which were not paid for reasons beyond the control of the Company (the Company or registrar (or nominee holder) did not have exact address data or bank details required for dividend payments).

The company fulfilled its obligations to transfer dividends to the federal budget in full - for the amount of 12,036,652,516.86 rubles. There is no debt on the payment of dividends to the federal budget.

### Dividend yield of shares,%<sup>1</sup>



### Share of net profit under IFRS, aimed at payment of dividends,%



### Amount directed to the payment of dividends, RUB bn



<sup>1</sup> The dividend yield of shares is calculated on the date of making a decision on the amount of annual dividends as the ratio of annual dividends paid per share and the median value of market prices of this share for the reporting year. (dividends - PJSC Moscow stock exchange, <http://www.moex.com>).

**Dividend history for 5 years preceding the reporting year**

The reporting period for which dividends were paid on shares	Total amount of declared (accrued) dividends, thousand rubles	The amount of declared dividends per share, rubles
2012	3,675,573	0.00955606
2013	5,248,250	0.01358751
2014	6,032,750	0.01561855
2015	15,011,046	0.038863
2016	19,875,503	0.0466245

## BONDS

As of December 31, 2017 ten issues of bonds of PJSC RusHydro with a total nominal value of 85.0 bn rubles are in circulation. Volume in circulation is 61.02 bn rubles.

**Main parameters of bond issues**

General parameters of releases			Bonds			Exchange-traded bonds		
			Series 01 and 02	Series 07 and 08	Series 09	Series BO-P01, BO-P02, BO-P03	Series BO-P04	Series BO-P05
Type of bonds	Documentary interest-bearing non-convertible to bearer with mandatory centralised custody	National registration number	4-01-55038-E, 4-02-55038-E	4-07-55038-E, 4-08-55038-E	4-09-55038-E	4B02-01-55038-E-001P, 4B02-02-55038-E-001P, 4B02-03-55038-E-001P	4B02-04-55038-E-001P	4B02-05-55038-E-001P
Nominal	1,000 rubles	Date of registration	23.09.2010	27.12.2012	27.12.2012	03.07.2015	01.04.2016	09.06.2017
Nominal volume of each issue	Series 01 - 10 bn rubles. Series 02 - 5 bn rubles.	Date of placement	25.04.2011	14.02.2013	28.04.2015	08.07.2015	07.04.2016	16.06.2017
	Series 07, 08, 09 to 10 bn rubles each	Date of offer	22.04.2016	13.02.2018	27.10.2017 21.04.2023			
	Series BO-P01, BO-P02, BO-P03 - 5 bn rubles each. Series BO-P04 - 15 bn rubles. Series BO-P05 - 10 bn rubles.	Maturity date	12.04.2021	02.02.2023	15.04.2025	04.07.2018	04.04.2019	12.06.2020
Placement price	100% of the nominal value	Coupon rate, % per annum	1-10 coupons - 8.0%, 11-20 coupons - 9.5%	1-10 coupons - 8.5%, 11-20 coupons - the rate is determined by the issuer	1-5 coupons - 12.75%, 6-16 coupons - 7.5%, 17-20 coupons - the rate is determined by the issuer	1-6 coupons - 11.85%	1-6 coupons - 10.35%	1-6 coupons - 8.2%
Placement type	Open subscription, bookbuilding	Yield of primary placement, % pa	8.16 %	8.68 %	13.16 %	12.20 %	10.62 %	8.37 %
Frequency of coupon payment	2 times per year	Yield at the price of the last transaction as of December 29, 2017, % pa	Series 01 - 8.07% Series 02 - 7.71%	Series 07 - 7.14% Series 08 - 8.53%	Series 09 - 7.88%	Series BO-P01 - 6.51% Series BO-P02 - 12.2% Series BO-P03 - 12.2%	Series BO-P04 - 7.37%	Series BO-P05 - 7.71%





LIGHT



CREATION



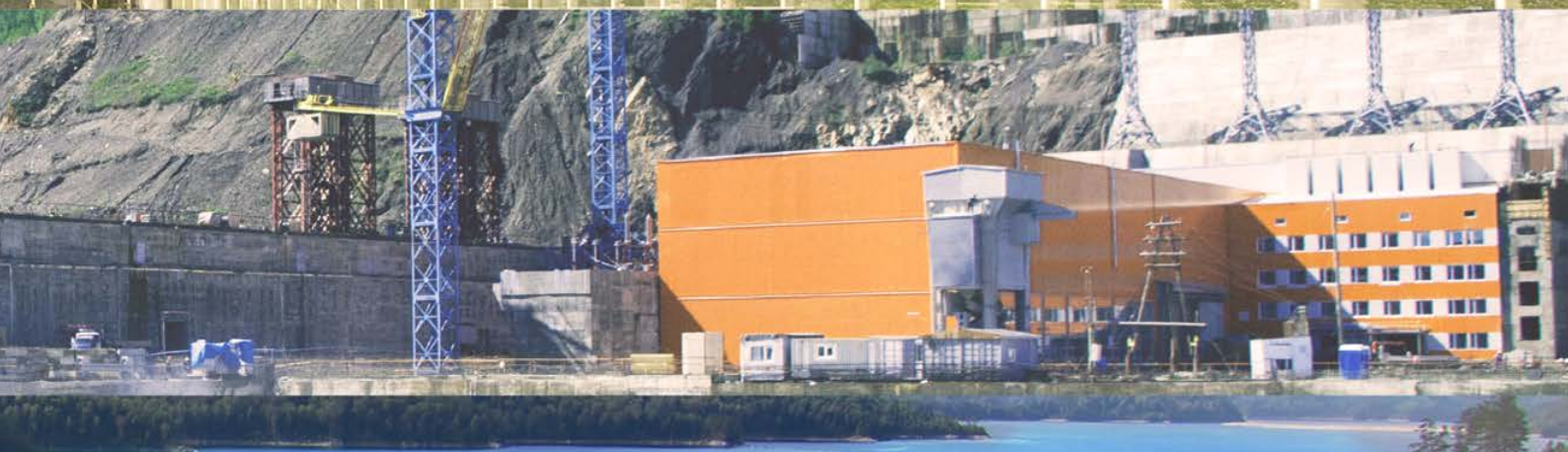
FUTURE







HEAT



NATURE



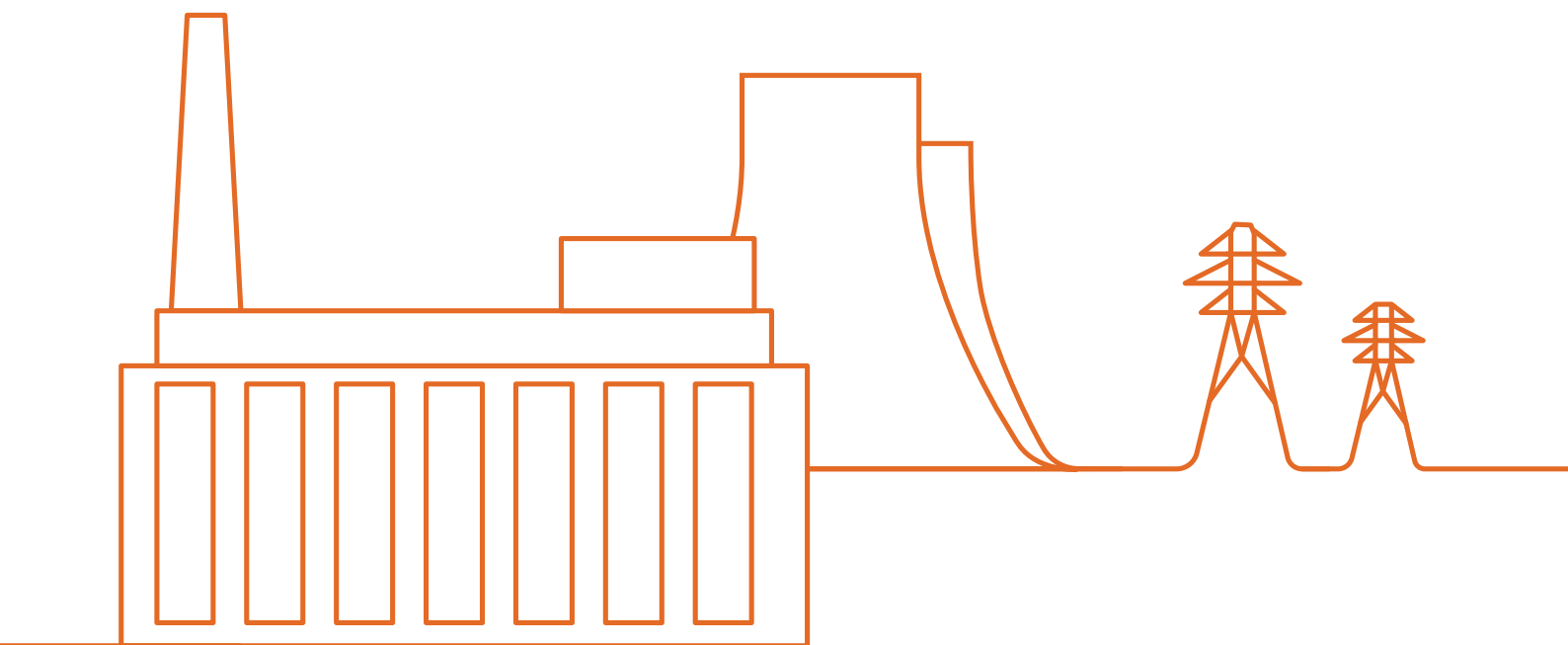
# RESULTS OF ACTIVITIES

140.3

bn kWh

produced by RusHydro Group's  
power plants

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# FINANCIAL RESULTS

RusHydro Group demonstrated high financial results in 2017<sup>1</sup>. They reflected the consistent management efforts aimed at optimising all controllable operating expenses of the Group, the process of integration of RAO ES East Subgroup. <sup>[103-2], [103-3]</sup>

## Created and distributed direct economic value, RUB mn <sup>[201-1]</sup>

RusHydro Group	2016	2017
<b>Created economic value</b>	<b>413,076</b>	<b>383,191</b>
Income from operating activities, less any impairment loss on receivables	366,939	342,162
Government grants	17,250	32,745
Income from interest on loans and dividends received	16,625	9,550
(Costs)/ Income from the sale of assets	12,262	(1,266)
<b>Distributed economic value</b>	<b>333,590</b>	<b>300,931</b>
Operating costs	208,550	190,681
Salary and other benefits to employees	71,768	74,390
Payments to Capital Providers <sup>2</sup>	28,917	10,430
Payments to States	23,491	23,666
Investing in Communities	864	1,764
<b>Undistributed economic value</b>	<b>79,486</b>	<b>82,260</b>

<sup>1</sup> In this section IFRS data is represented.

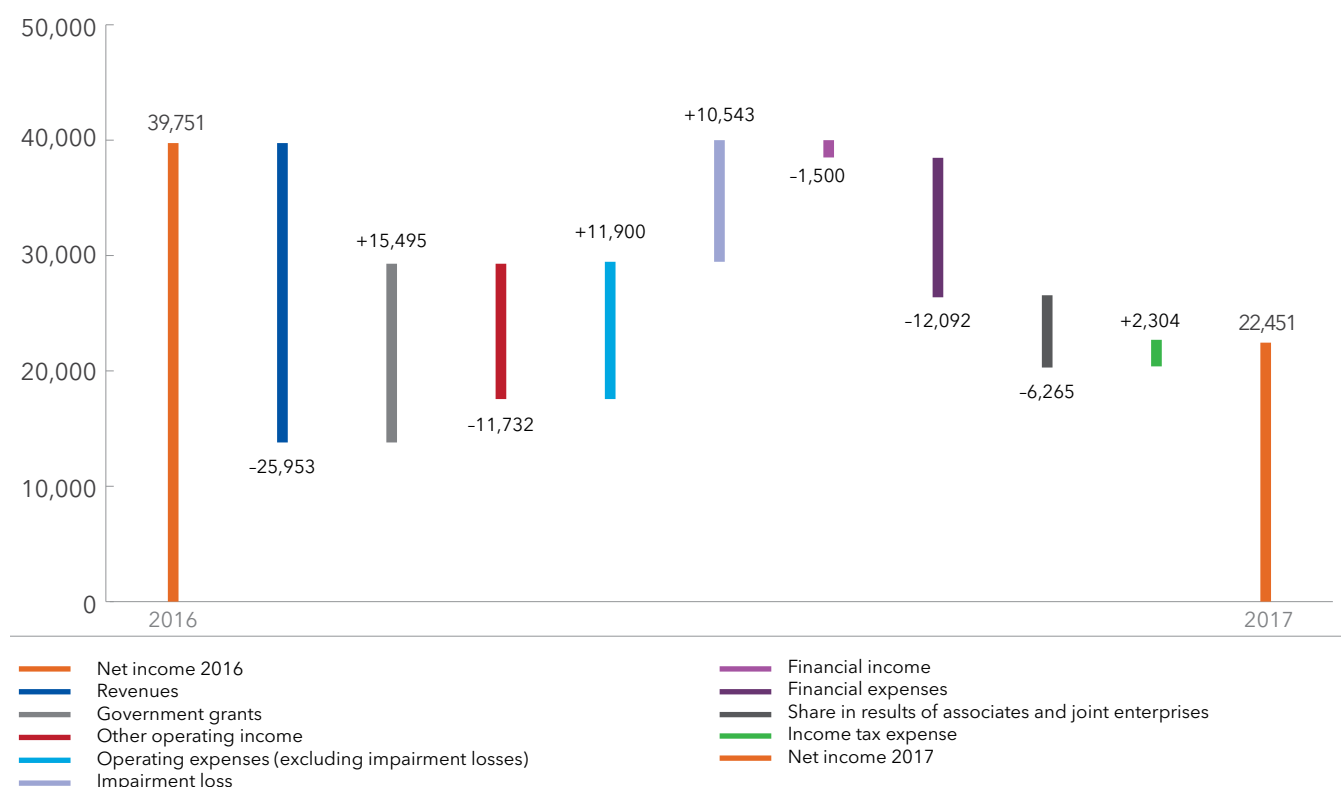
<sup>2</sup> Data for 2016 take into account the dividends declared for 2016 in June 2017. Dividends for 2017 were not declared by the date of issue of this report.

# KEY FINANCIAL INDICATORS

## Profit indicators

	2015	2016	2017	2017 - 2016	Plan 2018
EBITDA, RUB mn	73,383	100,341	104,038	+ 3 697	-
EBITDA margin <sup>1</sup> ,%	19.8	24.9	27.3	+ 2.4 p. p.	25.3
Net profit, mn rubles	27,159	39,751	22,451	-17,300	-
Net profit margin, %	7.3	9.8	5.9	-3.9 p. p.	-
Net profit for one share, rubles	0.0865	0.1095	0.0596	-0.0499	-
Return on assets (ROA), %	2.9	4.0	2.2	-1.8 p. p.	4.1
Return on equity (ROE) <sup>2</sup> , %	4.5	6.3	3.3	-3.0 p. p.	6.4

## Change in net profit, RUB mn



Net profit of RusHydro Group in 2017 has fallen by 43.5% and amounted to 22,451 million rubles. The adjusted net profit in the reporting period amounted to 62,702 million rubles, or 2.6% lower than the same indicator in 2016. Excluding LLC ESCB, the comparable adjusted net profit for 2017 remained at the level of 2016.

<sup>1</sup> Calculation of indicators was made taking into account other incomes.

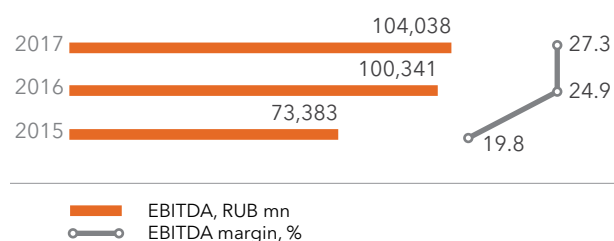
<sup>2</sup> The indicator was calculated in accordance with the methodology for calculating and evaluating key indicators of PJSC RusHydro, approved by the decision of Board of Directors (Minutes No. 229 of December 25, 2015).

The following substantial non-cash items (excluding the income tax effect) primarily explain the difference between reported and adjusted net profit for 2017:

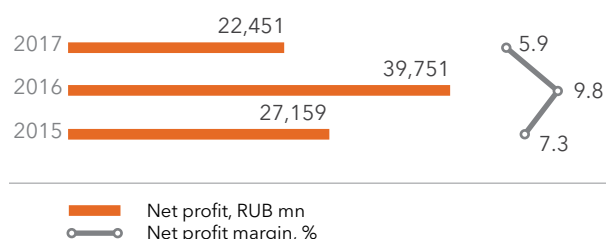
- Recognition of a loss from economic impairment of fixed assets in the amount of 24,000 million rubles, mainly in relation to JSC Yakutskaya GRES-2 and PJSC Yakutskenergo due to the insufficiency of tariff revenue in the framework of the tariff decisions that do not provide full return on invested capital;
- Recognition of a financial expense in the amount of 13,946 million as a result of a change in the fair value of a non-deliverable forward for shares due to decline in the market price of shares of PJSC RusHydro in the reporting period;
- Recognition of an impairment loss of accounts receivable of 5,957 million due to analysis of overdue accounts receivable and estimation of the probability of its repayment.

In addition, the change in net profit and adjusted net profit in 2017 as compared to 2016 came from one-time revenue recognition of sale of Bratskaya, Ust-Ilimskaya and Irkutskaya dams in the amount of 7,202 mn rubles, sale of LLC ESCB in the amount of 3,048 mn rubles and insurance compensation for Zagorskaya PSP-2 in the amount of 1,737 mn rubles in 2016.

### Dynamics of EBITDA and EBITDA margin

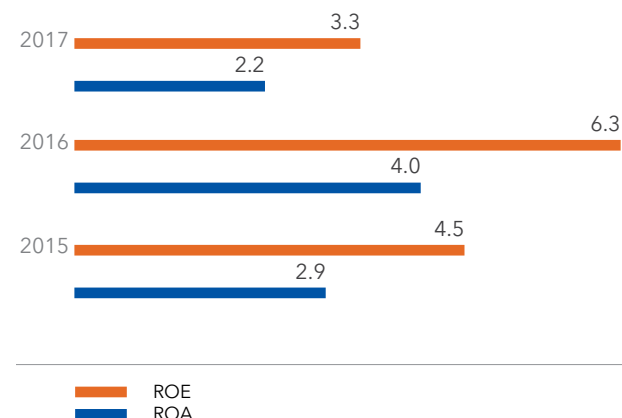


### Dynamics of net profit and net profit margin

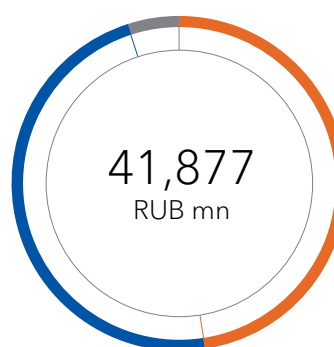


The net profit margin target for 2018 is 11.7%.

### Return on assets and return on equity, %



### Distribution of the profit in 2016<sup>1</sup>



	RUB mn	%
Development of the Company	19,907	47.5
Dividends	19,876	47.5
Reserve fund	2,094	5.0

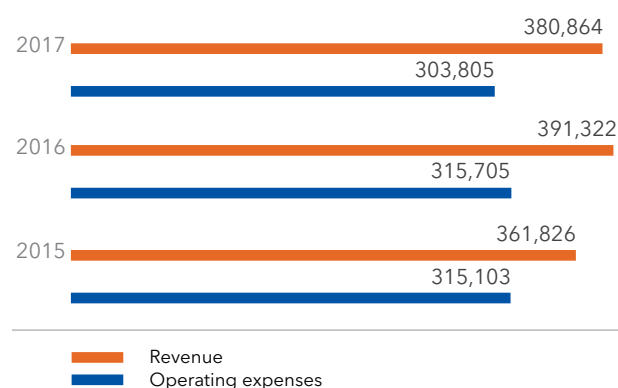
<sup>1</sup> Net profit is indicated in accordance with RAS. Net profit was not allocated to funds, other than the reserve fund. The entire amount allocated to the Development of the Company is related to the implementation of investment programmes of RusHydro Group. The net profit allocation is in line with the Regulations on Dividend Policy of PJSC RusHydro.

## Revenue and expenses<sup>1</sup>

In 2017, the total revenue of the Group decreased by 2.7%, which was mainly due to the sale of LLC ESCB in December 2016, its total revenue for 2016 was 29,922 million rubles. Excluding LLC ESCB, the total revenue increased by 5.4%. This change was due to the following key factors:

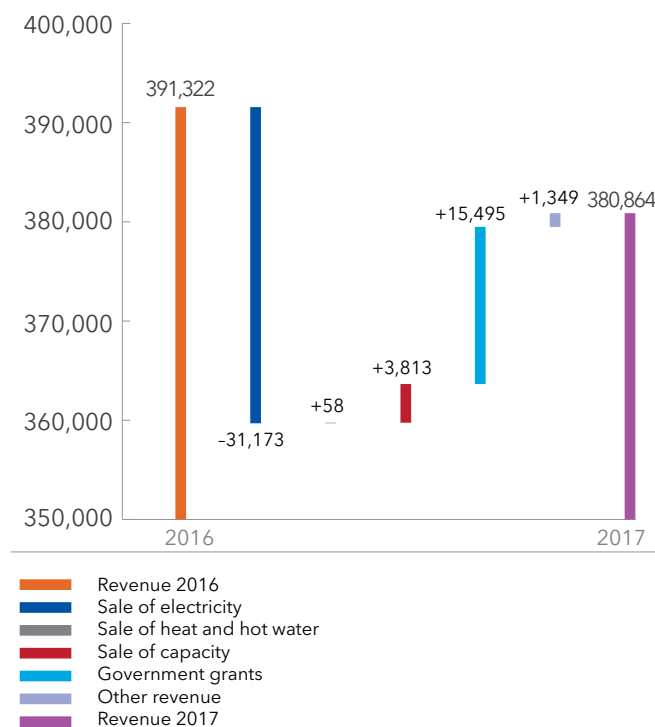
- Increase in the revenue from the sale of capacity as a result of the commissioning of the Zelenchukskaya HPP-PSP in Karachaevo-Cherkessia, the capacity of which is sold under a capacity delivery agreement;
- Increase in the revenue from the sale of capacity of PJSC RusHydro due to the increase in the capacity auctions price in the 1st and 2nd price zones, the indexation of regulated capacity tariffs and 100% of the liberalization of the capacity market for HPPs from May 1, 2016;
- An increase in the day-ahead price in the second price zone due to a decrease in the generation of HPPs and an increase in output of thermal power plants;
- Increase in the revenue for JSC DGK due to an increase in the volume of rendered services for the transmission of electric power due to an increase in the average tariff to the level of the previous year in the area of Khabarovsk, Primorsky Region, the Jewish Autonomous District and South Yakutia;
- Increase in the revenue of PJSC Yakutskenergo, which is mainly due to an increase in the revenue from the delivery of electricity produced by third parties as part of the contract with JSC Vilyuiskaya HPP-3, which is the guaranteeing Supplier for PJSC Alrosa's facilities, where the consumption has increased
- The decrease in revenue from the sale of electricity in the Far Eastern Federal District is associated with the completion of the tariff for electricity to the basic levels of prices (tariffs), which is compensated by the growth of subsidies for tariff smoothing.

### Dynamics of total revenue and expenses, RUB mn



Planned revenue (including government subsidies) in 2018 is 394,162 mn rubles.

### Change in revenue, RUB mn



### Structure of revenue by segments of the Group excluding intragroup transactions, RUB mn

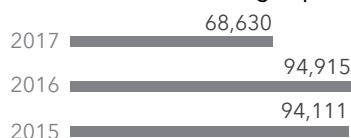
#### PJSC RusHydro



#### RAO ES East Subgroup

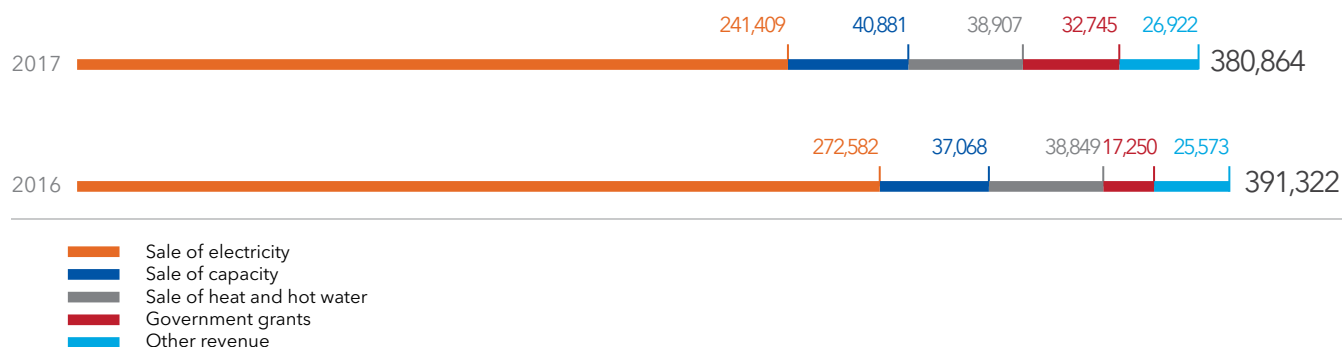


#### PJSC RusHydro controlled companies without RAO ES East Subgroup



<sup>1</sup> In this subsection of the Report, total revenue is shown taking into account state subsidies, operating expenses are presented without taking into account impairment losses.

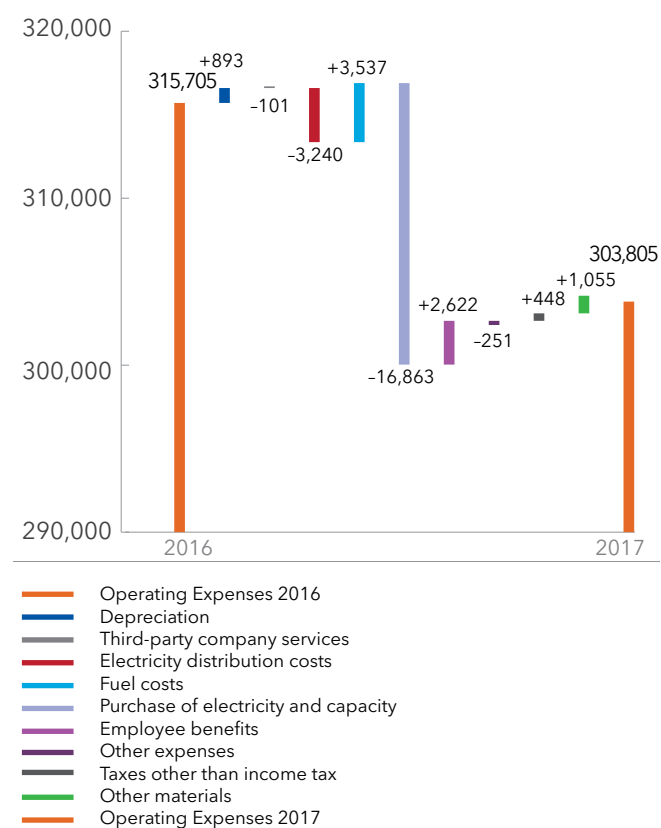
### Structure of revenue by type of activity, RUB mn



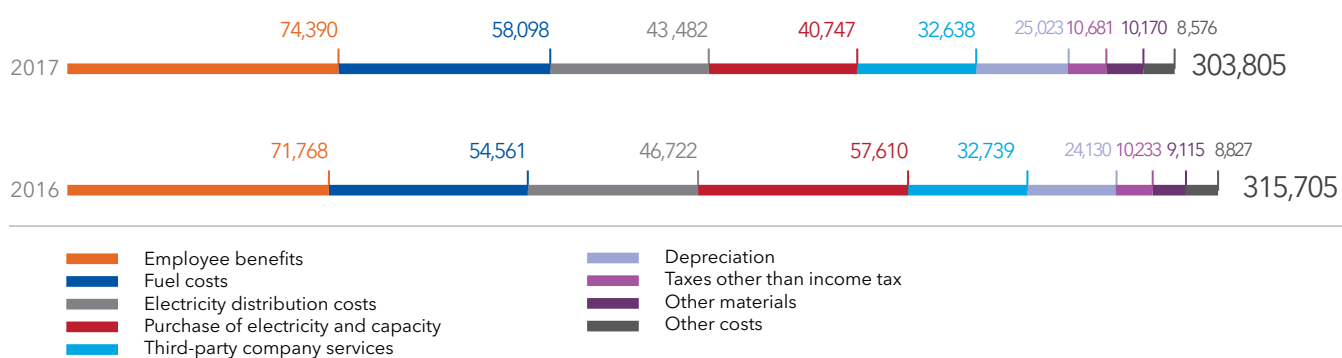
The total operating expenses for current activities in the reporting period decreased by 3.8% and amounted to 303,805 million rubles compared to the same period of 2016, which is mainly due to the sale of LLC ESCB in December 2016. Total operating expenses LLC ESCB for 2016 amounted to 27,972 million rubles. Excluding LLC ESCB, the total operating expenses increased by 5.6% as a result of the following factors:

- The increase in electricity distribution costs due to tariff increases and electricity transportation as well as due to the increased output of electricity to ESC Group and for a number of companies of the RAO ES East Subgroup;
- The increase in fuel costs mainly due to the increase in fuel prices for JSC DGK and the increase in the electricity outputs of JSC DGK plants for 2017 compared to the same period in 2016;
- Increase in labor costs as a result of indexation of tariff rates and salaries of operating personnel in accordance with collective agreements;
- Increase in depreciation of fixed assets and intangible assets.

### Change in operating expenses, RUB mn



### Structure of operating expenses, RUB mn

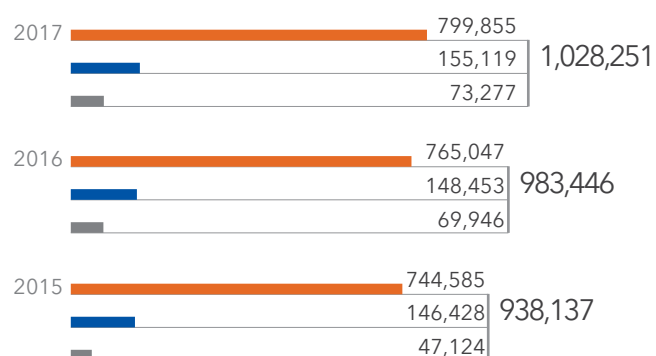


# Assets, equity, and liabilities

## Assets, equity, and liabilities, RUB mn

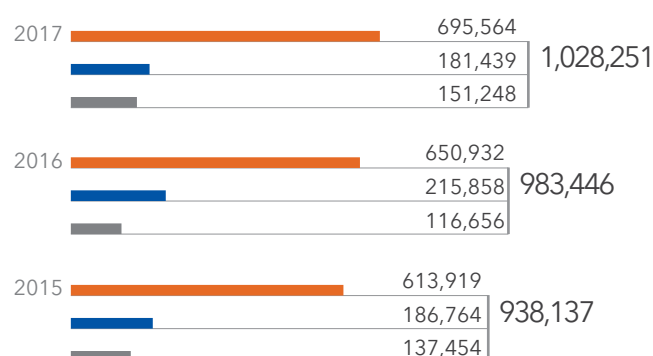
	2015	2016	2017	2017/2016, %
Fixed assets	744,585	765,047	799,855	4.55
Other non-current assets	47,124	69,946	73,277	4.76
Current assets	146,428	148,453	155,119	4.49
Total assets	938,137	983,446	1,028,251	4.56
Equity	613,919	650,932	695,564	6.86
Debt	324,218	332,514	332,687	0.05
Leverage <sup>1</sup> , %	52.8	51.1	47.8	-3,3 p. p.
Total liabilities	938,137	983,446	1,028,251	4.56

## Structure and dynamics of assets, RUB mn



■ Fixed assets  
■ Current assets  
■ All non-current assets, other than Property, Plant and Equipment

## Structure and dynamics of liabilities, RUB mn



■ Equity  
■ Long term liabilities  
■ Short-term liabilities

As of December 31, 2017, the group's assets increased by 44,805 mn rubles or 4.6% to 1,028,251 mn rubles compared to the same indicator for December 31, 2016. The change of assets is mainly related to the following factors:

- Growth of the group's fixed assets;
- Growth of receivables and inventory;
- Increase in the amount of funds and their equivalents.

The group's liabilities remained at the previous year's level and amounted to 332,687 mn rubles. According to the structure of liabilities, the liabilities of the group were changed as follows: long-term liabilities decreased by 34,419 mn rubles, short-term liabilities increased by 34,592 mn rubles, mainly due to reclassification of long-term borrowed funds into short-term borrowed funds due to approaching maturity date.

The structure of the group's liabilities has undergone significant changes:

- Funds received from placement of additional share issue and sale of treasury shares, in full volume are directed to the repayment of credits and loans of RAO ES East Subgroup;
- Partial redemption of Russian bonds issued in April 2015 within the scope of the tender offer;
- Ruble Eurobonds worth 20 bn rubles are placed, the issuer of which was a special-purpose company RusHydro Capital Markets DAC. Eurobonds issued with maturity in 2022 and coupons of 8.125 % per annum paid twice a year. Placement and listing of Eurobonds is carried out on the Irish Stock Exchange under the rules of Reg S;

<sup>1</sup> Planned ratio of own and borrowed funds in 2018 - 49.8%.

- In accordance with the terms of the non-deliverable forward transaction for its own issued shares with VTB Bank (PJSC), the Group recognized liability under the forward contract, which is recorded as a long-term derivative financial instrument measured at fair value through profit and loss using the Monte Carlo model. The main reason for the change of the fair value of the forward instrument was the local dynamics of the market value of PJSC RusHydro shares during 2017. Thus, in the event of an increase in the value of shares in subsequent reporting periods, the liability under the forward contract will be reviewed towards its reduction.

## Refinancing Debt of RAO ES East Subgroup

In March 2017, within the framework of fulfilment of decrees of the Russian President and the Russian Government RusHydro Group successfully implemented measures to refinance the debt of the enterprises of RAO ES East Subgroup. The mechanism of the realized transaction is unique for the Russian market in its structure and volume of capital raised.

In accordance with the decisions of the Board of Directors of PJSC RusHydro (minutes of November 23, 2016 No. 244, of December 27, 2016 No. 246, of February 27, 2017 No. 248) due to the placement in the interest of VTB Bank (PJSC) of 40 billion shares of an additional issue and sale, and 15 billion of treasury shares of PJSC RusHydro, the company raised joint-stock financing worth 55 billion rubles. VTB Bank (PJSC) acquired 55 billion roubles worth of shares of the company, which is 12.9% of the share capital.

In addition, PJSC RusHydro and VTB Bank (PJSC) signed a non-deliverable contract, the final settlement of which is expected after the end of the 5-year period. The forward rate is formed as a key rate of the Bank of Russia plus a margin of 1.5% annually. The forward payments are reduced by the amount of dividends paid to the bank during the period of the forward contract.

At the end of the forward contract, one of the parties to the transaction pays the other party the difference between the value of the sale of PJSC RusHydro's shares and the forward value. At the same time, PJSC RusHydro has no obligations to VTB Bank (PJSC) for buy back of its shares ("put" option). In the case of failure to sell the company's shares during the period of the forward contract (5 years) the liabilities of the Parties shall be determined based on an independent valuation of the shares.

An important aspect of the transaction is the condition that the additional income received from the sale of shares of RusHydro at a price higher than the value of the forward in full is the income of the company.

### Key parameters and advantages of the forward contract with VTB Bank (PJSC):

- **significant amount of potential liabilities of RusHydro will be covered by outside investors following the sale of RusHydro's shares, as well as through dividends received by the bank;**
- **transaction focuses the management on the long-term result, encourages reaching the maximum value of the company in the interests of all shareholders;**
- **funds attracted in the framework of a forward transaction are aimed at the repayment of external loan debts of the companies of the RAO ES East Subgroup, which significantly reduced the consolidated debt burden of RusHydro Group.**

In terms of the efficiency of the transaction for the company, the proposed scheme of attracting financing is more effective than existing credit mechanisms. Forward rate value (excluding the value of the sale of shares) is preferred due to its reduction on the paid and planned dividends, as well as because of lowering the key rate of the central Bank of the Russian Federation, which is 5.42 % as of March 23, 2018 (following the reduction of the Bank of Russia key rate to 7.25%). Cash worth 55 billion rubles was attracted from VTB Bank (PJSC) in full transferred to the operating companies of RAO ES East Subgroup in accordance with the loan agreements and sent in March 2017 to repay the debt on bank loans.

The interest rate on intragroup loans is floating and is equal to the forward rate, reduced by the amount of dividends in the interest of VTB Bank (PJSC) on the shares acquired in the framework of the transaction with RusHydro's shares. There is also a grace period for interest payments during the first two years from the date of entering into intra-group loans schemes. Savings from lowering the interest rate and due to existence of the two-year grace period will finance repair programmes and measures on technical rehabilitation and modernization of core companies of RAO ES East Subgroup.



## Analysis of structure and change of financial debt

According to the results of 2017, the level of financial indebtedness and the debt burden of RusHydro group decreased. The total and net financial debt of RusHydro Group at the end of 2017 amounted to 213.2 and 143.0 billion rubles respectively, decreasing for the year by 10.3 and 13.1 billion rubles (or by 4.6% and 8.4%). Considering the growth of consolidated operating profit for 2017, the value of the indicator "net financial debt/ EBITDA" dropped to 1.4 on 31.12.2017 in comparison with 1.6 on December 31, 2016, which confirms the strengthening of the group's sustainable financial position.

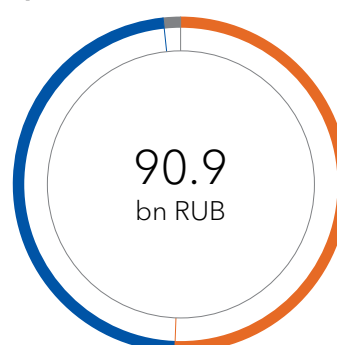
Total debt for long-term and short-term borrowings (excluding accrued interest on the reporting date) decreased by 30.2 billion rubles (or 15.4%) for the year 2017. The largest decrease in debt liabilities was due to the repayment (refinancing) of bank loans of companies of the RAO ES East Subgroup in the 1st quarter of 2017 worth 55 billion rubles due to a transaction with Bank VTB (PJSC). The structure of the financial debt of RusHydro group takes into account the fair value of the company's liabilities under the forward contract with VTB Bank (PJSC) (worth 20.7 billion rubles at the end of 2017), as well as the guarantee for PJSC Boguchanskaja HPP under the credit of GC Vnesheconombank (the sum of which decreased to 25.9 bn rubles at the end of 2017).

The shares of the consolidated financial debt (excluding the forward transaction) of RusHydro Group on 31.12.2017, calculated in Russian rubles and with a fixed interest rate, constitute about 95% and 99% respectively, which means that the Group's currency and interest rate risks in relations to financial liabilities are insignificant.

The long-term part of the group's borrowings for 2017 decreased by 67.1 billion rubles (a drop of 42.5%) to 90.9 billion rubles, mainly due to the maturity of the debt in 2018 and the transfer of this part of the debt to the short-term part. At the same time, in the structure of the debt there were 5-year Eurobonds worth 20 billion rubles, placed in September 2017.

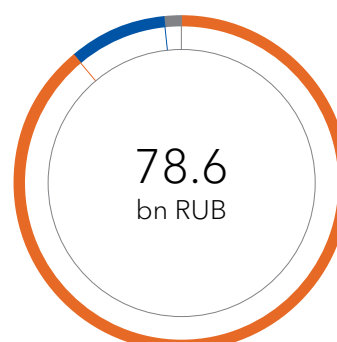
The short-term part of the group's borrowings for 2017 increased by 36.9 billion rubles (a rise of 88.3 %) up to 78.6 billion rubles, mainly due to the maturity of long-term loans and bonds (including bonds of PJSC RusHydro worth 35 billion rubles). Bearing in mind that the available remainder of the sample under the current credit agreements of the group companies at the end of 2017 amounted to more than 110 billion rubles, which by far exceeds the requirements for short-term refinancing of debt, financial risks are estimated as insignificant.

### Structure of the long-term part of the debt with maturity after 12 months from the reporting date, %



Bonds (including Eurobonds (LPN))	50.6
Credits and loans	47.9
Other long-term borrowings	1.5

### Structure of short-term part of debt with maturity within 12 months from the reporting date, %



Arrears on short-term part of long-term loans, loans and bonds	88.9
Short-term loans and borrowings	9.5
Other short-term borrowings	1.6

<sup>1</sup> On February 7, 2018, the Agreement on the termination of the guarantee agreement between PJSC RusHydro and GC Vnesheconombank was signed.

## Credit ratings

Regarding strengthening the financial performance of RusHydro Group, the credit ratings (outlooks) of the company, assigned by international rating agencies (S&P,

Moody's, Fitch), improved. In October 2017 PJSC RusHydro became one of the first among state-owned Russian companies and the first company of the electrical utilities sector, which received the rating of creditworthiness from the Analytical Credit Rating Agency (ACRA), which was assigned on a national scale at the highest level of reliability.

### Credit ratings as of April 27, 2018

Rating Agency	S&P	Moody's	Fitch	ACRA
Level of long-term credit rating <sup>1</sup>	BBB-	Ba1	BB+	AAA (RU)
Credit rating forecast	Stable	Positive	Stable	Stable
Date of change (confirmation) of rating	27.04.2018	29.01.2018	09.06.2017	03.10.2017

## CASH FLOWS

Net cash flow from the group's operations in 2017 increased by 6,752 mn rubles (9.5 %) up to 78,125 mn rubles.

Net outflow of funds to finance investment activities increased by 35,095 mn rubles (141%), amounting to 60,013 mn rubles.

The financial activity of the group in the reporting period registered a net outflow of funds worth 15,064 mn rubles.

Negative exchange differences on the group's cash balances in 2017 amounted to 246 mn rubles, against negative exchange rate differences of last year worth 289 mn rubles.

At this backdrop, the group increased cash position to 70,156 mn rubles by the end of the year, which is 2,802 mn rubles (4.2 %) higher than at the beginning of the year.

### Cash flows, RUB mn

	2015	2016	2017	2017 - 2016
Cash flows from operating activities	69,800	71,373	78,125	6,752
Use of funds for investment activities	(48,381)	(24,918)	(60,013)	(35,095)
Use of funds from financial activities	(8,584)	(26,837)	(15,064)	11,773
Positive/(negative) Exchange differences on cash balances	796	(289)	(246)	43
Total increase of funds	13,631	19,329	2,802	(16,527)
Funds for the end of the period	48,025	67,354	70,156	2,802

<sup>1</sup> International rating agencies S&P, Moody's, Fitch indicated the level of long-term credit rating on an international scale in foreign currency.

# PRODUCTION RESULTS

## Installed capacity

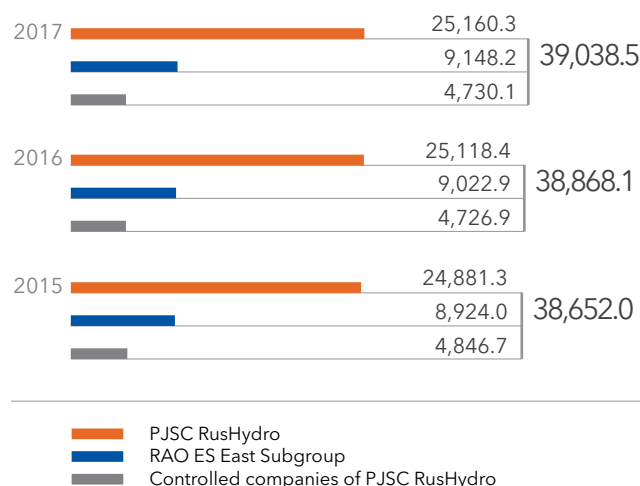
As of 01.01.2017, the installed capacity of RusHydro Group was 38,868.1 MW. During 2017, the total installed capacity increased by 170.37 MW and on 31.12.2017 it was 39,038.47 MW.

The growth of installed capacity at the facilities of RusHydro group occurred due to:

- Launch of the 1st stage of the 193 MW Yakutskaya GRES-2;
- Rerating of equipment at Zhigulevskaya HPP (+21.0 MW), Volzhskaya HPP (+10.5 MW), Saratovskaya HPP (+6.0 MW), and Novosibirskaya HPP (+5.0 MW).

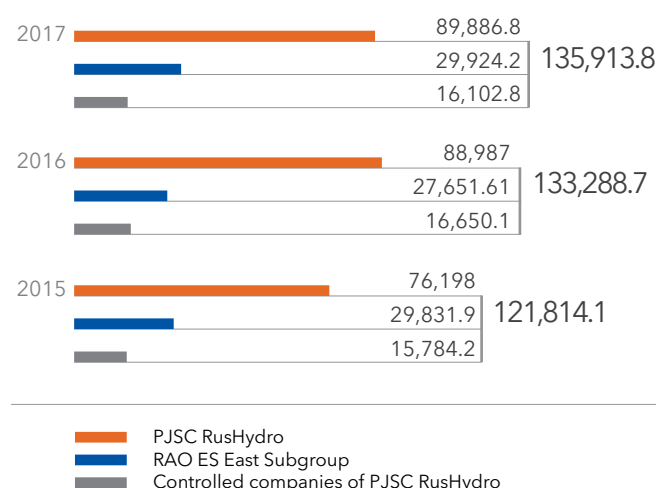
The decrease in capacity in the reporting year is due to reduced capacity at the plants of RAO ES East Subgroup: JSC Chukotenergo (-20.9 MW) and PJSC Kamchatskenergo (-25 MW).

### Installed capacity<sup>1</sup>, MW



<sup>1</sup> The data are given for PJSC Boguchanskaya HPP (owned by PJSC RusHydro and "Rusal"), taking into account the HPP-2 PJSC Kamgek and without including HPP-1 and HPP-3 PJSC Kamgek are managed by a trust.

## Dynamics of net supply of electricity of RusHydro Group<sup>1</sup>, mn kWh



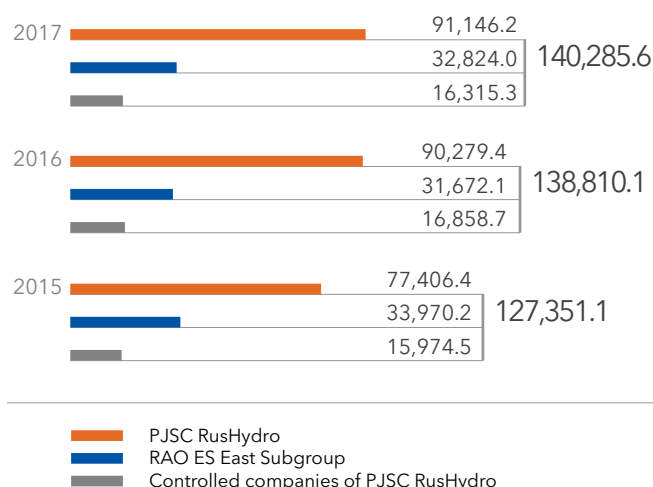
## Power generation

Production of RusHydro Group, including Boguchanskaya HPP, reached a historical record – 140,285.6 mn kWh, which is 1.06% higher than the production in 2016.

The main factors affecting RusHydro Group's production in 2017 were:

- Inflow into the main reservoirs of Volga-Kama Cascade was significantly higher than the values for many years;
- The autumn of 2017 saw commissioning of Yakutskaya GRES-2 in and gradual increase in capacity of the 2nd stage of Blagoveschenskaya CHPP, commissioned in 2016;
- Reduction of inflow to HPPs in the south of Russia, Siberia and the Far East regarding high water inflows of 2016 to the levels corresponding to long-run average.

### Dynamics of power generation of RusHydro Group<sup>1</sup>, mn kWh



Energy sales of companies of RusHydro Group - JSC ESC, PJSC Krasnoyarskenergosbyt, JSC Chuvash Power Sales Company and PJSC RESC - for 2017 amounted to 20,707 million kWh, which was 6 % less than the value for the same period in 2016. The decrease is due to the emergence of a number of large consumers at the Wholesale Electricity Capacity Market, primarily in the service area of PJSC Krasnoyarskenergosbyt, higher outdoor temperatures, and a number of other factors.

## RELIABILITY AND SAFETY OF ELECTRIC POWER FACILITIES

### Management approach to issues of safety, reliability and safety of hydraulic structures

Providing reliable power supply for the population and operations of equipment hydraulic facilities safe for the environment is one of the company's strategic goals.

The technical policy of the company defines the requirements for the integrated system of safety management of the production processes, which includes the subsystem of industrial safety management.

In 2017, in order to update the system of safety management and the reliability of hydraulic structures and equipment of the company, the decree of PJSC RusHydro of August 8, 2017 No. 515 approved "Regulations on the system of safety and reliability management of hydro-technical structures and equipment of hydroelectric power plants of PJSC RusHydro". [103-2], [103-3]

The company's tasks in the field of industrial safety:

- Continuous improvement of industrial safety of hazardous production facilities to the level corresponding to the best indicators in the world's electricity generating companies thanks to timely technical rehabilitation and enhanced reliability of technological equipment, in order to ensure their safe and accident-free operations;
- Creation and maintenance of efficient and effective system of industrial safety control, ensuring the planning and solution of the most important problems of industrial security.

The result of the achievement in the field of industrial safety is a stable reduction of industrial risks from the operation of hazardous industrial facilities by improving the production control, the quality of repairs, and inspections of industrial safety systems.

<sup>1</sup> The data are given for PJSC Boguchanskaja HPP (owned by PJSC RusHydro and "Rusal"), taking into account the HPP-2 PJSC Kamgek and without including HPP-1 and HPP-3 PJSC Kamgek are managed by a trust.

## Results of Activities

Mechanisms for ensuring the reliability of operations and the safety of facility operations:

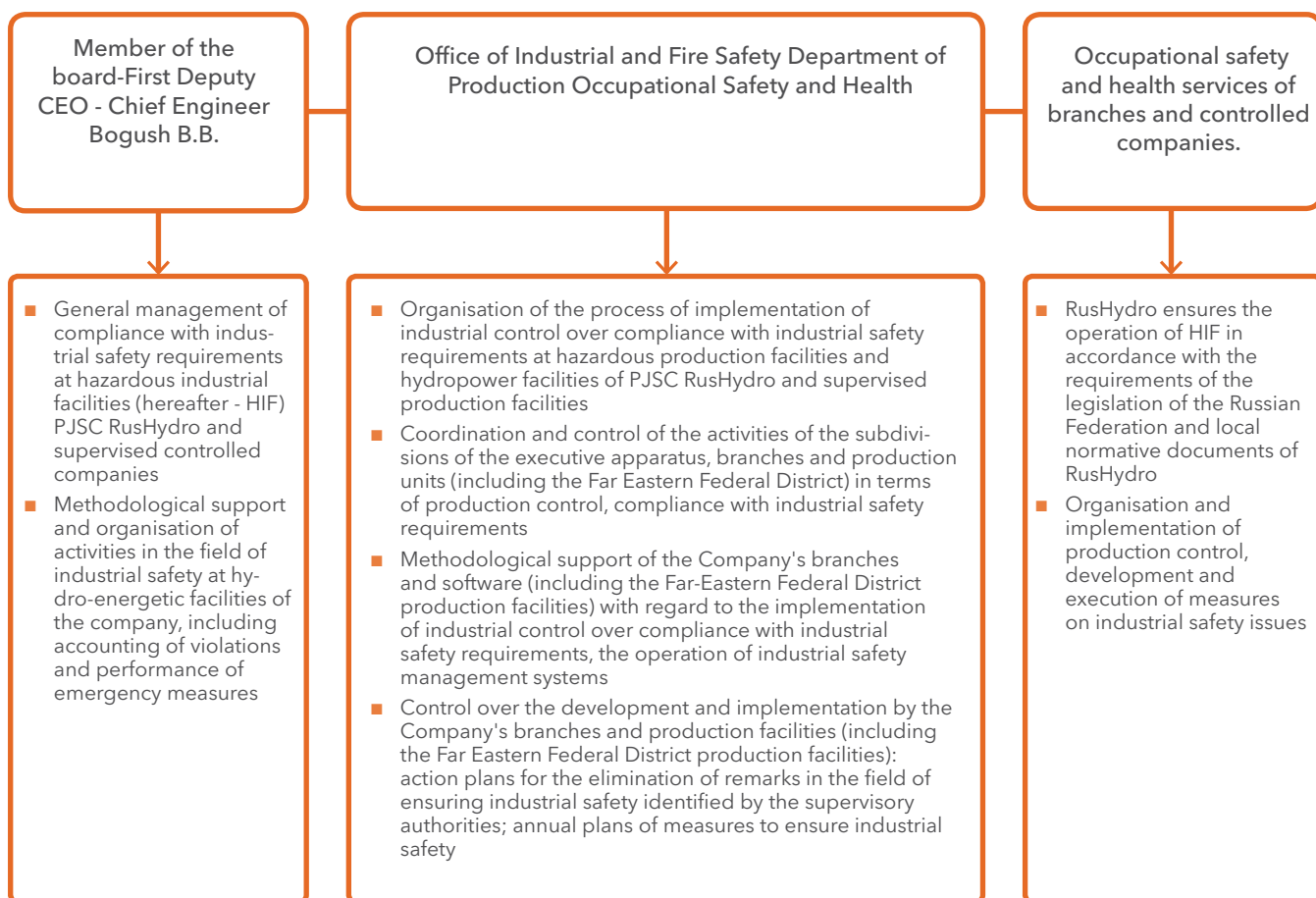
- Quality control at the design and construction stages;
- External regulatory oversight;
- Internal production control;
- Standards and operating regulations (industry and corporation);
- Technical policy and system of technical system management.

Effective control of safety and reliability of functioning assets is achieved by a double control system: an internal system of production control of compliance with industrial safety requirements at hazardous industrial and external facilities by state inspection authorities.

495 HIFs of RusHydro Group are registered in the state register of hazardous industrial facilities: 176 PJSC HIFs RusHydro and 319 HIFs of controlled companies.

HIF sites and HS complexes of branches of PJSC RusHydro are insured under the contract of compulsory insurance of civil liability of the owner of a hazardous facility for causing damage as a result of an accident at a hazardous facility dated December 20, 2016 No. 16DL0687.

## Distribution of responsibility on industrial safety issues



The company has a "Standard regulation on the production control of compliance with industrial safety requirements at hazardous production facilities of the branches of PJSC RusHydro", which is going to be updated in 2018.

All generating companies of RusHydro Group have developed and are applying "Regulations on the industrial control of compliance with industrial safety requirements at hazardous industrial facilities".

In 2017, the Siberian Department of the Federal Service for Environmental, Technological and Nuclear Oversight was assigned four events at the Novosibirskaya HPP. All events were carried out. No other violations were recorded in respect of industrial safety requirements during the reporting period.

## Key projects to improve the safety of hydraulic structures

### Projects completed in 2017

- Reconstruction of the spillway dam of Novosibirskaya HPP
 

Replacement of the destructive concrete of a water-hole plate, weirs, and steers of a spillway dam.
- Automation (control and measuring equipment (hereinafter - CME) of Novosibirskaya HPP
 

The piezometers of the spillway dam, the piezometers of the earth dam are automated.
- Reconstruction of the CME with the introduction of IDs (information and diagnostic system) at Gunibskaya HPP
 

New piezometers are arranged in the arched dam of Gunibskaya HPP. The information- diagnostic system for safety control of HS was developed. The geodetic network of the CME was reconstructed.
- Construction of the canal bypassing the head structures with the help of an additional sump on the Yezminskaya HPP
 

A bypass (winter) channel was built to circumvent the existing head node of the Yezminskaya HPP in order to facilitate its drainage (head unit) and repair work in low (winter) period. Reconstruction (extension) existing sump of the head complex, for better operation.
- Construction of the bypass canal of the Head Unit of the Gizeldonskaya HPP with the restoration of the reservoir to the original sizes
 

Reconstruction of a water intake and spillway structure of the head unit was carried out by installing an additional bottom spillway.

Reconstructed the plot of a new concrete structure instead of the old metal.

Mechanical cleaning of the reservoir, silted during the operation by 75% of the value from the design capacity, to the design parameters is carried out mechanically.
- Reconstruction of the CME with the introduction of an information and diagnostic system at the Gergebilsкая HPP
 

New piezometers in the arch dam are arranged. The information- diagnostic system for safety control of HS was developed. The geodetic network of the CME was reconstructed.

### Current projects in 2017

- Reconstruction of the pressure node of the Baksanskaya HPP
 

Dismantling of the old building and structures of the water intake and construction of a new water intake in its place. In 2017 the project documentation for the reconstruction and the examination of the project documentation were carried out. The preparatory work was finished. Works on dismantling the old constructions are in progress. Completion of works is planned for 2018.
- Reconstruction of the headrace piers in the zone of the alternating level of Nizhegorodskaya HPP
- Reconstruction of grooves, slab-shells, thresholds, and spillway covers of the spillway dam of the Zhigulevskaya HPP
- Reconstruction of the control and measuring equipment at the Nizhegorodskaya HPP

### Plans for 2018

- Reconstruction of elements of the deep operational water discharge of Gunibskaya HPP
- Reconstruction and automation of controlling and measuring equipment of Chirkeysкая HPP
- Reconstruction of controlling and measuring equipment of Nizhegorodskaya HPP (the device of additional CME was completed in 2017, while in 2018 it is planned to complete the work by performing its automation)
- Arrangement of systems of seismological and seismometric control at the Cheboksarskaya HPP
- Reconstruction of grooves, plates-shells, thresholds and weirs of the spillway dam of the Zhigulevskaya HPP
- Reconstruction of the walls of the headrace in the zone of the alternating level of the Nizhegorodskaya HPP (completion of works).

# Accident Rate

## Accidents at the facilities of RusHydro Group

Accident rate	2016	2017	2017-2016
Number of accidents in the group including:	5,547	6,218	671
PJSC RusHydro	97	135	38
accidents at controlled companies including RAO ES East Subgroup:	5,450	6,083	633
Number of accidents at HIFs	0	1	1
Number of fires	0	0	0

Compared to the previous year, the increase in accidents in the branches of PJSC RusHydro is primarily caused by a significant number of accidents in the Karachayevo-Cherkessiya branch (21 accidents, in 2016 there were no accidents recorded) due to the failure of newly introduced equipment Zelenchukskaya HPP - PSP due to its constructive defects, poor installation, errors of software, and fault of own personnel in the maintenance of the newly introduced equipment.

In addition, the general increase in accidents in the branches of PJSC RusHydro in 2017 was affected by the increase in accidents at:

- Zhigulevskaya HPP (growth of 8 accidents);
- HPP of Dagestan branch (growth of 7 accidents);
- Volzhskaya HPP (growth of 3 accidents);
- Novosibirskaya HPP (growth of 3 accidents);
- Bureyskaya HPP (growth of 3 accidents).

The increase of accident rate at the facilities of the controlled companies, including RAO ES East Subgroup, for 2017 in comparison with 2016 is caused primarily by the increase in the number of accidents in the following facilities:

- JSC DRSK- accidents with the equipment and power lines 6-35 kV (from 3,638 to 4,111), equipment and transmission lines 110 kV (from 387 to 492) and with the devices of relay protection, emergency, and mode automation (from 51 to 94).
- PJSC Sahalinenergo - accidents with the equipment and power lines 6-35 kV (from 262 to 319), on equipment and transmission lines 110 kV (from 12 to 27) and with devices of relay protection, emergency and mode automatics (with 1 to 17).
- JSC DGK - accidents with boiler equipment (from 40 to 64), auxiliary heat-mechanical equipment (from 45 to 54), with generators and synchronous compensators (from 9 to 14) and with devices of relay protection, emergency, and mode automatics (from 10 to 21).

- PJSC Peredvizhnaya Energetika - accidents with turbine equipment (from 2 to 23).

In total, on the basis of investigation acts of causes of accidents in RusHydro Group in 2017, 8,905 emergency measures were developed, most of which (8,045) were applied and employed. Of all identified emergency measures 860 have not been completed yet.

## Accidents at hazardous industrial facilities

On October 7, 2017 at the Yakutskaya GRES (PJSC Yakutskenergo) an accident occurred at HIF. In accordance with the report on the accident, damage amounted to 363 million rubles. The cause of the accident was the holding of preparatory start-up operations at GTE-45-3 no. 1 of the Yakutskaya GRES with incomplete repair work and uncovered outfits, which led to erroneous actions of operational personnel during switching operations in the circuits. PJSC Yakutskenergo provided a report on the actions taken to prevent similar accidents in the future, including adjustments to the technical elements of the plant and changes in instructions, as well as checking and ensuring the work of all safety automatic devices at gas turbine plants.

PJSC Yakutskenergo conducted a detailed assessment of the actual state of the equipment of Yakutskaya GRES and is carrying out the appropriate repair and restoration work. In 2017, 16.1 mn rubles was spent on restoration works, the costs for 2018 are planned to reach 71.5 mn rubles. The total cost of repair and restoration work are estimated at 87.6 mn rubles (instead 363 mn rubles previously announced according to the accident investigation report).



## Elimination and prevention of emergency situations

Work on the prevention and liquidation of emergency situations is conducted in RusHydro in full compliance with the normative requirements of the legislation of the Russian Federation for Hydro-Technical facilities and hazardous production facilities. [103-2], [103-3]

All facilities of RusHydro Group have:

- Action plans for the prevention and liquidation of emergency situations of natural and technogenic nature, as well as action plans for the prevention and liquidation of oil and petroleum spills, agreed with the territorial authorities of the Ministry of Emergency situations of Russia;
- Declarations of safety of HS, updating (processing) of which is carried out not less than every five years with mandatory examination of HS by specially created commissions with the involvement of design and research organisations;
- Facility safety passports (specifications);
- Special equipment for the prompt elimination of possible damages and emergencies (at facilities where there are own (contractual) fire-fighting partners);
- Rescue equipment and tools.

At all facilities of RusHydro Group, operating HS of extremely high and high risk, hazardous production facilities of I and II hazard classes, dangerous production facilities of III hazard class, civil defense units or professional out-house rescue teams are duly created and kept on alert.

In accordance with the decree of the Ministry of Energy of Russia of June 9, 2011 No. 222, RusHydro Group created a functional subsystem of the unified state system of prevention and liquidation of emergency situations.

The coordinating body of the subsystem responsible for promptly assessing occasions of emergency and taking the decision to implement the activities aimed at the prevention of emergencies is the Commission for the Prevention and Liquidation of Emergencies and the Fire Safety of the company (CPLE and PFS). The annual work plans of the commission include providing for the safe flood water passage in the spring-summer period, preparing the facilities for the autumn-winter peak of maximum loads, as well as to ensuring sustainable functioning in fire and thunderstorm periods. The CPLE and the PFS directs and coordinates the work of the permanent and day-to-day bodies for the management of the functional subsystem.

Round-the-clock surveillance of the facilities, notification of detected violations in the equipment operation and execution of priority actions which contribute to the prevention of emergency situations, are performed by the bodies of daily management functional subsystem of the company: during operational duty shifts at the center for monitoring the state of protection and operation of facilities, as well as during duty shifts of operational supervision of generating branches and controlled companies.

At 31 facilities of the Group there are local warning systems.

For the prevention and liquidation of emergency situations, reserves of material resources in the branches operating hydrotechnical facilities and a target reserve of financial resources in PJSC RusHydro were created in PJSC RusHydro amounting to 1% of the average monthly revenue from the sale of electricity and capacity. In all controlled companies in order to prevent and eliminate emergencies, financial reserves and reserves of material resources were created having the needed funds at their disposal.

In 2017, training in accordance with the decree of the Company of May 11, 2017 No. 287 On the conduct of distance learning in the field of civil defense and protection of employees at emergencies in 2017, using an automated system of training and control of learning acquired knowledge, 5,810 employees of RusHydro Group were trained. The total number of people in RusHydro Group covered by the training was 22,399.

In 2017, RusHydro Group held:

- complex trainings - 23;
- trainings at facilities - 379;
- team trainings - 108;
- tactical special trainings - 58.

In the Group's consolidated budget for 2018, funds were planned under the item "Emergency Response Reserve" worth 88,845.1 thousand rubles for accrual and 104,837.3 thousand rubles for financing.



# CONSTRUCTION OF PRODUCTION FACILITIES



## Quality control at the stage of construction of RusHydro Group's facilities

Quality control at the stage of construction and installation works is carried out in order to:

- verify the compliance of the works with the town-planning code, design documentation, the requirements of technical regulations, the engineering surveys;
- provide reliable and trouble-free operation of power facilities and reduction of non-productive costs during the operation stage.

Quality control:

- consists of technical requirements to the final result and assessment of conformity of the result to the technical requirements, internal normative documents and legislative acts;
- is conducted by all construction participants, the contractor, the developer (customer) and the designer (within the framework of the author's supervision);
- provides operational input, acceptance control, and also accounting of works performed, the final check of the executed works and preparation of the conclusion on conformity;
- in addition to internal oversight, includes an external oversight system implemented by the Federal Service for Environmental, Technological and Nuclear surveillance and other state technical oversight bodies

Documents regulating the issues of quality control during the construction phase:

- Technical policy of PJSC RusHydro
- Corporate standards of construction and installation works of RusHydro (level of construction customer):
  - 01.02.132-2015 Hydroelectric power stations. Quality control of work in the construction process. Norms and requirements;
  - 70238424.27.140.046-2009 Hydroelectric power stations. Manufacture of construction and installation works. Norms and requirements;
  - 04.01.71-2011 Hydropower construction. The procedure for determining the cost of construction and installation works. Methodical instructions;
  - 01.02.85-2013 Hydropower construction. Calendar-network planning of projects for the construction of hydro-generation facilities. Norms and requirements.

## Regulation and supervision

Control of the conformity of the quality of construction and installation works, applied materials and structures, is governed by the requirements of the Russian Federation legislation, industry standards and requirements, corporate technical standards, regulatory requirements for project documentation.

In addition to the requirements of the Federal legislation and subordinate legislation<sup>1</sup>, at all stages of construction work, industry standard and quality control standards developed by RusHydro are applied.

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<sup>1</sup> Urban Development Code and Resolution of the Government of the Russian Federation No. 468 of 21.06.2010 "On the Procedure for Conducting Construction Supervision during the Construction, Reconstruction and Overhaul of Facilities".

Development of the Unified Conformity Assessment System (UC AS) for the construction (reconstruction and overhaul of capital construction projects) and requirements for the controlling procedure of the UC AS is conducted by the Supervisory Board of the unified system of conformity assessment in the field of industrial, environmental safety, security in energy and construction. The oversight over their execution is carried out by the Federal Service for Ecological, Technological and Nuclear Supervision.

At the stage of construction at the stations, an automated system of diagnostic control is introduced, which performs automatic collection of devices indications and their computer processing, for the analysis of the condition of the hydro-site structures. At delivery by the building organ-

isation to the customer of the measurement equipment and all data of observations of hydrotechnical facilities in operation are handed from the building companies to the customer.

In the reporting year, no people were economically displaced or compensated in connection with the construction of new facilities. [EU22]

### Indirect economic impact of key structures on the regions of presence [203-2]

Project	Indirect economic impact
Zaramagskiye HPPs	After the commissioning of the station, its tax revenues to budgets of all levels will amount to 0.9 billion rubles annually, which will enable the HPP to become a key budget contributor in the region. The uniqueness of Zaramagskaya HPP-1 consists primarily of a 14.5 km derivation tunnel, which is unparalleled in Russia. Its width is 4.5 m, its height is 5 m, water will pass through the tunnel in 80 minutes. The construction of the tunnel began in 1982, during the Soviet times, no more than 30% of its length was built
Nizhne-Bureyskaya HPP	The socio-economic effects of the project for the Far East and Russia: <ul style="list-style-type: none"> <li>■ reduction of current generation costs for the Unified energy system of the East;</li> <li>■ the possibility of switching nearby villages from expensive fuel oil and coal boiler heating to electric boiler heating with a reduction in the heat tariff for consumers;</li> <li>■ creation of jobs for the laid-off builders of the Bureyskaya HPP (2,000 people) and a reduction in outflows from the Far East;</li> <li>■ subcontractor work for domestic producers and firms;</li> <li>■ increase in tax revenues to budgets of all levels;</li> <li>■ growth in the purchasing power of the population of the Amur Region</li> </ul>
Ust-Srednekanskaya HPP	The launch of the HPP is the source of power for the Matrosov Mine (the Natalinskoe gold deposit) and contributes to the growth of the economy of the region due to the development of the mining sector
1st stage of Sakhalinskaya GRES-2	The commissioning of the first stage of Sakhalinskaya GRES-2 will create the prerequisites for socio-economic development of the western coast of Sakhalin by creating new jobs, housing and social infrastructure. The necessary reserve of capacity will be provided for the prospective new consumers
CHPP in Sovetskaya Gavan	The commissioning of a CHPP plant in Sovetskaya Gavan allows to: <ul style="list-style-type: none"> <li>■ ensure reliable, uninterrupted and cost-effective energy supply to consumers in the Sovetsko-Gavanskiy and Vaninskiy regions;</li> <li>■ increase the reliability of energy supply to the energy center of Sovetskaya Gavan;</li> <li>■ ensure the region's growing electricity needs related to the expansion of the seaport, the construction of the largest coal terminal in the Far East and the development of a transport hub;</li> <li>■ ensure the replacement of outgoing capacities and inefficient equipment of the Mayskaya GRES;</li> <li>■ centralise the heat supply to Sovetskaya Gavan;</li> <li>■ ensure the growth of tax revenues to budgets of all levels</li> </ul>
CHPP Vostochnaya in Vladivostok on the site of Central steam-water boiler facility	The Vostochnaya CHPP will fully cover the heat load of the adjoining area of the Central steam-water boiler facility. Due to the redistribution of the load to CPVB -2, new consumers of the city will be provided with heat, including Patroclus and Green Corner. The thermal power reserve that is created with the thermal power station will create favourable conditions for the further development of the city

### Programme of construction of new heat generation facilities in the Far East

The development of the Far East is one of the highest priorities of the state. Thus, the Federal Target Programme for the Development of the Region has been developed, and the Ministry for the Development of the Far East has been created. [103-2], [103-3]

RusHydro Group contributes to the development of the region. The Company's most important investment project is the construction of four facilities on the territory of the Far East within the framework of the execution of the Presidential Decree dated November 22, 2012 No. 1564 "On the Further Development of the Open Joint-Stock Company Federal Hydro-Generating Company-RusHydro".

Financing of projects for the construction of new facilities is carried out mainly from budget funds intended for the development of power in the Far East. For these purposes, the state, under Presidential Decree No. 1564 of November 22, 2012, allocated 50 billion rubles in the framework of the additional capitalization of PJSC RusHydro. [201-4]

The implementation of these projects is the first stage of the Far Eastern Energy Development Programme aimed at replacing the outgoing power capacities and developing the infrastructure of the decentralised energy supply sector. The programme will achieve the following effects for the regions of the IPS of the East by 2025:

- total increase in the gross regional product of the Far Eastern Federal District;
- additional tax revenues for energy companies of the Far Eastern Federal District and related industries (mechanical engineering);
- development of the construction industry: additional housing can be connected to heating service;
- employment growth through the creation of new jobs in industries such as construction, operation of energy facilities and mechanical engineering. [203-2]

## PROGRAMME OF MODERNIZATION, TECHNICAL REHABILITATION AND REPAIRS

### Comprehensive modernization programme

A significant number of powerful hydroelectric power plants were commissioned in the 1950s and 1960s, and by the early 2000s, there was a need to upgrade and replace existing equipment. Due to the economic difficulties of those years, it was not possible to replace obsolete and worn-down equipment; hence, PJSC RusHydro had to resort to periodic repairs and the replacement of separate units.

Since the middle of the 2000s, a number of stations of PJSC RusHydro had their equipment replaced, but the pace of asset renewal did not allow breaking the trend of aging HPP equipment as a whole.

In December 2011, the Board of Directors of the Company approved the Programme for the comprehensive modernization of generating facilities of PJSC RusHydro (PCM), designed for the period through 2025.

PCM is a unique project for the upgrade of generating facilities in the energy sector.

As part of the RusHydro Programme, it is planned to replace more than half of the main equipment at HPPs:

- 154 turbines (55% of the total number of turbines),
- 119 generators (42% of the total number of generators);
- 176 transformers (61% of the total number of transformers);
- 396 high voltage switches;
- ~ 8 thousand units of secondary switching equipment;
- more than 4,000 units of auxiliary equipment;
- in addition, it is planned to perform the reconstruction of hydraulic structures.

The key requirement of the Comprehensive Modernization Programme is the lack of units of basic generating equipment with an expiry safe operation period before 2025.

### Main results of PCM PJSC RusHydro

	2017	2018 (forecast)
<b>Equipment, units</b>		
Turbines	18	7
Generators	10	5
Transformers	2	11
High voltage switches	23	21
Hydraulic structures	11	38
Secondary switching equipment	608	481
Auxiliary equipment	578	265
<b>Increase of installed capacity, MW</b>		
Zhigulevskaya HPP	21.0	10.5
Volzhsкая HPP	10.5	10.0
Saratovskaya HPP	6.0	6.0
Novosibirskaya HPP	5.0	5.0
Votkinskaya HPP	0.0	15.0
Cascade of Verkhnevolzhskiy HPPs	0.0	10.0
<b>Total</b>	<b>42.5</b>	<b>46.5</b>

### Index of the status of groups of main equipment, %

Turbine	76.50
Generators	77.25
Transformers	67.92

## Technical Rehabilitation and Modernization Programme

The Technical Rehabilitation and Modernization Programme (further - TR&M programme) is based on a comprehensive modernization programme. It aims to maintain the proper operating condition of the equipment and to introduce new capacities into production, but, unlike PCM, it implies a replacement of the equipment with analogues with improved performance at RusHydro's facilities. TR&M also suggests the extension of the standard operating life of the main generating equipment, reduction of production costs, and the increase of the efficiency of stations.

The programme of technical rehabilitation and modernisation of RAO ES East Subgroup is part of the investment programme of the Subgroup and is connected with the need to maintain the reliability of all technological facilities in the long term. Development and implementation of the programme takes place within the framework set by the technical policy of RusHydro Group.

As a result of RAO ES East Subgroup TR&M programme:

- 1.3 MW of new capacity commissioning;
- 17.2 km of heat lines commissioning;
- 189.82 km of overhead power lines.

### Main types of work on TR&M programme RAO ES East Subgroup

Company Name	Events
JSC DGK	Transition of boiler No. 8 to gas
PJSC Magadanenergo	Reconstruction of substations 220 kV "Orotukan", "Palatka", "Centralnaya"
PJSC Sahalinenergo	Development of Sports Complex "Mountain Air" (reconstruction)
JSC Chukotenergo	Transition of Anadyr CHP to gas

### Main types of work on Technical rehabilitation and modernization

Branch	Results of 2017 year
Volzskaya HPP	<ul style="list-style-type: none"> <li>■ Replacement of hydroturbines and hydrogenerators No. 1, 2</li> <li>■ Work was done on the construction of the building of the remote control room at 220 kV outdoor switchgear</li> </ul>
Votkinskaya HPP	<ul style="list-style-type: none"> <li>■ Replacement of the hydroturbine and hydrogenerator hydroelectric units No. 4</li> </ul>
Zhigulevskaya HPP	<ul style="list-style-type: none"> <li>■ The project on the reconstruction of hydroelectric power units with the replacement of hydro-turbines and the modernization of hydrogenerators was completed. In 2017, the plant was put into operation No. 8, 11, 20</li> </ul>
Kamskaya HPP	<ul style="list-style-type: none"> <li>■ Construction of laboratory building of Kamskaya HPP was completed</li> </ul>
Verhnevolzhskiy HPPs Cascade	<ul style="list-style-type: none"> <li>■ Reconstruction of hydraulic unit No. 1</li> </ul>
Nizhegorodskaya HPP	<ul style="list-style-type: none"> <li>■ Works on the manufacturing and the supply of hydro turbines, hydrogenerators and automatic control systems of hydroelectric unit No. 1</li> </ul>
Saratovskaya HPP	<ul style="list-style-type: none"> <li>■ Replacement of hydroturbine No. 13</li> </ul>
Cheboksarskaya HPP	<ul style="list-style-type: none"> <li>■ Modernization of hydroturbines No. 5, 17 - transition from a propeller mode to a normal mode (adjustable runner blades mode)</li> </ul>
Sayano-Shushenskaya HPP	<ul style="list-style-type: none"> <li>■ Replacement of excitation systems of hydro generators No. 1-3</li> <li>■ Reconstruction and replacement of lifting equipment, the replacement of cranes</li> </ul>
Bureyskaya HPP	<ul style="list-style-type: none"> <li>■ Modernization of turbine No. 5 by mounting the stabilizing device</li> </ul>
Zeiskaya HPP	<ul style="list-style-type: none"> <li>■ Reconstruction of the 500/220 kV switchyard</li> </ul>
Novosibirskaya HPP	<ul style="list-style-type: none"> <li>■ Replacement of hydroturbine No. 3</li> <li>■ Reconstruction of the HPP Dam was completed</li> </ul>
Cascade Kubanskiye HPPs	<ul style="list-style-type: none"> <li>■ Development of working documentation for the modernization of PSP, HPP-2 of Sengileevskaya HPP</li> </ul>
Dagestan Branch	<ul style="list-style-type: none"> <li>■ Modernization of hydro turbine equipment hydroelectric unit No. 1 Miatlinskaya HPP - it was replaced and its replacement led to an increase in rated power of 10 MW and a working wheel camera</li> </ul>
Karachayev-Cherkessia Branch	<ul style="list-style-type: none"> <li>■ Creation of a duplicate communication channel with the main control Panel of Cascade of Kuban HPP</li> <li>■ Server upgrade</li> </ul>
Kabardino-Balkaria Branch	<ul style="list-style-type: none"> <li>■ Modernization of the station system of the top level of automated control system for the technological process of electricity generation</li> </ul>
North Ossetia Branch	<ul style="list-style-type: none"> <li>■ The construction of the Yezminskaya HPP canal was completed, bypassing the main structures with the additional sump</li> </ul>
Zagorskaya PSP	<ul style="list-style-type: none"> <li>■ Replacement of arching cameras gas-insulated switches FKG2S</li> <li>■ Modernization of an automated measurement system of commercial electricity accounting</li> </ul>

### Implementation of the TR&M programme by RAO ES East Subgroup, thousand rubles, without VAT

Company Name	2016	2017
JSC DGK	4,636.07	2,638.06
PJSC Kamchatskenergo	759.78	394.64
JSC SENK	372.30	59.75
PJSC Magadanenergo	1,050.41	763.56
JSC Chukotenergo	313.70	139.93
PJSC Sahalinenergo	1,333.60	849.61
JSC DRSK	726.80	2,243.95
PJSC Peredvizhnaya Energetika	56.05	56.43
PJSC Yakutskenergo	1,746.30	439.38
JSC Sahaenergo	328.40	62.06
JSC Teploenergoservis	129.90	82.27

**Expenses for repair works, TR&M programme, RUB mn**

	2015	2016	2017	2018 (Plan)
<b>PJSC RusHydro and PJSC RusHydro's controlled companies except RAO ES East Subgroup</b>				
Repair works	3,081	2,748	2,737	2,898
Technical rehabilitation and modernisation	28,560	27,258	27,622	23,008
<b>RAO ES East Subgroup</b>				
Repair works	11,227	11,568	12,693	12,993
Technical rehabilitation and modernisation	6,218	7,142	7,729	12,523

In 2018, Rushydro Group planned the increase of installed capacity of PJSC RusHydro by 46.5 MW with help of technical rehabilitation of hydropower facilities:

- Changing hydroturbines - 7 pcs;
- Changing hydrogenerators - 5 pcs;
- Constructing gas-insulated 500 kV switchgear.

## ENERGY EFFICIENCY AND ENERGY SAVING

The main shareholder PJSC RusHydro, Russian Federation, challenges energy companies to increase energy security and reduce power consumption. In accordance with the state programme "Energy efficiency and power development", approved by the Decree of the Government of the Russian Federation of April 15, 2014 No. 321, there are three main directions for improving energy efficiency in the use of all types of energy resources:

- energy efficiency;
- development and modernization of electrical power;
- development of the use of renewable energy sources.

### Energy efficiency of hydropower

Hydropower is one of the main branches of the electrical power industry, providing a significant contribution to energy production. At the same time, hydropower is the most economically efficient and environmentally safe industry. Hydropower plants have their own peculiar features that require a special approach to the assessment

of energy efficiency and finding ways increase of energy efficiency. Hydropower plants, in addition to power generation, carry out a number of functions, which are critically necessary both for the energy industry and for the life of large groups of the population. These include the hydrotechnical problems of river flow regulation, flood prevention, irrigation of agricultural lands, automobile and railroad transportation across rivers as well as shipping.

In this connection, the hydroelectric power plants may be subject to requirements, sometimes diametrically opposed, which significantly complicates the analysis of their functioning. For example, a discharge of water reduces the overall energy efficiency of the HPP, but it provides a vital drainage of the river, and the operation of the hydrogenator in the synchronous compensator mode reduces the overall efficiency of the HPP, but ensures the stability of the energy system as a whole.

Due to the lack of consumption of any fuel for the production of electricity, the analysis of energy efficiency of hydropower plants excluded this main cost item, inherent in other types of power plants, with the exception of renewable energy sources. Therefore, the main subject of analysis is its own consumption of power plants.

The main directions of energy efficiency improvement in PJSC RusHydro:

- modernization of internal and external, working and emergency lighting systems (partially with automated control);
- modernization of ventilation and air conditioning systems of main and auxiliary buildings of HPP (including the introduction of weather regulation);
- reconstruction of heated buildings and structures, elimination of leaks of warm air, reduction of the degree of infiltration of premises;
- reconstruction of heating and hot water supply systems, electro-boiler houses, modernization of pumping stations, elevators (with the replacement of mechanisms, with the use of variable frequency drives);
- replacement of hydraulic units with higher output coefficient; modernization of automatic control systems of hydraulic units and excitation systems of generators;
- modernization and reconstruction of hydraulic structures, including working and emergency-repair shutters, phased reconstruction of knots and sections of water intakes, and industrial water disposal;
- replacement of power transformers with energy-saving analogues, replacement of air circuit breakers with transition to gas-insulated circuit breakers (considering the withdrawal from compressor operations).

## Energy saving and efficiency programme

In 2015 PJSC RusHydro approved the Programme of energy saving and increased energy efficiency (hereinafter, - ESEEP) for the period of up to 2020, which contains a list of the main works on increasing the efficiency of energy and water resources use, as well as a number of priority energy-saving solutions. In 2017, the programme was updated on the results of the review in Ministry of Energy of Russia in connection with the changed requirements of legal acts. The updated programme was compiled according to the results of an energy audit, held in the period of 2010-2016. [103-2], [103-3]

## The overall effect of the energy efficiency measures of PJSC RusHydro in 2017 was 114.6 mn kWh, equivalent to 38,964 tonnes of reference fuel

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For the year of 2017 the implementation of ESEEP contributed to energy savings on consumption for own needs of 40,816 kWh, additional output from the implementation of measures was 73,785 thousand kWh.

Due to the selection of the optimal equipment, the optimization of the repair company, the operation of hydroelectric power plants at heads higher than average annual values and the reduction of idle water discharges by redistributing the reserves of automatic secondary regulation to other hydroelectric power stations of the cascade, additional generation of electric power of 750 million kWh is ensured.

As part of the implementation of the system of planning of regimes at HPP, tests and acceptance tests of all modules (medium and short-term planning) of the IS Dispatch Center-2 were carried out. As a result, it was decided the system was fully ready for the procedure for acceptance of IS and its launch into commercial operation.

According to the results of 2017, RusHydro Group (without RAO ES East Subgroup) spent 503 million rubles on energy saving, and 7,017 million rubles on power efficiency.

In accordance with the schedule of energy inspections of branches in PJSC RusHydro in 2017, energy audits of twenty sites of Dagestan, Kabardino-Balkaria, Karachaevo-Cherkesiya branches and three facilities of PJSC Kolymaenergo were carried out. For all branches and controlled companies on which the energy audit was conducted, energy passports (specifications), energy saving and energy efficiency programmes were developed, reports with recommendations were prepared.

## Own consumption

### Volume of own consumption by the types of energy resources of RusHydro Group without RAO ES East Subgroup

Type of energy resource	2015	2016	2017	
			thousand rubles	
Heat, Gcal	429,026	426,100	419,260	71,659
Electrical energy, MWh	1,396,343	1,503,246	1,457,409	1,049,511
Gasoline for automobiles, l	424,143	389,018	447,458	16,027
Diesel fuel, l	1,762,854	1,249,619	1,559,797	57,702
Natural gas, m <sup>3</sup>	58,716	40,241	39,700	186

### Specific energy consumption by RusHydro Group without RAO ES East Subgroup

Company Name	Power generation, thousand kWh	Own consumption, thousand kWh	Specific weight of own consumption in annual output, %
<b>2015</b>	<b>93,100,233.74</b>	<b>1,396,343.08</b>	<b>1.5</b>
PJSC RusHydro	77,406,430.00	1,207,480.83	1.6
JSC Geotherm	409,672.00	33,267.00	8.1
JSC Pauzhetskaya GeoPP	42,262.74	7,484.48	17.7
PJSC Kolymaenergo	1,672,764.00	53,916.00	3.2
PJSC KamGEK	38,954.00	1,172.00	3.0
CJSC MEK	453,375.00	10,108.85	2.2
PJSC Boguchanskaya HPP	13,076,766.00	82,913.92	0.6
<b>2016</b>	<b>106,800,700.86</b>	<b>1,493,944.32</b>	<b>1.4</b>
PJSC RusHydro	90,279,428.08	1,292,184.31	1.4
JSC Geotherm	400,199.00	33,748.00	8.4
JSC Pauzhetskaya GeoPP	43,109.31	7,506.21	17.4
PJSC Kolymaenergo	1,663,482.00	50,672.00	3.0
PJSC KamGEK	39,405.00	1,531.00	3.9
CJSC MEK	405,464.00	10,548.59	2.6
PJSC Boguchanskaya HPP	13,969,613.47	97,754.21	0.7
<b>2017</b>	<b>107,121,497.65</b>	<b>1,449,155.15</b>	<b>1.35</b>
PJSC RusHydro	91,146,260.29	1,258,712.39	1.4
JSC Geotherm	392,056.00	32,601.00	8.3
JSC Pauzhetskaya GeoPP	43,920.05	7,874.49	17.9
PJSC Kolymaenergo	1,747,610.00	50,344.00	2.9
PJSC KamGEK	38,225.00	1,282.00	3.4
CJSC MEK	466,021.00	10,284.47	2.2
PJSC Boguchanskaya HPP	13,287,405.31	88,056.81	0.7



### Volume of own consumption by types of energy resources by RAO ES East Subgroup [302-1]

Fuel consumption	Volume of consumption in natural terms			Volume of specific consumption per unit of generated energy		
	2015	2016	2017	2015	2016	2017
<b>non-renewable sources</b>						
Power consumption, mn kWh	4,647.66	4,543.87	4,553.48	0.137	0.143	0.139
Consumption of thermal energy, thousand Gcal	646.55	627.56	623.43	0.021	0.020	0.021
Coal, thousand tonnes	17,341.65	16,284.68	16,765.01			
Fuel oil, thousand tonnes	102.01	101.86	107.95			
Other fuel, thousand tonnes, including diesel fuel, kerosene, firewood	126.60	128.74	126.74	385.39 <sup>1</sup> / 160.748 <sup>2</sup>	385.319 <sup>1</sup> / 161.216 <sup>2</sup>	385.174 <sup>1</sup> / 159.867 <sup>2</sup>
Natural gas, mn m <sup>3</sup>	5,300.74	5,068.09	5,125.38			
<b>renewable sources</b>						
Hydropower	15 448 155	16 153 632	16 204 595	6,89	7,03	7,12
Cascade of Viluyskiye HPPs named after E.N. Batenchuk	15 210 000	15 893 000	15 948 000	6,80	6,94	7,03
SHPP on r. Bistraya	238 155	260 632	256 595	45,71	45,09	44,82

### Specific costs of conditional fuel by companies on RAO ES East Subgroup [302-3]

Indicator name	2015	2016	2017
Specific consumption of conventional fuel for the release of electrical energy, g/kWh	385.390	385.319	385.174
Specific consumption of conditional fuel for the release of thermal energy, kg/Gcal	160.748	161.216	159.867

In order to increase the level of automation of energy saving activities and increase the power efficiency by the order of PJSC RusHydro from December 13, 2017 No. 872 the chart and roadmap for the replication of typical software on the basis of information management system of energy administration was approved.

In 2017, the energy management system of JSC SENK was implemented in accordance with the requirements of ISO 50001:2011 (GOST R ISO 50001-2012) "Energy management system. Application requirements and guidelines". By order of JSC SENK from April 26, 2017 No. 127 "A" approved 9 system local normative acts.

Indicators of specific consumption of fuel per unit of produced energy include:

<sup>1</sup> Specific consumption of conventional fuel for the release of electrical energy, g/kWh;

<sup>2</sup> Specific consumption of conditional fuel for the release of thermal energy, kg/Gcal.

## The Programme of Energy Saving and Increased Energy Efficiency Activities

Total reduction of energy consumption as a result of the implementation of measures on approved programmes of power saving and increase of energy efficiency of companies of RAO ES East Subgroup in 2017 year was 41,549.8 tonnes of reference fuel.

### Main directions of ESEP activities on RAO ES East Subgroup

Main directions of energy conservation measures	Results (effects) in 2017	
	RUB mn	Tonnes of reference fuel
Improvement of technological processes	83.7	18,286.89
Optimization of energy consumption regimes	30.86	5,279.04
Improvement of power supply schemes	1.54	141.78
Reconstruction and modernisation of power plants	46.43	10,842.23
Introduction of new technologies and equipment	4.84	669.09
Improving energy accounting tools and systems	21.11	241.14
Other activities	248.37	6,089.63
<b>Total</b>	<b>436.85</b>	<b>41,549.80</b>

Expenses on measures in accordance with the approved programmes of energy saving and the increase of power efficiency of companies of RAO ES East Subgroup in 2017 were RUB 1,433.6 mn, and the annual economic effect of their implementation was RUB 436.85 mn.

### Energy savings by RAO ES East Subgroup [302-4]

Types of energy savings	2015	2016	2017
Gas saving, thou. m <sup>3</sup>	752.33	445.60	270.13
Economy of diesel fuel tonnes	188.75	6.97	44.79
Economy of different fuels, tonnes of reference fuel	31,848.90	18,045.00	27,466.75
Economy of heat energy, Gcal	39,454.08	19,482.00	27,867.67
Energy saving, thou. kWh	65,307.19	70,610.00	87,150.56

### Building a consumer behavior model

All the branches of the company joined the festival of Energy Saving #Togetherbrighter, the main purpose of which was to popularise the culture of careful attitude to nature and demonstrate modern energy-efficient technologies among citizens and different sectors of the Russian economy. Special attention was paid to activities for children and young people: in the framework of the festival, there were excursions to hydro power stations, lessons of ecology and economical attitude to energy resources, contests, and quizzes.

### Energy efficiency plans for 2018

In accordance with the decree of PJSC RusHydro of December 13, 2017 No. 873 developed and approved ESEP for the period of 2018-2023, in the framework of which in 2018 it is planned to implement measures to increase efficiency worth RUB 2,518.2 mn, the realization of which will allow to get an annual effect worth RUB 386.85 mn.

# PROCUREMENT ACTIVITIES

## Procurement management

To support its activities, RusHydro Group buys a large number of works, services and products from third parties. RusHydro Group approved a number of local normative documents (acts) aimed at preventing non-targeted and inefficient use of funds.

The company's activities in the field of procurement are regulated by the requirements of the RF legislation, in particular, the requirements of the federal law of July 18, 2011 No. 223-FL "About procurement of goods, works, services by separate types of legal entities", as well as Regulations on the procurement of products for the needs of PJSC RusHydro (approved in a new version by the decision of the Board of Directors of PJSC RusHydro dated June 23, 2016 No. 239). The use of these regulatory instruments contributes to the regulation of procurement, and the timely and high-quality provision of goods, works, services, as well as economical expenditure of the Group's funds.

Regulation of the procurement activities involves the application of mandatory procedures, including careful planning of product requirements; market analysis; information openness of procurement; actions aimed at the achievement of equality, fairness, non-discrimination and unjustified restrictions of competition in relation to the participants of the procurement, the purposeful and cost-effective expenditure of funds for the acquisition of goods, works, services and other activities.

To increase the efficiency, transparency and fairness of procurement, RusHydro Group is guided by the following principles:

- openness (transparency);
- competitiveness;
- validity;
- efficiency.

**In 2017, PJSC RusHydro made 1,105 competitive purchases in electronic form for the sum of RUB 63,471.89 mn, which is 99.6 % of the cost of competitive procurement.**

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Control and coordination of procurement activities in PJSC RusHydro is occupied by a permanent collegial body – the Central Purchasing Commission (CPC). For the immediate organisation and conduct of procurement procedures, CPC appoints a standing procurement commission.

For the immediate organisation and conduct of procurement procedures, CPC appoints a standing procurement commission. The procurement commissions are allocated to the commissions of the 1st and 2nd level, as well as to the specially created procurement commissions.

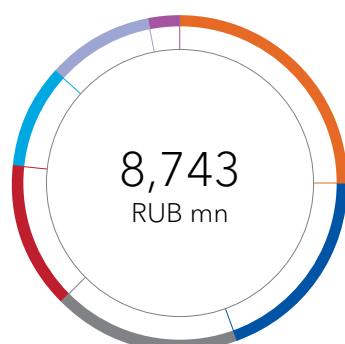
PJSC RusHydro publishes information about planned purchases of goods, works and services of the company, places actual official publications on purchases, containing the name procurement (subject of purchase), significant conditions in competitive procurement and other information on procurement on the official website of the Russian Federation [www.zakupki.gov.ru](http://www.zakupki.gov.ru), as well as on electronic trading platform <https://rushydro.roseltorg.ru>. According to the results of purchases, the information on the results of the purchase with the indication of the winner of the purchase and the bid of the winner of the competitive procedure is published.

# Implementation of the annual comprehensive procurement programme <sup>[102-9]</sup>

## Implementation of the annual comprehensive programme, types of procurement

Indicators	RusHydro Group without RAO ES East Subgroup	RAO ES East Subgroup
Number of procurement procedures, units	4,709	11,111
Volume of purchases in 2017 (by direction)	Current production activity – 84,911.7 million rubles including VAT Investment activities – 28,475.9 million rubles including VAT	Operation activity – 166,152.1 million rubles including VAT Investment activity – 30,987.4 million rubles including VAT
Share of purchases via the electronic trading platform (e-commerce), %	87.95	42.12
Share of purchases from open sources, %	67.79	42.37
Share of purchases from a single source, %	32.09	57.10
Share of purchases in closed form (from a limited number of sources), %	0.00	0.00

## Purchases of PJSC RusHydro at a single source



	RUB mn	%
Services of profile maintenance and repair services under the decision of the Board	2,153	24.6
Services of state monopolies: departmental and extra-departmental security	1,650	18.9
Other state monopoly services: municipal, verification, hydrometeorological information, industry, land lease	1,613	18.4
Services of specialized design institutes of the industry by the decision of the Board	1,259	14.4
Services of state monopolies: payment for use of water objects	891	10.2
Others (spare parts, equipment from manufacturers' monopolists, pre-purchasing for unification)	888	10.2
Other state monopolies services	289	3.3

## Procurement efficiency at PJSC RusHydro

Type of activity	Planned value of purchases, bn rubles including VAT	Average market cost of participants' offers, bn rubles including VAT	Total cost of purchases, bn rubles including VAT	Simple economic efficiency <sup>1</sup>		Efficiency regarding average price <sup>2</sup>	
				RUB bn	%	RUB bn	%
Current production activity	75.8	67.5	62.6	13.1	17.4	4.9	7.2
Investment activities	11.3	11.1	9.8	1.5	13.1	1.3	11.3
<b>Total</b>	<b>87.1</b>	<b>78.6</b>	<b>72.4</b>	<b>14.6</b>	<b>16.8</b>	<b>6.1</b>	<b>7.8</b>

<sup>1</sup> Difference between the planned and final cost of purchase, or correlation of the planned cost of purchase and efficiency achieved.

<sup>2</sup> Difference between the average market cost of participants' offers and the final cost of purchase.

## Procurement from small and medium-sized businesses

To maintain competition and sustainable development of small and medium-sized businesses, RusHydro Group seeks to collaborate with these enterprises in procurement activities.

PJSC RusHydro has a partnership programme between PJSC RusHydro and subjects of Small and Medium Businesses (hereinafter – the Partnership Programme), approved by the decree of PJSC RusHydro of July 16, 2014 No. 568. The Partnership Programme was set up in accordance with the methodological recommendations of the Ministry of Economic Development of the Russian Federation (November 1, 2013 No. 23941-EE/d28i).

The Partnership Programme is published on the website of PJSC RusHydro (<http://zakupki.rushydro.ru/References/PartnerProgramMsp?sectionId=7>). The register of Small and Medium Business entities included in the Partnership Programme is placed on the official website of PJSC RusHydro in the section "Procurement" and updated as new participants are included.

On the website of the Unified Information system in the field of procurement (<http://zakupki.gov.ru/epz/gws/quicksearch/search.html>) and the site of PJSC RusHydro contains a list of goods, works, services, purchases of which are carried out by the subjects of small and medium enterprises.

By the decision of the Government of the Russian Federation of December 11, 2014 No. 1352 "About the peculiarities of participation of small and medium enterprises in the procurement of goods, works, services by certain types of legal entities" RusHydro's planned indicators for purchases of small and medium-sized businesses were approved for the year of 2017. At the end of the year, the group was able to achieve much more than the plan. The actual result considerably exceeded the plan and the respective indicator of 2016, for the following reasons:

- the procurements planned in the previous periods (2014-2017) were included in the calculation and the procurements required an advance (2018);
- at the end of the reporting period, a number of categories were included in the procurement profile of SMEs under the law, which were excluded earlier.

### Proportion of purchases from small and medium-sized enterprises in 2017, %

Indicators		Plan	Fact
Share of purchases from SMEs of total annual value of purchases	PJSC RusHydro	18	85.2
	RusHydro Group	18	74.6
Share of purchases only among SMEs from the cumulative annual value of purchases	PJSC RusHydro	10	38.1
	RusHydro Group	10	33.6

In 2018, RusHydro Group plans to carry out purchases from small and medium-sized enterprises for the sum of at least 18% of the total volume of purchases, including at least 15% of purchases carried out with the participation of only small and medium-sized entities.



The Partnership Programme is published on the website of PJSC RusHydro: <http://zakupki.rushydro.ru>



The list of goods, works, services, purchases of which are carried out by the subjects of small and medium enterprises, is available on the website of the Unified Information system in the field of procurement: <http://zakupki.gov.ru>



## Import substitution in PJSC RusHydro

As part of the programme for the comprehensive modernization of the generating facilities of PJSC RusHydro, the Company plans to increase the volumes of deliveries of domestic machine-building products, which will be ensured by localizing production of certain types of equipment and components in Russia.

To realise the growth of the volume of domestic production in 2017 year it was necessary to carry out:

- changes in the technical policy of PJSC RusHydro were made;
- amendments were made to the regulation on the procurement of products for the needs of PJSC RusHydro;
- amendments were introduced to the Company's local regulations on the preparation of technical requirements for the purchase of products in accordance with the requirements of the Technical Policy of PJSC RusHydro and the Regulation on the procurement of products for the needs of PJSC RusHydro;
- roadmap for import substitution for the period until 2020 (as part of the Long-term Development Programme of PJSC RusHydro) was approved.

For the purpose of the measures of gradual substitution of purchases of foreign production (works, services), for purchases of equivalent technical characteristics and consumer properties to the Russian production (works, services), it is proposed to reduce the share of imported equipment in the framework of production activities.

The import-substitution road map for the period until 2020 was approved as part of the Long-term Development Programme of PJSC RusHydro, the Board of Directors' minutes No. 212 of April 3, 2015.

For the year of 2017, the indicator of the Roadmap "The share of imported equipment" is 22 %, which corresponds to the benchmark that provides for the non-exceeding of the indicator "Share of imported equipment" - 52 %.

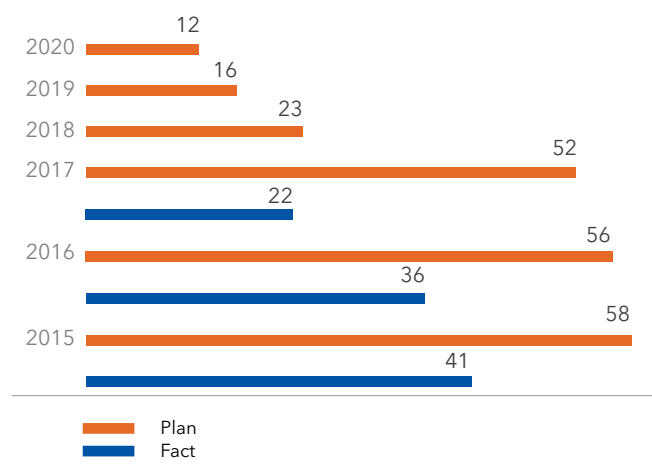
### Imported Equipment, %

Equipment type	Share, %
Hydroturbine, hydromechanical, auxiliary equipment	76
Management information & control system	4
Substation control system, relay protection and automation, anti-emergency automatics	2
Equipment that not require installation	2
Hydro-technical utilities	1
Equipment of Dispatch and process control system and communication	1
Security Systems	1
Other	12

## Plans to improve procurement activities for 2018

- Adjustments of procurement activities in accordance with the amendments of the Federal Law of 18.07.2011 No. 223-FL "On the procurement of goods, works, services by certain types of legal entities";
- optimization of procurement processes;
- automation of procurement activities, including the development of an automated analytical reporting system.

### Share of imported equipment, %



# INVESTMENT AND INNOVATION ACTIVITIES

## INVESTMENT ACTIVITY

Financing of the consolidated investment programme amounted to RUB 92.0 bn. RUB 65.6 bn was spent on investment projects of RusHydro Group excluding RAO ES East Subgroup, RUB 26.4 bn – RAO ES East Subgroup. Commissioning of new capacity: generation capacity – 242.28 MW, thermal energy – 475.34 Gcal/h, transmission lines – 1,470.68 km, transformer capacity – 455.78 MVA. The investment activity of the Company is regulated by the Regulation on the investment management process in the form of capital investments.

### Principles of the investment policy of PJSC RusHydro

The compliance of investment decisions and projects with statutory requirements, building codes and regulations and environmental standards

Compliance with the sequence of stages of implementation of investment projects

The compliance of investment decisions and projects with the requirements to the levels of profitability and risk established by the Board of Directors

Analysis of the benefits and costs of implementing alternative investment decisions at the end of each stage of the investment project with a change in its main parameters

Provision of all investment projects with funding sources

Approval of the investment programmes is within the competence of the Boards of Directors of RusHydro Group companies. In addition, the investment programmes of the electrical power entities within RusHydro Group are approved by the authorised executive bodies. The projects of the investment programmes of RusHydro Group companies are formed on the basis of the parameters of RusHydro Group's consolidated investment programme

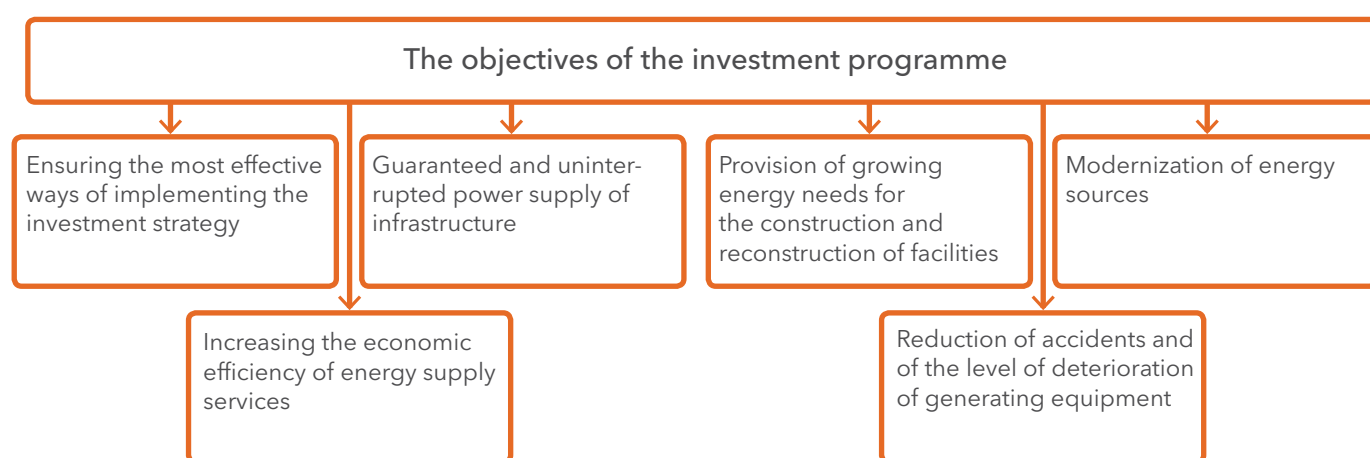
project approved by the Management Board of PJSC RusHydro and considered by the Board of Directors of PJSC RusHydro. Before submitting investment programmes to the authorized bodies of executive power for approval, the projects of investment programmes of the electrical power industry subjects are preliminarily approved by the Boards of Directors of the respective companies.

## Investment Programme

Investment programme of PJSC RusHydro for 2017-2027 was approved by the Decree of the Ministry of Energy of Russia of December 30, 2016 No. 1458 and in accordance with the decree of the Ministry of Energy of Russia of 29.12.2017 No. 34@ On approval of the investment programme of PJSC RusHydro for period of 2018-2027" and changes introduced in the investment programme of PJSC RusHydro approved by the decree of the Ministry of Energy of Russia of December 30, 2016 No. 1458 (date of publication: December 29, 2017), provides for the correction of the parameters of its implementation in 2017.

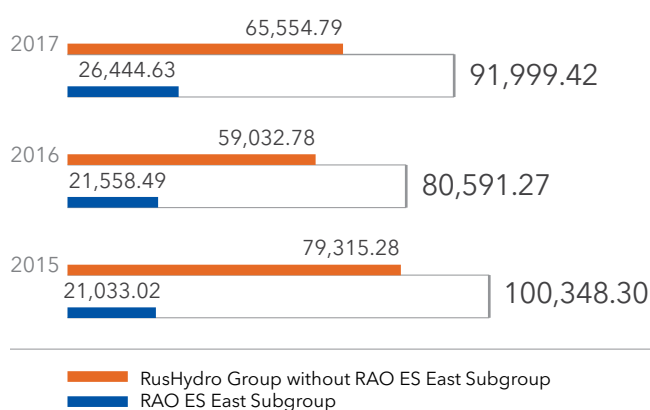
The adjustment of the business plan for 2017, approved by the decision of the Board of Directors (Minutes of October 13, 2017 No. 258), verified the parameters of the adjusted investment programme of PJSC RusHydro for 2017.

There are no investments with an expected return of more than 10% per year.

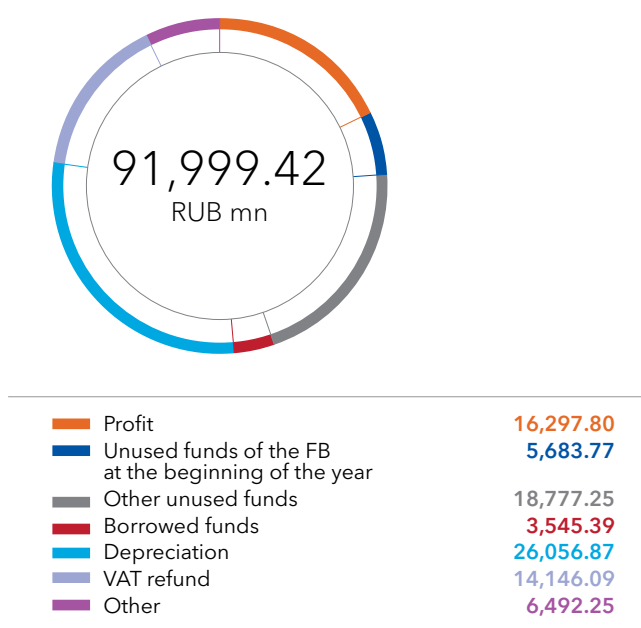


## Implementation of RusHydro Group's investment programme in 2017

**Investment dynamics, RUB mn**



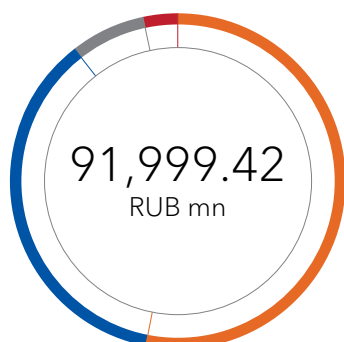
**Funding sources structure in 2017, RUB mn**





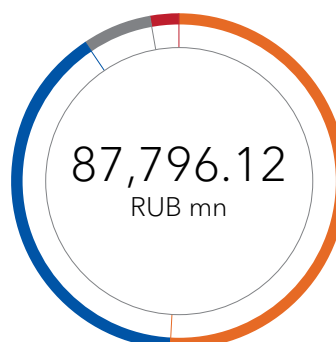
### The main directions of investments within the framework of the consolidated Investment Programme of RusHydro Group in 2017 (fact), RUB mn

#### Financing<sup>1</sup>, RUB mn



Technical rehabilitation and modernisation programme	49,039.32
New construction	33,461.46
Technological connection	6,520.17
Other	2,978.47

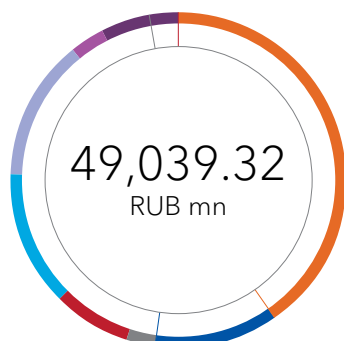
#### CAPEX execution<sup>2</sup>, RUB mn



Technical rehabilitation and modernisation programme	44,766.62
New construction	34,952.10
Technological connection	5,715.49
Other	2,361.92

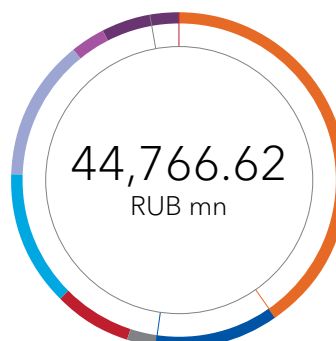
### The structure of investments in "New Construction" in 2017 (fact), RUB mn

#### Financing<sup>1</sup>, RUB mn



Priority projects in the Far East	19,853.72
Off-site infrastructure of Far East projects	5,763.98
Construction of GTP-CHPP	1,372.50
Ust-Srednekanskaya HPP	3,739.32
Zaramagskiye HPP	6,391.42
Nizhne-Bureyskaya HPP	6,649.23
SHPPs of North Caucasus Federal District	1,609.41
Other	3,659.74

#### CAPEX execution<sup>2</sup>, RUB mn



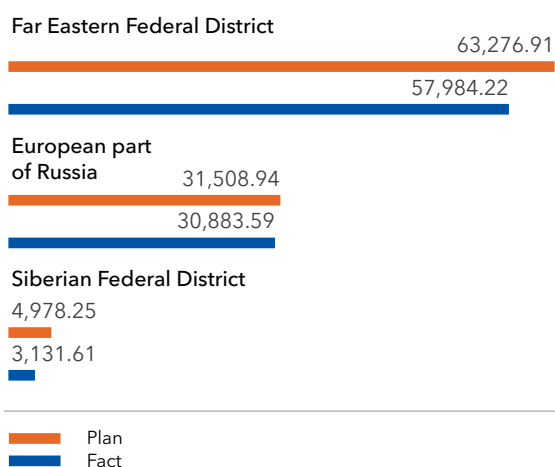
Priority projects in the Far East	20,517.96
Off-site infrastructure of Far East projects	5,800.28
Construction of GTP-CHPP	1,298.36
Ust-Srednekanskaya HPP	3,243.21
Zaramagskiye HPP	5,105.09
Nizhne-Bureyskaya HPP	5,177.86
SHPPs of North Caucasus Federal District	746.26
Other	2,877.59

In accordance with the accepted management accounting standards:

<sup>1</sup> The financing of the investment programme means the amount of money spent by the companies of RusHydro Group on the implementation of investment projects, including transfers to suppliers and contractors, as well as expenses carried out by Customers;

<sup>2</sup> Capital investments are understood to mean the volume of capital investments accepted for accounting on the basis of acted volumes, accepted from suppliers and contractors, and reflected in the accounting of customer's expenses.

## Financing of the consolidated investment programme, by regions in accordance with the business plan in 2017, RUB mn



The differences between the sum of the investment in accordance with the business plan (RUB 87,796 mn) and the sum of capital expenditures reflected in RusHydro Group's reporting under IFRS (RUB 87,267 mn) are explained with the help of capitalised interest accounting rules, accounting rules for capital expenditures at the initial recognition of facilities of fixed assets and unfinished construction in accordance with the International Financial Reporting Standards (IFRS), as well as the difference in the perimeter of consolidation of companies in the part of PJSC Boguchanskaya HPP (joint venture of RusHydro Group and UC Rusal).

## Capacity commissioning

Power indicator	Far East		Europe and Siberia	
	Plan	Fact	Plan	Fact
Generation, MW	517.31	197.52	89.76	44.76
Heat, Gcal/h	474.98	475.34	-	-
Transmission lines, thousand km	1,068.86	1,470.68	-	-
Transformer capacity, MVA	710.74	455.78	-	-

## Main investment projects (under construction) of RusHydro Group

Projects	Design capacity	Construction		Commissioning	
		Start	End <sup>1</sup>	2017	2018 <sup>2</sup>
Priority projects in the Far East					
<b>1st stage of Sakhalinskaya GRES-2</b> Due to a new power station the problem of the substitution of the ageing Sakhalin power plant will be solved, as well as the efficiency of Sakhalin power system functioning will be improved.	120 MW 18.2 Gcal/h	2011	2018	-	120 MW
<b>CHPP in Sovetskaya Gavan</b> The CHP plant is being built to replace the outgoing capacity of the Mayskaya GRES and to meet the growing electricity demand for the scheduled power outages in Sovetskaya Gavan.	120 MW 200 Gcal/h	2011	2019	-	-
<b>The first stage of the Yakutskaya GRES-2</b> The project envisages the substitution of capacities of the ageing Yakutskaya GRES, ensuring the growth of consumption and increasing the reliability of energy supply.	193.48 MW 469.6 Gcal/h	2011	2017	193,48 MW	-
<b>Construction of GTP-CHPP in Vladivostok on the central steam-water boiler facility platform</b> The project is aimed at replacing the morally and physically obsolete equipment of the existing Artemovskaya CHPP, as well as covering the growth of electrical demand in Vladivostok.	139.5 MW/ 432 Gcal/h	2011	2018		139.5 MW/ 432 Gcal/h

<sup>1</sup> Signing the act of acceptance for the completed construction of the facility and its launch.

<sup>2</sup> Plan.

## Results of Activities

Projects	Design capacity	Construction		Commissioning	
		Start	End <sup>1</sup>	2017	2018 <sup>2</sup>
<b>Zaramagskie HPP</b> Construction is carried out in order to cover the electricity shortage in the Republic of North Ossetia-Alania from 80% to 30%.	342 MW	1976	2018	-	342 MW
<b>Nizhne-Bureyskaya HPP</b> The station will become a counter-regulator of the Bureyskaya HPP, which levels of daily fluctuations in the water level in the river, which are generated by the operation of the hydroelectric power station. This will remove the restrictions on the operation modes of the Bureyskaya HPP and eliminate the winter flooding of a number of settlements located in the downstream.	320 MW	2010	2019	, -	-
<b>Ust-Srednekanskaya HPP</b> Increase of the reliability of the power system, the supply of electricity to mining enterprises of the region	310.5 MW	1991	2018	-	142.5 MW
<b>Gasification of Anadyr CHPP</b> Provision of reliable heat and power supply to the Anadyr energy hub; improving the efficiency of the electricity generation of the Anadyr CHP by using a more economical type of fuel; creating conditions for curbing tariff growth; improving the ecology of electricity generation in Anadyr	-	2015	2018	-	-
<b>Construction of two single-circuit 110 kV high voltage line Pevek-Bilibino (construction stage No. 1)</b> Ensuring the flow of electric power in the Chaun-Bilibino energy center in connection with the construction of the floating NPP; Increasing the reliability of the functioning of the Chaun-Bilibino power district	490.59 km 12.6 MVA	2018	2020	-	-
<b>Construction of a wind power station 900 kW in the village of Tiksi, Bulunsky ulus</b> Substitution of the output of a local diesel power plant (DPP of Bulun Electric Power Grids of JSC Sakhaenergo) for generation from a renewable energy source by saving expensive diesel fuel	0.9 MW	2017	2019	-	-
<b>Construction of a DEL-3000 kW with a storage tank as part of the wind farm in the village of Tiksi, Bulunsky ulus</b> The construction of a diesel power plant based on equipment from Japanese manufacturers, which is an integral part of the normal and effective operation of the wind farm as part of a single wind farm complex and testing of modern technologies for the accumulation of electricity in order to provide reliable power supply in the village of Tiksi; reduction of fuel consumption for electricity generation	3 MW	2018	2020	-	-
<b>Technological connection of 220 kV HVL "Orotukan-Palatka-Tsentralnaya"</b> Implementation of technological connection of HVL 220 kV "Orotukan-Palatka-Tsentralnaya" to the electrical networks of PJSC Magadanenergo, in accordance with contract No. 797 / 20-2016 of July 29, 2016.	220 kV	2017	2018	-	-
<b>Expansion of the Maya 220 kV substation and construction of the Megino-Kangalas Region power transmission lines of the Republic of Sakha (Yakutia) for connection to the electricity grids of PJSC FGC UES of the electrical installations of PJSC Yakutskenergo (Phase 2 of construction - construction of branchings)</b> Providing parallel operation of the South Yakutia and Central Power Regions of the Republic of Sakha (Yakutia) and improving the reliability of power supply for the Zarechny group of districts.	25.86 km 92.04 MW	2017	2018	-	25.86 km 92.04 MW

<sup>1</sup> Signing the act of acceptance for the completed construction of the facility and its launch.

<sup>2</sup> Plan.

## Plans for investment activity

### Investment plans for 2018<sup>1</sup>

Volume of investments	RUB mn	Capacity to be commissioned	
Technical rehabilitation and modernization	34,302.63	Generation, MW	797.12
New construction	71,242.71	Heat, Gcal/h	782.89
Technological connection	12,302.61	Transformer capacity, MVA	992.37
Other	4,943.77	Grid infrastructure, km	1,728.79
<b>Total</b>	<b>122,791.71</b>		

## INNOVATIVE DEVELOPMENT

### RusHydro Group Innovation development programme for 2016-2020, with a prospect up to 2025

The main objectives of the Innovation Development Programme of RusHydro Group for the medium term are to increase the economic and operational efficiency of the Company's operations through the introduction of innovative technical and management solutions aimed at:

- increasing the service life and productivity of equipment;
- developing technologies to increase reliability and economic efficiency of equipment operation;

- improving the quality of equipment diagnostics and proactive identification and elimination of production risks;
- reducing the dependence on imported equipment and focusing on import substitution;
- reducing the negative footprint on nature;
- increasing energy efficiency and reducing losses.

<sup>1</sup> Investment programme of PJSC RusHydro for 2018 was approved as part of the business plan of PJSC RusHydro for 2018-2022. (Minutes of the Board of Directors from 26.12.2017 No. 264).

## Results of Activities

The main objectives of the Innovation Development Programme of RusHydro for the long term are:

- ensuring the compliance of the Company's technological level with the level of advanced world and domestic energy companies, including:

- development of efficient technologies for the construction, repair and reconstruction of generating capacities;
- development of technologies in the field of monitoring the status of the main equipment in real time;
- development of automated equipment maintenance and repair processes;

- development of new innovative products based on the accumulated knowledge and experience of PJSC RusHydro (for example, services in the field of energy efficiency, storage of electrical power, infrastructure for electric transport, materials with new properties);

- development of clean energy sources, including:

- development of hydropower potential in some regions of the Russian Federation;
- development of alternative energy on renewable energy sources (geothermal energy);
- analysis of the application and development of mini-HPP technologies.

## Key performance indicators of the Innovation Development Programme of RusHydro Group

KPI	Target KPI values			
	2017	2018	2019	2020
Share of R & D expenses in revenues, %	0.25	0.25	0.25	0.25
Growth in the number of intellectual property assets put on the balance sheet, %	5	5,5	6.5	7
Efficiency of hydropower capacity management, person/100 MW	21.26	20.52	20.36	20.13
Share of innovative products in total volume of purchases, %	1.1	1.21	1.33	1.46
Specific costs for repairing the HPP, thousand rubles / MW (in 2000 prices)	20.1	19.9	19.8	19.6

## Integration of the innovation management system of PJSC RusHydro and the RAO ES East Subgroup

The innovative development programmes of RusHydro Group and RAO ES East Subgroup are integrated as follows:

- the programmes are synchronized in terms of the performance of the indicators included in the integral KPI of the innovation activity of PJSC RusHydro:
  - share of R&D expenses in revenues, %;
  - an increase in the number of assets of intellectual property placed on the balance sheet for the reporting period, %;
  - coefficient of fuel utilization, % (only for JSC RAO ES East);
- consideration and approval by the Board of Directors of PJSC RusHydro of the Innovative Development Program of the RAO ES East Subgroup and annual reports on its implementation as part of the RusHydro Group Innovation Development Program.

## Scope and sources of financing of the Innovation Development Programme (IDP)

The volume of financing of the Programme of innovative development of Group RusHydro Group (without considering the volume of financing of the Programme of innovative development of RAO ES East Subgroup) on the results of 2017 was RUB 586.7 mn, RAO ES East Subgroup – RUB 1,602.8 mn. All activities of RusHydro Group's IDP were funded by their own resources.

The indicator "The share of IDP in revenue" in the IDP reporting loop is not provided. Performance of the indicator "Share of R&D expenses in revenues, %" for RusHydro Group in 2017 was 0.18%.

## The key innovative projects of PJSC RusHydro, implemented during 2017

- Development of an Automated system of signaling ruptures and the measurement of turbine debits on diversion and dam HPP of PJSC RusHydro;
- development of software complex of monitoring and forecasting the reliability of hydro-technical structures of HPP (PSP) in complex engineering-geological conditions;
- research of new technologies on the repair and restoration of HS elements with prolonging service life and reliability, development of a guide for implementation;
- a comprehensive assessment of the actual strength of hydroturbine elements operated by hydropower with the methods of numerical analysis of stress-strain state;
- development of recommendations on the accounting of the anthropogenic impact in the tailrace of HPP on the state of hydropower facilities, equipment and energy efficiency of hydropower plants;
- expansion of the digital platform of the branch of PJSC RusHydro-Nizhegorodskaya HPP.

## Priority directions of innovative development of RusHydro Group in the field of "Hydropower":

- ecology and environmental protection,
- hydropotential recycling schemes,
- technologies of design, construction, reconstruction and repair,
- energy efficiency and water resources management,
- monitoring and operating equipment and facilities,
- constructive solutions of HPPs, PSPs, RES.

Key Innovation Project RAO ES East Subgroup, unveiled in 2017 - technological solutions to reduce erosion wear and improve reliability of working blades of the latest stages of modern steam turbines by forming multifunctional nanocomposite coatings.

## Implementation of the Innovation Development Programme in 2017

### RusHydro Group (excluding RAO ES East Subgroup)

The total amount of funding for projects and activities included in the medium-term plan for implementing the activities of the Innovative Development Programme amounted to RUB 586.7 mn with a plan of spending RUB 742.5 mn (79 % of the plan). The main reasons for the underperformance of the plan are: contractors failed to fulfil contractual obligations, the company reduced the cost of activities as a result of procurement procedures, the company transferred financing for a number of projects in 2018 due to the need to clarify the technical requirements for the work, as well as the long duration of procurement procedures, established in the framework of pilot-industrial tests.

### RAO ES East Subgroup

In 2017 it was planned to finance the implementation of activities of the Programme of Innovative Development of RAO ES East Subgroup for the sum of RUB 1,654.70 mn. The actual financing amounted to RUB 1,602.7 mn (96.9 % of the plan). According to the results of 2017 the KPI of the programme of innovative development of JSC RAO ES East was fulfilled: The growth of the number of intellectual property assets put on balance, % and reduction of production cost, % change to 2015. Underperformance of other indicators of the programme of innovative development of JSC RAO ES East occurred for objective reasons. The main one is the position of the Department for the Development of the Electrical Power Industry of the Ministry of Energy of Russia on the need to reduce the costs of the companies of the RAO ES East Subgroup for R&D as an activity that is not of vital significance for the companies of the Subgroup. As a result, the R&D programme of the RAO ES East Subgroup for 2016-2018 was halved.

# Research and development. The most significant projects on sustainable development

## Projects of PJSC RusHydro

Project	Description	Results of 2017	Plans for 2018
Development of recommendations on the accounting of the anthropogenic impact in the downstream of the HPP on the state of hydraulic structures, equipment and energy efficiency of HPPs	The novelty of the work lies in the mathematical modelling of hydrodynamics and channel processes in the lower reaches of the hydroelectric power station with the passage of floods and daily regulation of the power of the hydroelectric power station. Work in this setting is performed for the first time	Information was collected on the dynamics of channel processes during the operation of hydraulic structures. A programme of surveys of channels in the lower reaches of the HPP was prepared	Carrying out field surveys. Mathematical modelling of hydrodynamics and channel processes in the downstream. Implementation of water and energy calculations
Development of a water and energy management system based on the Dispatch Center	Development of tools for forecasting runoffs and the optimization of operation modes of hydro-energetic facilities for the thorough optimization of energy production and water-economic activity of hydropower facilities	Models of annual effluents for Cheboksary and Nizhny Novgorod hydropower plants were developed	Verification of sewage models of Cheboksarskaya HPP and Nizhegorodskaya HPP according to the flood data of 2018 Duplication of the flow model for all HPPs of the Volga-Kama cascade

The most significant projects in the field of development and implementation of innovations aimed at the realization of sustainable development of the companies of RAO ES East Subgroup, in 2017 were the following R&D activities



Reconstruction of Khabarovsk CHPP-1 for use as a fuel of natural gas with the use of innovative technologies for the preparation and supply of fuel (power boilers).



Development, implementation and investigation of the effectiveness of the prototype of a multifunctional facility to provide 100% Upper Amga Aldan Ulus with renewable energy sources.



Development of an agent-free water treatment technology for the needs of the Primorskaya GRES hot water supply.

## Volume of R&D funding for RusHydro Group

	Plan, RUB mn	Fact, RUB mn	%
Total RusHydro Group	477.5	402.4	84.2
including RAO ES East Subgroup	204.3	166.9	81.7



# SOCIAL RESPONSIBILITY

## PERSONNEL POLICY

The employees of RusHydro Group constitute the main value of the company. The group's energy facilities in Russia and abroad are staffed with professionals who have great production experience and extensive technical knowledge. RusHydro personnel policy is aimed at developing the potential of its employees and its use for the realization of the strategic goals of the company. RusHydro strives to maintain stability for its personnel by implementing a socially responsible attitude towards its employees. In particular, the group protects the social and economic rights of workers, ensures their material stability and social guarantees. [103-2], [103-3]

Most of the staff of RusHydro are employed full-time (98.5% for PJSC RusHydro with its controlled companies and 99.7% for RAO ES East Subgroup) and on terms of a permanent contract (84.2% for PJSC RusHydro with its controlled companies and 97.2% for of RAO ES East Subgroup).

### Number of RusHydro Group employees by country and region as of December 31, 2017

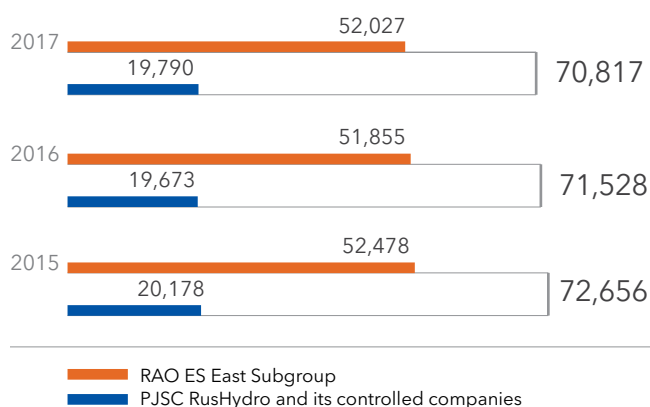
[102-7, 102-8]

Country	Region	Number of employees
Russia	Central Federal District	3,835
	Southern Federal District	673
	North-West Federal District	933
	Far Eastern Federal District	53,931
	Siberian Federal District	3,568
	Volga Federal District	3,621
	North Caucasian Federal District	3,496
	Ural Federal district	314
Republic of Armenia		420
The Republic of Tajikistan		26

## Personnel profile

The number of employees of the RusHydro Group, including workers of RAO ES East Subgroup (considered in the perimeter of the report), on 31.12.2017 was 70,817 people (including facilities on the territory of the Russian Federation and abroad)<sup>1</sup>. The number of PJSC RusHydro employees on 31.12.2017 was 5,547 people.

### Number of employees of RusHydro Group



<sup>1</sup> This indicator is disclosed in this Report within the limits of the consolidated financial statements under IFRS, and therefore comparable data for 2016 and 2015 are recalculated similarly.

### RusHydro Group staff structure by gender, region, type of employment and kind of contract, Pers. [102-8]

Region	Gender	Full-time employment	Part-time employment	Permanent contract	Temporary contract
Central Federal District	m	1,930	37	1,879	88
	w	1,695	61	1,656	100
Southern Federal District	m	503	2	475	30
	w	167	1	161	7
North-West Federal District	m	364	42	396	10
	w	446	81	510	17
Far Eastern Federal District	m	2,226	3	1,489	740
	w	1,095	7	789	313
Siberian Federal District	m	1,960	5	1,800	165
	w	1,578	24	1,415	187
Volga Federal District	m	2,619	4	2,529	94
	w	987	11	949	49
North-Caucasian Federal District	m	2,962	6	1,869	1099
	w	515	13	446	82
Republic of Armenia	m	333	4	236	101
	w	78	5	59	24
The Republic of Tajikistan	m	23	0	1	22
	w	3	0	0	3
<b>Total PJSC RusHydro and controlled companies</b>	<b>m</b>	<b>1,2920</b>	<b>103</b>	<b>10,674</b>	<b>2,349</b>
	<b>w</b>	<b>6,564</b>	<b>203</b>	<b>5,985</b>	<b>782</b>
	<b>total</b>	<b>19,484</b>	<b>306</b>	<b>16,659</b>	<b>3,131</b>
Central Federal District	m	47	1	48	0
	w	64	0	63	1
Far Eastern Federal District	m	34,309	48	33,703	654
	w	16,128	115	15,452	791
Siberian Federal District	m	0	0	0	0
	w	1	0	1	0
Ural Federal District	m	237	0	236	1
	w	77	0	76	1
<b>Total for the RAO ES East Subgroup</b>	<b>m</b>	<b>34,593</b>	<b>49</b>	<b>33,987</b>	<b>655</b>
	<b>w</b>	<b>16,270</b>	<b>115</b>	<b>15,592</b>	<b>793</b>
	<b>total</b>	<b>50,863</b>	<b>164</b>	<b>49,579</b>	<b>1,448</b>
<b>Total for the Group</b>	<b>m</b>	<b>47,513</b>	<b>152</b>	<b>44,661</b>	<b>3,004</b>
	<b>w</b>	<b>22,834</b>	<b>318</b>	<b>21,577</b>	<b>1,575</b>
	<b>total</b>	<b>70,347</b>	<b>470</b>	<b>66,238</b>	<b>4,579</b>

The gender composition of RusHydro is heterogeneous, depending on the category of employees. Among leaders, there are three times as many men as women; among specialists and employees, 1.7 times more women than men, and four times as many men than women in terms of workers, which is related to the nature of RusHydro Group's activities. [103-2], [103-3]

**The number of employees of the RusHydro Group by category as of December 31, 2017, persons** [405-1]

Companies	Managers	Specialists and employees	Workers	Total
PJSC RusHydro and controlled companies (except for the RAO ES East Subgroup)	3,677	7,548	8,565	19,790
RAO ES East Subgroup	7,356	13,699	29,972	51,027
<b>RusHydro Group</b>	<b>11,033</b>	<b>21,247</b>	<b>38,537</b>	<b>70,817</b>

27% of employees of RusHydro Group are aged 35 or less. One of the key tasks in the field of personnel management facing RusHydro is to attract young specialists.

**Personnel structure of RusHydro Group by age, persons** [405-1]

Companies	<35 years	35-44 years	45-54 years	>55 years	Total
PJSC RusHydro and controlled companies (except for the of RAO ES East Subgroup)	5,670	5,855	4,807	3,458	19,790
RAO ES East Subgroup	13,612	13,917	12,571	10,927	51,027
<b>RusHydro Group</b>	<b>19,282</b>	<b>19,772</b>	<b>17,378</b>	<b>14,385</b>	<b>70,817</b>

**Seasonal employment** [102-8]

RusHydro's Group attracts additional labor. In particular, in 2017 there were 15 seasonal workers who were hired in connection with the heating season, the restoration of ice fields and the control over the water passes from Lake Sevan. According to the RAO ES East Subgroup, 76 employees were involved, 52 of them were attracted by DRSK JSC in connection with the work of the children's health camp "Energetik" during the summer school holidays.

**Staff recruitment**

The selection of personnel in RusHydro Group, including management positions, is carried out on a competitive basis. This approach allows recruiting motivated professionals who meet the qualification requirements and are potentially capable of professional development. Candidates without restrictions on gender, age and nationality are allowed to compete for vacant vacancies, the main selection criterion is the qualification of the candidate.

### Total number of employees hired and by RusHydro Group laid off in 2017, by age group, gender and region, persons. [401-1]

	<25 years		25-34 years		35-44 years		45-54 years		>55 years		
Region	m	w	m	w	m	w	m	w	m	w	Total
Hired											
Central Federal District	53	31	161	131	130	100	55	49	75	25	810
Southern Federal District	20	0	25	2	19	5	7	0	1	2	81
North-Western Federal District	13	8	12	16	5	8	5	5	6	7	85
Far Eastern Federal District	843	267	1,728	724	1,313	616	753	334	467	250	7,295
Siberian Federal District	22	27	94	72	69	112	40	33	66	44	579
Ural Federal District	4	1	6	1	0	0	4	0	1	0	17
Volga Federal District	63	8	206	42	172	41	105	41	45	12	735
North-Caucasian Federal,District	107	1	193	28	242	31	199	19	66	19	905
Republic of Armenia	1	0	1	1	3	1	8	1	7	1	24
The Republic of Tajikistan	0	0	3	1	3	0	3	0	1	0	11
Total	1,126	343	2,429	1,018	1,956	914	1,179	482	735	360	10,542
Laid off											
Central Federal District	26	12	159	105	147	74	78	46	130	79	856
Southern Federal District	13	0	21	4	10	9	10	3	16	3	89
North-Western Federal District	7	4	19	15	6	11	8	5	21	48	144
Far Eastern Federal District	407	126	1 385	597	1, 083	587	822	446	1 453	764	7 670
Siberian Federal District	11	13	98	69	76	120	60	62	115	105	729
Ural Federal District	5	0	6	0	2	0	0	0	8	2	23
Volga Federal District	36	3	165	24	163	28	86	27	105	46	683
North-Caucasian Federal District	58	3	172	46	117	36	159	30	154	64	839
Republic of Armenia	0	0	3	0	4	0	7	0	3	2	19
The Republic of Tajikistan	0	0	1	0	1	0	0	0	0	0	2
Total	563	161	2,029	860	1,609	865	1,230	619	2,005	1,113	11,054

## Personnel assessment

Assessment of the potential of employees to create a staff reserve for managerial positions is carried out by the branch of PJSC RusHydro - Corporate University of Hydropower Engineering, using various methods for assessing professional and managerial competencies, including using the Assessment Center.

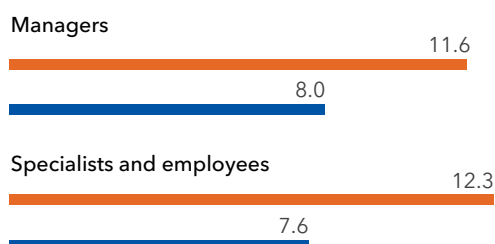
Personnel of the Company undergo certification for compliance, during which the professional, business and personal qualities of the employees and their achievements are assessed. The managers, specialists and employees of the Company, regardless of gender, are assessed every three years. [404-3]

### The share of employees for which in 2017, an evaluation of the performance and career development was carried out by gender and category, % of the total number of employees

#### PJSC RusHydro and its controlled companies



#### RAO ES East Subgroup



Men  
Women

The change in the proportion of employees for whom performance was measured relative to 2016 is related to the frequency of the assessment of employees.

## Staff development

To achieve its strategic goals, RusHydro Group participates in the development and implementation of professional standards, develops professional and managerial competencies of employees, implements professional orientation programmes for talented pupils and students. For this purpose, the Company implements programmes of advanced development of the personnel potential, creates a personnel reserve, trains employees. [103-2], [103-3]

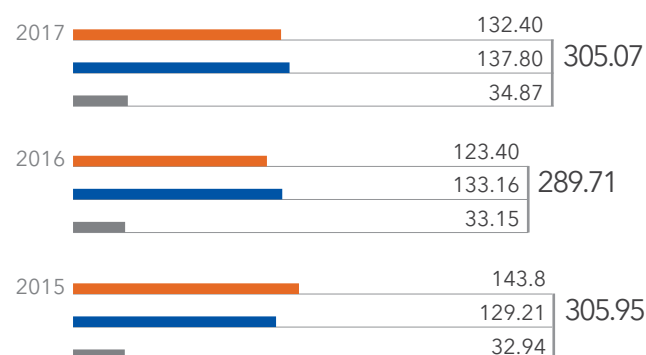


### Training of personnel [404-2]

The system of continuous training of personnel allows to develop competences of employees in accordance with the requirements for the positions held, as well as for the purpose of moving them within the framework of training the personnel reserve. In addition, the Company has the opportunity to conduct professional retraining, including in accordance with professional standards.

Expenses for the training and development of personnel of PJSC RusHydro in 2017 amounted to RUB 132.4 mn. The increase in costs in 2017 is due to the need to implement professional retraining of employees who do not meet the requirements of professional standards, as well as to conduct corporate training activities associated with supporting the integration processes of the executive apparatus of PJSC RusHydro and JSC RAO ES East.

### Expenses for the development of the human resources of RusHydro Group<sup>1</sup>, RUB mn



PJSC RusHydro  
RAO ES East Subgroup  
Controlled companies of PJSC RusHydro (except for the RAO ES East Subgroup)

<sup>1</sup> The boundaries of the disclosure of this indicator do not change with respect to the previous reporting period.

### Basic forms of training

Form	Frequency
Training	At least once every three years
Vocational training	In accordance with the requirements of the supervisory authorities if it is necessary to acquire a new profession
Professional retraining	It is conducted in connection with the production need to perform a new type of professional activity or to obtain additional qualifications for the training of the personnel reserve
Corporate training	It is carried out when it is necessary to solve specific tasks for the Company
Internal technical training	Annually
Short-term training programmes (seminars, conferences, forums)	Annually, the content depends on the production need
Distance learning	Annually, the content depends on the production need

## Corporate University of Hydropower

To implement educational projects in the Group in 2007, a branch was established - the Corporate University of Hydropower. At its base in 2017, 15,993 courses were held. Training was conducted by employees of PJSC RusHydro and controlled companies (except for the RAO ES East Subgroup).

### Training in the Corporate University of Hydropower, number of courses

Categories	Full-time	Remotely
Managers	695	3,699
Specialists and employees	627	8,419
Workers	211	2,342
<b>Total</b>	<b>1,533</b>	<b>14,460</b>

The most popular educational programmes:

- thermal power plants;
- electrical power and electrical engineering;
- electrical power systems and networks;
- electricity supply;
- relay protection and automation of electrical power systems.

In 2017, in the companies of the RAO ES East Subgroup, 567 employees were upgraded to professional retraining in higher education institutions, whose costs reached 6,265 thousand rubles.

## New Learning Technics

In December 2017, PJSC RusHydro obtained a license to conduct educational activities, which makes it possible to implement programmes of professional retraining and advanced training on the basis of the Corporate University of Hydropower (CorUnH) from 2018 onwards.

## Personnel Training of RAO ES East Subgroup

To attract young specialists to the company, RAO ES East Subgroup annually finances targeted training of students in programmes of higher and secondary vocational education, attracts students for industrial and pre-graduation internships; in addition, some employees participate in the work of examination commissions of universities and / or in the implementation of educational programmes. According to the programmes of higher professional education, 127 people were trained at the expense of the Subgroup's companies in 2017, the volume of funding for higher education amounted to 4,015 thousand rubles (an average of 31.6 thousand rubles per 1 worker).

At the Volzhskaya HPP in 2017, a new training ground for training workers serving relay protection devices was opened, which will improve the knowledge and skills of the employees of the Technology Management Systems services, both in the current work and in the process of the expected transition of the technological management systems to a modern element base - microprocessor protection and automation devices. In 2017, for the first time, professional skills competitions were held for operational TPP staff.

In the framework of the previously adopted professional standards, specialized training programmes were developed in the reporting year. In total, according to professional standards, it is planned to develop 99 programmes and training modules. In 2017, 27 programmes and training modules were developed to conduct training for compliance with professional standards.

## Staff reserve

One of the most important tasks of the Company is to provide branches and PJSC RusHydro controlled companies with qualified personnel, especially in engineering specialties. For this purpose, the Company has a staff reserve. It includes managers and specialists of RusHydro Group who have the ability to manage activities that meet the requirements for a job at a given level, passed selection and systematic targeted qualification training.

In the reserve, the following groups of candidates are being formed, preparing for a phased inclusion in management activities:

- staff reserve for the managerial position of the branch;
- staff reserve for the leading position in the controlled organisation of RusHydro;
- staff reserve of young specialists of RusHydro Group.

In 2017, actual staff reserves for the positions of the Chief Engineer of the Company's branches were created, and competitive selection was additionally held for the post of Chief of the Personnel Service Development.

In 2017, work began on the set-up of an up-to-date personnel reserve for the positions of managers of controlled entities. A personnel reserve for the position of the CEO of the controlled organisation in the Far East was formed. In 2018 it is planned to organize contests in the reserves of directors and chief engineers of the branches, as well as the continued formation of reserves of CEOs of the Far East (the level of Chief Engineers and their deputies).

For members of the personnel reserves, modular training programmes are conducted, including professional and managerial training. In 2017, 54 members of the personnel reserves defended their thesis projects and completed training under the training programme for the personnel reserve. Thesis projects were developed jointly with curators from the block of production activities and evaluated by the examination committee in terms of practical significance for the Company, elaboration and feasibility of the project. The proposed solutions can be applied to the implementation of internal projects and will improve the Company's operational efficiency.

The project "Internal source of energy" is aimed at identifying, developing and retaining talented young professionals. In addition to the professional training modules for young specialists in 2017, the company participated in industry innovation competitions, the International Forum "Fast and the Furious 2017", the Youth Day of the Russian Energy Week, as well as the World Festival of Youth and Students in Sochi as part of the "Industry of the Future" programme. In 2017, young specialists of PJSC RusHydro became winners of the contest "New Idea" for the best scientific and technical development among the youth in the sphere of fuel and energy in the Russian Federation.

RusHydro Group regularly conducts activities aimed at popularising the engineering and working professions necessary for the development of energy in the regions where it operates. Within the framework of the current Programme for advanced development of human resources of PJSC RusHydro "From the New School to the Workplace", systematic work is carried out with schoolchildren and students in the regions where the Group operates. Priority direction of the school stage of training future personnel for the Company is the creation of specialized school classes (Energoclasses) and centers of technical creativity (Technoclasses) in 9 regions of the company's presence, where 908 schoolchildren of grades 7-11 received training in the past year. 2017 was marked by the opening of two more Energoclasses in the village of Novobureisk and Rybinsk.

Annually, the Industry School Competition "Energy of Education" is held, with more than 5,000 pupils participating in it. In 2017, the school competition was organised in an online testing format.

For the best students of vocational orientation projects that passed the competitive selection, a corporate scientific camp was organized - the Summer Energy School. In 2017 the school was held on the basis of the Cheboksarskaya HPP, 34 schoolchildren from 15 Russian regions took part in it.

In 2017, the Ministry of Education and Science of the Russian Federation awarded PJSC RusHydro the status of a strategic partner of the Ministry of Education and Science of the Russian Federation "For Systemic Work on the Development of the Human Capital of the Country".





# Plans for the development of the personnel management system for 2018

In 2018, we will continue introducing professional standards in the development and implementation of supplementary education programmes, professional accreditation of additional professional education programmes based on methodology of the Council for Professional Qualifications in the Electric Power Industry, and on formation of the concept of creating a Qualification Assessment Center on the basis of one of PJSC RusHydro's subsidiaries.

In 2018, the Eighth All-Russian competition of operational personnel of the hydroelectric station will be held. In addition to subsidiaries and controlled organisations of the Company, power companies that are not part of RusHydro Group.

In 2018, in accordance with the partnership agreement with the "Professionals and Workforce Development Agency" (Worldskills Russia), the first open branch corporate championship will take place in accordance with "Operational and technological management of hydraulic units and auxiliary equipment" at the Volga educational center of PJSC RusHydro's branch - CorUnH according to the standards of Worldskills Russia.

An important event of 2018 will be the "All-Russian competition of professional skills Best by profession", organised by the Ministry of Labor of the Russian Federation. The list of competitive professions includes the nomination "The Best Electrician on duty", and the employer responsible for organizing the competition is PJSC RusHydro.

In 2018, in accordance with the partnership agreement with the "Professionals and Workforce Development Agency" (Worldskills Russia), the first open branch corporate championship will be organised in accordance with "Operational and technological management of hydraulic units and auxiliary equipment" at the Volzhsky training center of PJSC RusHydro's branch - CorUnH according to the standards of Worldskills Russia.

For 2018, the Year of Volunteer, we plan to implement the key activities of the Young Energy Programme aimed at the social and professional adaptation of children left without adult care, and start developing a Mentoring Programme as a key tool in the preparation of graduates of orphanages for independent life.

In 2017 approved in the new edition:

- Regulations on the development and approval of draft collective agreements (amendments to them) of the controlled organisations of PJSC RusHydro (Order No. 886 of December 18, 2017);

- Regulations on compensation of expenses for spa and health resort treatment and health-tourism holidays for employees of branches of PJSC RusHydro (Order No. 234 of April 18, 2017);
- Rules of internal labour regulations (Decree of September 29, 2017 No. 653);
- Standard rules of the internal work schedule of the branches (Order of 11.09.2017 No. 612 "On Amendments to the Decree of PJSC RusHydro dated December 26, 2007 No. 481;
- Model Regulations on remuneration and compensation to certain categories of executives of companies that are part of RusHydro Group (Minutes of the Board of March 31, 2017).

## OCCUPATIONAL SAFETY AND HEALTH

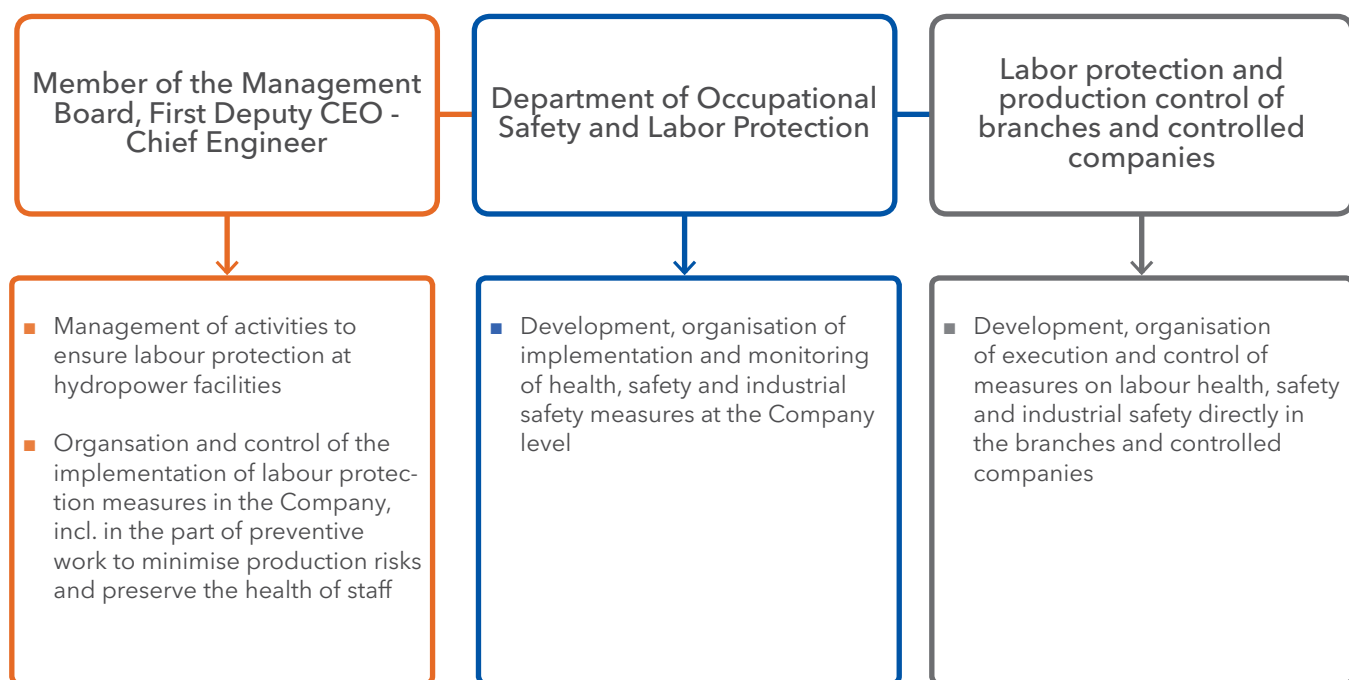
### Safety management system in the workplace

The fundamental document defining the principles of workplace safety in PJSC RusHydro is the Occupational Safety Policy.

The objectives of RusHydro Group in the field of labor protection and industrial safety:

- preservation of the life and health of the Company's employees in the process of labor activity,
- elimination of cases of occupational injuries and occupational diseases,
- formation of safe behavior at work in the workplace and skills to prevent dangerous situations,
- continuous improvement of working conditions.

### Distribution of responsibility for the management of issues of labor organisation, health protection, and industrial safety of PJSC RusHydro



## OCCUPATIONAL INJURIES, OCCUPATIONAL DISEASES

### Occupational injuries [403-2]

In 2017, there were 33 accidents in RusHydro Group (there were 0 cases in PJSC RusHydro, 12 cases in PJSC RusHydro's controlled companies (except for RAO ES East Subgroup), RAO ES East Subgroup - 21 cases), the number of victims was 34 people (PJSC RusHydro -

0 people, PJSC RusHydro's controlled companies (except for the RAO ES East Subgroup) - 13 people, RAO ES East Subgroup - 21 people), including 4 - with fatal outcome. Compared with 2016, the number of accidents decreased by seven.

#### Accidents at working place

Index	PJSC RusHydro		RAO ES East Subgroup	
	2016	2017	2016	2017
Number of injured personnel	1	0	27	21
including fatally injured	0	0	3	3
Injury Rate Ratio	0.19	0.00	0.54	0.43

### Occupational diseases

Health and safety issues are reflected in the Action Plans on the improvement of working conditions and recovery and the Collective Agreement of RusHydro Group's companies. [403-4]

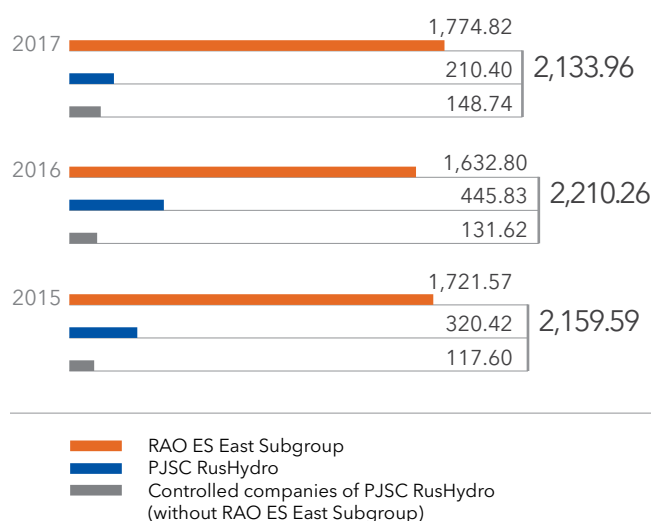
In order to prevent cases of occupational disease, the following works were carried out:

- providing staff with effective means of personal hearing and breathing protection;
- reimbursement of expenses for additional medical examination;
- health resort treatment and sports;
- purchase of first-aid kits and medicines to update the medicinal kits;
- conducting classes on the prevention of infectious diseases;
- preventive vaccination of personnel;
- provision of drinking and vitamin regimes to personnel;
- providing workers with washing and detoxifying substances;
- provision of milk or equivalent products to employees working in hazardous working conditions. [103-2], [103-3]

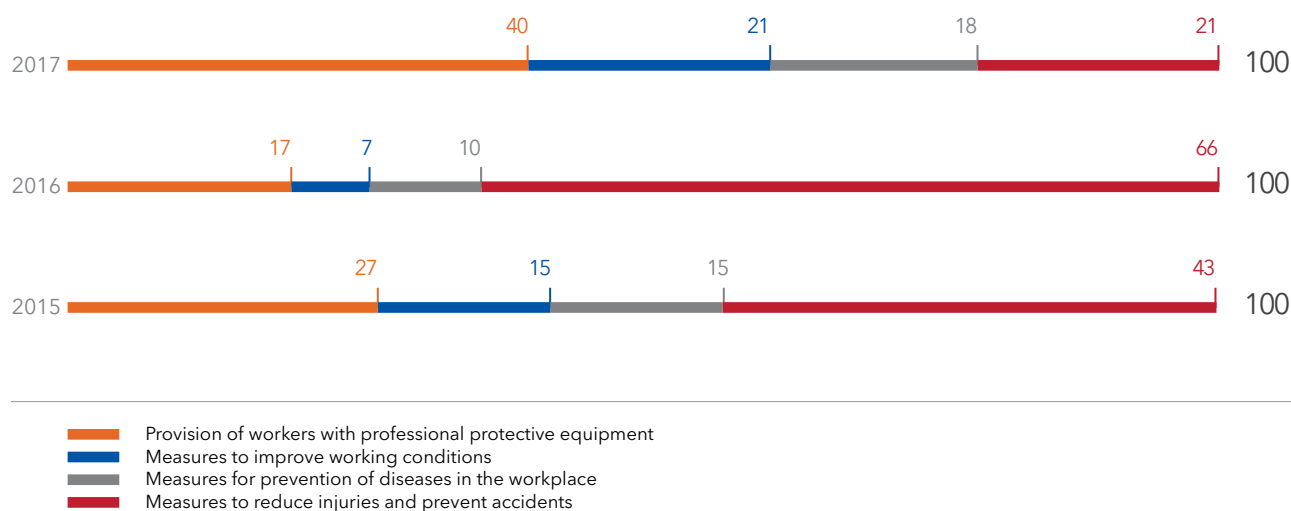
### Costs of occupational health and safety

Labor protection is the most important condition for preserving the health and life of workers in the course of their labor activity. Expenses for the protection of workers of RusHydro Group in 2017 amounted to 2.1 billion rubles.

#### Expenses of RusHydro Group on occupational health and safety, RUB mn<sup>1</sup>



#### Structure of expenses for occupational health and safety measures of PJSC RusHydro, %



<sup>1</sup> This indicator is disclosed in this Report within the limits of the consolidated financial statements under IFRS, and therefore comparable data for 2016 and 2015 are recalculated similarly.

## Assessment of working conditions <sup>[403-3]</sup>

A special assessment of working conditions / attestation of working places on working conditions was carried out at all workplaces of the Group enterprises. RusHydro Group does not have dangerous class 4 workplaces (employees engaged in professional activities involving high injuries or high risk of occupational diseases).

## Activities in the field of occupational health and safety

The requirements for work with personnel in the organisations of the electrical power industry are established in the Rules approved by Decree No. 49 of the Ministry of Energy of Russia of February 19, 2000.

In 2017, the following activities were carried out with workers in the field of labor protection:

- training of workers in giving first aid to victims;
- training of employees for a new post with internship and training at the workplace;
- verification of knowledge of workers' labor protection rules, rules of technical operation, fire safety rules, industrial safety rules;
- anti-damage and fire-fighting and training;
- all types of safety briefings for own personnel and contractor personnel;
- special training and professional development of employees;
- rounds and inspections of the personnel workplaces in order to identify violations and deviations from the requirements of existing rules, norms, instructions, standards;
- conducting competitions for professional skills among staff;
- organisation of visual prompts;
- conducting days of labor protection.

In RusHydro Group, the number of employees of contractors and subcontractors that was trained in the field of labor protection is not taken into account, in addition to the briefings conducted for contractors - introductory and primary in the workplace.

## Plans for the improvement of occupational health and safety in 2018

- Development of a draft Policy for RusHydro Group undertaking a risk-oriented approach;
- involvement of employees in improvement of occupational health and safety;
- maintenance of the qualifications of employees at a high professional level, cooperation and information exchange between specialists in the field of labor protection and workers, development and implementation of effective measures to identify, eliminate or limit hazards and risks that contribute to the preservation of life and health throughout the whole work period.

## SOCIAL POLICY

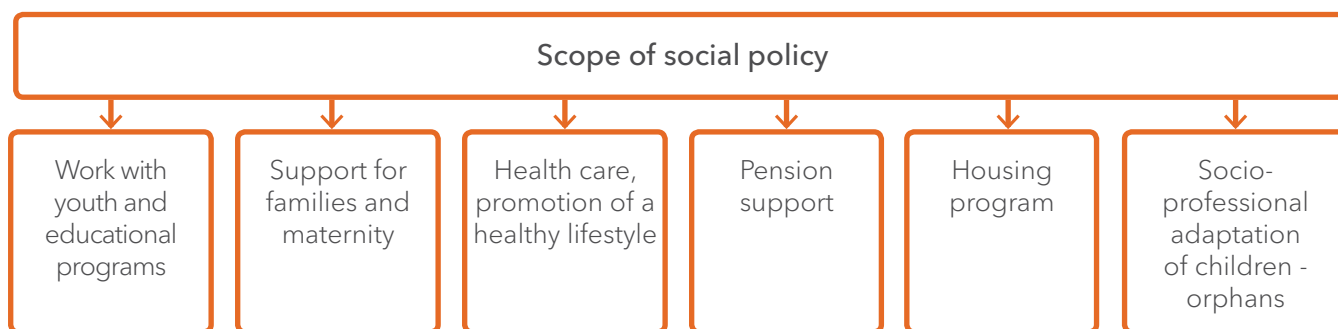
In order to implement the socially responsible position of PJSC RusHydro in 2013, the Company's Social Policy was approved. The document established the main principles, goals and objectives for the social development of PJSC RusHydro and its controlled companies in the regions of its presence.

Objectives of the Social Policy:

- development of national projects and the implementation of the Company's socially responsible attitude;
- development of the practice of mutual responsibility and social partnership;
- increasing the attractiveness of PJSC RusHydro as an employer to attract and retain the best staff.

The tasks of Social Policy:

- creating an institutional environment for attracting and retaining young staff;
- formation of a high degree of commitment among employees to the goals and principles of PJSC RusHydro;
- improvement of occupational health and safety taking into account the interests of the employer, employees, shareholders, and the state.



In social policy, PJSC RusHydro follows international standards and the best practices in the field of human rights, labor relations, environmental protection, combating corruption and interaction with stakeholders. The Company is directed by the Guide to Social Responsibility (ISO 26000) and the universal principles of the UNGC Corporate Sustainability in the field of human rights, labor relations, environmental protection and combating corruption. [102-12]

RusHydro Group grants benefits to full-time employees:

- voluntary medical insurance;
- insurance against accidents and diseases;
- disability compensation;
- maternity / paternity leave. [401-2]

## Voluntary health insurance

Voluntary health insurance is part of the social package of employees and covers 100% of employees (excluding part-time workers and employees on probation). Within the framework of Voluntary medical insurance, services are provided for outpatient care, emergency and planned in-patient treatment, emergency medical care, and insurance for people travelling abroad. The list of polyclinics is updated annually. On a yearly basis, workers undergo vaccinations against a number of diseases, have an option to undergo medical examinations and preventive examinations.

All employees of the Company are insured against accidents and diseases. Insurance coverage is valid 24 hours a day.

## Non-state pension provision

Non-state pension provision (hereinafter - NPP) of employees of branches of PJSC RusHydro in 2017 included several pension plans designed to finance the pension savings of different target groups of employees.

The structure of the NPP includes:

- The individual plan (financed by the employee) consists of:
  - programme "Individual" (the employee independently finances his/her pension savings);
  - programme "Close People" (the employee independently finances pension savings for the benefit of third parties).
- The parity plan (financed on the basis of equal participation by an employee and the Company or an employee, the Company and the state) consists of:
  - "5 + 5" programme (the employee and the Company jointly fund the pension savings of the employee);
  - programme "Co-financing" (an employee, the Company and the state jointly finance the employee's pension savings).
- The corporate plan (financed by the Company) consists of:
  - "Supporting" programme (the Company accumulates pension contributions on registered pension accounts of employees who, as a result of the reform of the state pension system, do not receive at all or have a limited opportunity to form a funded part of the labor pension (for employees born before 1966);
  - "Veteranskaya" programme (the Company forms pension savings on pension accounts of former employees of the Company for the purpose of additional pension provision for former employees of the Company).

Similar programmes operate in some controlled organisations, for example, in JSC HydroRemont-VKK, JSC Transport Company RusHydro, PJSC Kolymaenergo, JSC DGK, JSC DRSK, PJSC DEK, PJSC Kamchatskenergo etc.

### Security of the Group's liabilities related to pension plans with established benefits<sup>1</sup> [201-3]

Net pension liabilities as of December 31, 2017, million rubles	8,634
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The degree to which (according to estimates) the liabilities under the scheme are met by special assets allocated for this purpose (Fair value of plan assets / Present value of plan liabilities)	11.40 %
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- compensation for expenses incurred in terms of interest paid on a mortgage - 200 people. in the amount of 10,710 thousand rubles;
- compensation for the costs incurred to pay the initial mortgage loan to young professionals - 2 people, in the amount of 746 thousand rubles;
- compensation for housing expenses - 88 people, in the amount of 7,769.7 thousand rubles, including 27 people called for work at the Yakutskaya GRES-2, in the amount of 2,693.4 thousand rubles.

## Improvement of housing conditions for employees

PJSC RusHydro continues implementing a programme to improve housing conditions for employees. The priority right to participate in the programme is provided to young professionals under the age of 30 who do not have a separate housing ownership, specialists invited to work in the branch and moved in this connection from other areas, key and highly qualified specialists, as well as employees who have many children, and single parents.

In 2017, on the basis of the Regulation on improving the housing conditions of employees of branches of PJSC RusHydro, 57 employees of the branches received interest-free loans for improving housing conditions and 227 employees of branches received interest payments on mortgage loans. Financing of the programme in 2017 amounted to more than 100 million rubles.

PJSC Kolymaenergo is implementing the Housing Improvement Programme with the aim of securing employees who arrived on call for work at the enterprise, as well as highly qualified and young professionals employed and without housing in the village of Sinegorye. In 2017, the cost of implementing the programme amounted to 570 thousand rubles. Three highly qualified employees who arrived on call were compensated for the cost of purchased apartments.

In PJSC Yakutskenergo there is the Regulation on corporate assistance and support in improving the housing conditions of employees of PJSC Yakutskenergo, approved by the Board of Directors of PJSC Yakutskenergo. In 2017 corporate support was provided to 293 employees of PJSC Yakutskenergo, including:

- granting of interest-free loan - 91 people called for work at Yakutskaya GRES-2 in the amount of 383,712 thousand rubles;

## Collective agreements [102-41]

The collective agreement regulates social and labor relations in the Company and takes into account the mutual interests of employees and the employer.

In all RusHydro Group's branches there are Collective agreements concluded for 2017-2019. Almost all the Group's employees were covered by Collective agreements.

PJSC RusHydro and a number of controlled organisations are members of the All-Russian Industry Association of Electrical Power Industry Employers, which adopted the Industry Tariff Agreement, which forms a single industry standard for regulating social and labor relations in the industry and sets a minimum level of guarantees for employees. The existence of such a standard further facilitates the dialogue between the parties of social partnership at the level of the companies of the industry and the Group, allows us to compare and assess the level of guarantees provided to employees.

To support young families, the Group provides them with one-off payments in connection with the registration of marriage, the birth of a child, childcare allowance for up to three years, compensation of expenses for the maintenance of children in pre-school educational institutions.

<sup>1</sup> Assessment of liabilities under IFRS, assessment conducted by LLC Actuarial and Financial Services.

### Granting maternity and paternity leave in RusHydro Group [401-3]

Indicator	2015		2016		2017	
	m	w	m	w	m	w
Number of employees eligible for leave	3,861	2,168	4,049	2,388	4,937	2,547
Number of employees taking leave	41	1,099	46	1,152	70	1,146
Number of employees who returned to work at the actual end of leave	19	564	19	580	30	587
The total number of employees who were supposed to return to work after the leave	35	842	51	913	47	735
Return to work ratio	54,3	67,0	37,3	63,5	63,8	79,9

The Company creates conditions for the formation of professional dynasties and tries to increase the prestige of engineering professions. To attract young qualified specialists to the industry, there are stipulated payments to children of workers who receive As and Bs in profile specialties, as well as encouragement of employees for mentoring. [103-2], [103-3]

The Company also provides its employees with privileges wishing to adopt a child, become foster parents or guardians - this is compensation for expenses for medical services, visits to sports clubs, interest clubs, etc. Employees-adoptive parents also receive monthly incentive payments.

As part of the programme to maintain health and promote healthy lifestyles, compensation is provided for season tickets to sports clubs and classes at a rate of 50% for employees and their children, as well as compensation for health resort treatment and recreation for workers and their children.

In 2017, the Regulation on the development and approval of draft collective agreements (amendments to them) of the controlled organisations of PJSC RusHydro was introduced. During the workshop, the main approaches to the structure and content of the standard collective agreement of the subsidiaries and the procedure for the approval of collective agreements, including the procedure for obtaining the preliminary approval of the collective agreements by the management bodies, were presented to the heads of the personnel management services of the branches and subsidiaries. Transfer of subsidiaries to the standard for of collective agreement is in the plans for 2018.

## Human rights

The main approach of RusHydro Group in the field of observance of human rights is the fulfilment of all legislative requirements of the Russian Federation. The Group does not operate or enter into investment agreements in regions where the risk of human rights violations is high. RusHydro guarantees employees the observance of their right to work, rest, and the right to material security in old age and in case of loss of efficiency - they are implemented in accordance with the requirements of the Labor Code of the Russian Federation. [412-3] [103-2], [103-3] Employees of RusHydro Group companies have the opportunity to fully implement their right to freedom of association. Most enterprises of RusHydro Group have established and freely operate trade unions. [407-1], [103-2], [103-3]



# CONTRIBUTIONS TO THE DEVELOPMENT OF REGIONS OF PRESENCE

RusHydro participates in solving problems of local employment, budget provision, construction and financing of social infrastructure facilities, urban improvement, education and healthcare support, development of culture and sports, care for veterans and disabled people, technical measures to reduce the impact on the environment, and assistance to victims of natural disasters or other disasters.

The salary of the employees of RusHydro Group is higher than the average for the regions of presence, which speaks of RusHydro's competitiveness and reliability as an employer.  
[103-2], [103-3]

## Number of jobs created and Statutory Minimum Wage Index [202-1]

Number of jobs created, units	Average salary of starting-position employees of RusHydro Group's companies, RUB	Statutory minimum wage in the regions of operation, RUB	Average ratio of the minimum wage to the Statutory Minimum Wage Index
1,311	45,037	12,607	3.8

## Tax payments

RusHydro Group is one of the main taxpayers in the regions in which it operates.

## Taxes paid to the budget at different levels, RUB mn<sup>1</sup>

Budgets	PJSC RusHydro and controlled companies except for the RAO ES East Subgroup			RAO ES East Subgroup			RusHydro Group		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Federal Including:	12,579.5	19,338.2	24,160.8	16,464.2	18,922.5	18,678.3	29,043.7	38,260.6	42,839.2
Insurance contributions	4,251.9	4,637.5	4,857.7	9,904.7	11,685.5	11,569.1	14,156.6	16,323.0	16,426.8
Regional	18,275.1	24,004.9	26,353.9	7,198.0	9,453.4	10,359.3	25,473.1	33,458.3	36,713.2
Local	465.7	457.6	454.0	298.3	379.6	370.7	764.0	837.2	821.7
<b>Total</b>	<b>31,320.2</b>	<b>43,800.6</b>	<b>50,965.8</b>	<b>23,960.5</b>	<b>28,755.4</b>	<b>29,408.3</b>	<b>55,280.7</b>	<b>72,566.0</b>	<b>80,374.1</b>



## Charity programmes

PJSC RusHydro carries out charitable activities guided by the Charity and Sponsorship Policy of the Company (approved by the resolution of the Board of Directors, minutes of 01.06.2016 No. 237).

The main goal of the charitable activity of PJSC RusHydro is to create conditions and opportunities for the sustainable development of the regions where the Group operates, to create favorable social environment and to promote the growth of Russia's spiritual, scientific, technical and intellectual potential. [203-1] Among the priorities are:

- rendering assistance to categories of citizens in need, disabled people, veterans;
- supporting children's organisations and institutions;

<sup>1</sup> When generating data in the table for 2017, the distribution between the federal and regional budgets is based on the fact that taxes are formed depending on the type of the budget (personal income tax, water tax, mineral extraction tax, payment for the use of water facilities, payment for negative impact on the environment).

## Results of Activities

- assisting medical institutions, healthcare organisations;
- supporting projects in the field of culture, education, science, sports;
- assisting the preservation and restoration of historical and architectural monuments of Russia;
- supporting the conduct of environmental activities;
- assisting the socio-economic development of the regions where the Group operates.

PJSC RusHydro annually sets up an annual Charity and Sponsorship Programme, which is approved by the Board of Directors. In 2017, the total amount of funds for the implementation of the charitable programme amounted to 1,644.1 million rubles. (The charity and sponsorship programme was approved by the Board of Directors (minutes of February 21, 2017 No. 248, April 4, 2017 No. 249, June 22, 2017 No. 254, August 11, 2017 No. 255, October 30, 2017 No. 259, February 6, 2018 No. 265). The funds were used to finance and implement charitable and socially significant projects and programmes in the regions of RusHydro's presence.

With the support of PJSC RusHydro, within the framework of the state programme for the development of territories for promoting social and economic development in the Far East in 2017, more than ten large-scale infrastructure projects were completed: the construction of bridges, housing, agriculture facilities and industrial sites.

In the reporting year, PJSC RusHydro continued to implement the long-term comprehensive charitable programme Clean Energy, whose main task is to create conditions for social adaptation, training and early career guidance for children and adolescents in the regions where RusHydro is present. The programme also implements social, humanitarian, educational programmes, actions and projects in the field of ecology. Together with the reserves, RusHydro organizes ecological tourist routes, equips ecological trails, landscapes, supports the biological diversity and the natural habitat of animals and plants.

## Main charity projects in 2017

Support areas	Projects
Assistance to children's institutions and organisations	28 children homes and boarding schools, 6 rehabilitation social and medical centers, dozens of general education and music schools, and creative groups received material assistance. The funds are directed to the development of the amenities of the children organisations, assistance in arranging holidays, holding educational events
Development of children sports	RusHydro provides financial assistance to sports clubs and schools in such sports as football, hockey, swimming, rowing, tennis, sailing, martial arts. The "Clean Energy" programme includes projects related to fitting sports halls with the necessary equipment, repair and improvement of sports grounds, organisation of competitions for children and youth
Support for the development of Russian sports	In 2017, RusHydro continued to provide financial support to the Russian Rowing Slalom Federation, the Russian Martial Arts Union, the Russian Judo Federation and other sports organisations
#TogetherBrighter (#Вместе Ярче)	All branches of the Company participated in the All-Russian Festival of Energy Saving #TogetherBrighter, the main goal of which is popularisation among citizens of culture of careful attitude to nature and demonstration of modern energy-efficient technologies. Special attention is paid to activities for children and youth: excursions to hydroelectric power stations, lessons of ecology and thrifty attitude to energy resources, contests and quizzes are held within the framework of the festival
Ecological paths	"Ecological paths" is a project to organize new tourist routes together with the reserves and to improve the recreation areas. The project helps preserve the biological diversity and natural environment of various species of animals and plants, forms the ecological culture of adults and children. In 15 regions of the Company's presence, 22 ecological routes have been created, including 6 new routes in 2017: in the mountains of Karachaevo-Cherkessia and on the Strizhament mountain of the Stavropol Region, in the Khvalynsky National Parks of the Saratov Region and the Samara Luke, in the Zeya Natural Park reserve
Cleaning the banks of reservoirs and rivers	The traditional action on cleaning the shores of reservoirs and rivers from debris "Oberegai" expanded its geography: volunteers from the Far East joined it. In total, in 2017, more than 2,800 volunteers and RusHydro employees took part in 36 activities
Ecological education	During the school holidays in the reserves and nature reserves there are ecological sessions and field schools which RusHydro provides financial support to

Support areas	Projects
Preservation and enhancement of biodiversity	In 2017, 5 charitable environmental campaigns were conducted to stock rivers and reservoirs with valuable fish species. For more details, see "Restoring fish resources activities". RusHydro provided financial support to projects to preserve the Amur tiger population, implemented by the Amur Tiger Center, and reintroduction of persian leopard in the Caucasus region
Publishing of children books	The cooperation with the Foundation for Promotion of Children Literature and Reading Culture "HOUSE OF CHILDREN BOOK" continued in the implementation of the project to create an updated version of the scientific and artistic almanac for children and adolescents "I want to know everything". The first updated collection was published in 2015, the second - in 2017. More than 800 Russian libraries have received copies of this unique edition for free. A vibrant application that talks about science and technology "I want to know everything - 2015" now is available in the App Store and Google Play
Assistance to medical institutions	Assistance was provided to medical institutions within the framework of the activity "Born by Energy", the main goal of which is to equip maternity hospitals, perinatal centers and maternity hospitals in the cities where the Company is present with expensive diagnostic and rehabilitation equipment
Assistance to specialised HEIs	<p>Provided financial support to:</p> <ul style="list-style-type: none"> <li>■ Moscow State University of Civil Engineering;</li> <li>■ Moscow Power Engineering Institute and its branch in Volzhsky;</li> <li>■ Peter the Great Polytechnic University of St. Petersburg;</li> <li>■ Sayano-Shushensky branch of the Siberian Federal University;</li> <li>■ M.I. Platov South-Russian State Polytechnic University.</li> </ul> <p>The assistance helps ensure the work of the "RES" research and educational center in St. Petersburg Polytechnic University, the provision of students of the Moscow State University of Civil Engineering with a visit to the Volga Hydroelectric Power Station. Furthermore, this programme is used for the reconstruction and renovation of the amenities, including laboratory equipment. Other universities were also included in the programme</p>
Competition "Energy of Development"	For the students and post-graduate students of technical universities, the "Energy of Development" competition was held for the eighth time, the main goal of which is to create conditions for identifying and developing the abilities of young people in the field of hydropower and assisting them in obtaining specialised education. A number of winners of the contest are already working in the Company
Participation in the projects of the Russian Geographical Society	RusHydro took part in the establishment of the grant fund of the Russian Geographical Society, in financing the publishing activities and the organisation of ecological and geographical expeditions
Cooperation with charitable foundations	<p>Financial support was provided to the "Vera" Hospice Care Foundation, the Fund for Assistance to Children with cerebral palsy "Step together", "Center for Humanitarian Programmes" NGO for disabled people.</p> <p>Charitable assistance was provided to the Bargaryy Renaissance Foundation of the Republic of Sakha (Yakutia) for the implementation of events dedicated to the 385th anniversary of Yakutia's entry into the Russian state and the foundation of the city of Yakutsk</p>

Controlled companies of PJSC RusHydro also take an active part in the economic and social life of their regions. PJSC Boguchanskaya HPP<sup>1</sup> annually implements significant charitable projects. They participate in the implementation of charity projects of PJSC Kolymenergo, JSC NIIES, JSC Montazhenergo and CJSC MEK.

On the territory of the Far Eastern Federal District, social projects important for the region and residents are supported by PJSC DEK, JSC DRSK, PJSC Yakutskenergo, PJSC Magadanenergo, JSC Sakhaenergo, JSC Energotranssnab, JSC Teploenergосervice, JSC Yakutsk Energy Repair Company, JSC SENK, JSC Geoterm. In 2017, controlled companies of PJSC RusHydro donated approximately 130 million rubles for charitable purposes in addition to the funds of the Charitable and Sponsorship Programme of PJSC RusHydro.

## Volunteer Movement

PJSC RusHydro develops corporate volunteering, supporting individual participation of employees in various social projects. In 2017, the Company conducted blood donor days, charity fairs, and "oBEREGAi" actions to clean up the banks of reservoirs and rivers.

In December, the Moscow office of the company held a traditional charity fair with the participation of 11 charitable organisations that presented hand-made souvenirs and original handicrafts made by the trustees of these funds or made according to their drawings, as well as souvenirs made by artists and other interested people. Within the framework of the fair, about 350 thousand rubles was raised, which was allocated for the treatment, rehabilitation, training, and development of trusts of charitable foundations.

<sup>1</sup> PJSC Boguchanskaya HPP in joint ownership with UC RUSAL.

# ENVIRONMENTAL RESPONSIBILITY

A careful and responsible attitude to the environment is a mandatory part of the socially responsible business policy. The implementation of programmes for the modernization of production, energy saving and increasing energy efficiency, the development of renewable energy, innovative development – all of this contributes to reducing negative impact on economic development.

RusHydro Group is the largest Russian energy holding company, the leader in the production of electricity based on renewable sources. The Group is a main water user in the water management system of Russia and the largest supplier of electricity and heat in the Far East.

## ENVIRONMENTAL POLICY

### Environmental impact management <sup>[103-2]</sup>

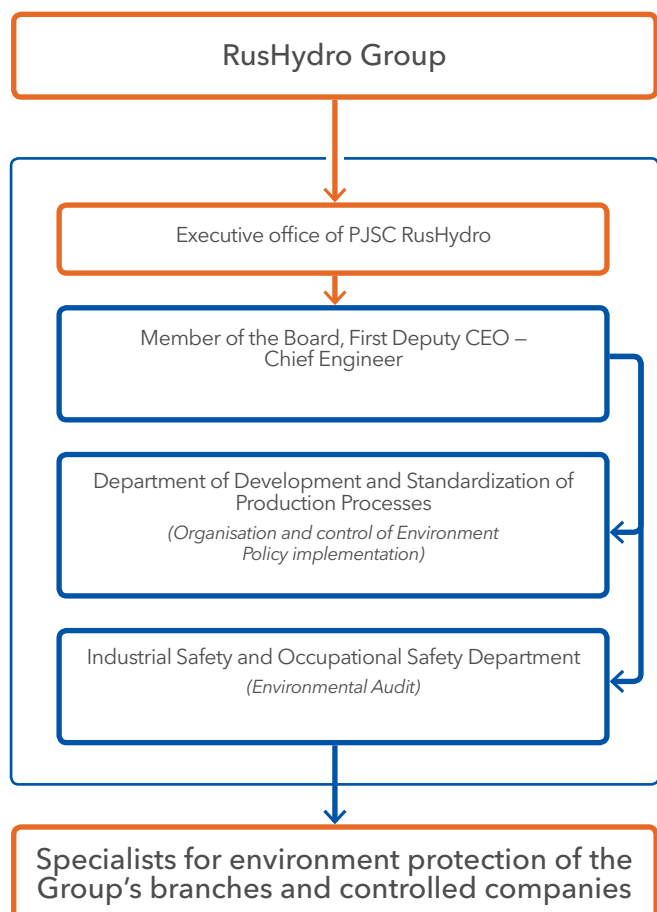
The activities of RusHydro Group in the field of environmental protection and environmental management are carried out in accordance with the approved Environmental Policies, which are based on the provisions of the state policy in the field of environmentally sustainable development and environmental safety, the Constitution of the Russian Federation, federal laws and other regulatory legal acts, international treaties of the Russian Federation in the field of environmental protection and the rational use of natural resources.

RusHydro Group also takes into account the requirements of international standards in the field of environmental management and international best practices in the implementation of energy projects in its activities. During planning and implementing its activities, the Group follows the precautionary principle approved at the United Nations Conference on Environment and Development in 1992<sup>1</sup>.

[102-11]

<sup>1</sup> Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation" (Rio Declaration on Environment and Development, 1992).

### Environmental Impact Management



## In RusHydro Group, the regulation on the environmental management system is being developed, and the document approval period is in the first quarter of 2019.

RusHydro Group's activities are aimed at minimising the negative impact on the environment and maintaining it in a favourable condition for present and future generations. This principle is enshrined in the Environmental Policies of PJSC RusHydro and JSC RAO ES East, which are the basis for planning and implementing activities within the majority of RusHydro Group business processes.

The environmental policy of PJSC RusHydro was updated in 2016. The main purpose of this policy is to identify the challenges, goals, objectives and mechanisms for implementing measures aimed at increasing the level of environmental safety of existing and prospective hydro generation facilities. The Policy applies to all structural divisions and controlled companies of PJSC RusHydro (with the exception of RAO ES East Subgroup), and its provisions are included in the system of business relations between PJSC RusHydro and its partners.

Following the integration of PJSC RusHydro and JSC RAO ES East, RusHydro Group's production activities have changed. This has led to the development of a new version of the Environmental Policy, which takes into account not only the current challenges and trends in the field of environmental protection, but also the peculiarities of the Group's hydropower and thermal assets.

Public hearing of the new version of the Group's Environmental Policy took place in October 2017. The hearings were attended by representatives of environmental community, expert and scientific organisations, business community, including WWF Russia, Russian Union of Industrialists and Entrepreneurs, UC RUSAL, JSC EuroSibEnergo, PJSC Rosseti, Moscow State University, and others. The updated version of the Environmental Policy is submitted for consideration to a wide range of experts in order to obtain feedback and opinions on the Company's priorities in the field of ecology and environmental protection. Participants of the hearing highly appreciated the open nature of the Company's public dialogue and the involvement of stakeholders in the process of discussing significant strategic documents in the field of environmental protection. The participants also submitted proposals for improving both the document itself and the Company's activities to implement the provisions of the Environmental Policy. The approval of RusHydro Group's Environmental Policy is scheduled for Q3 2018.

The environmental policy of JSC RAO ES East was approved in 2014, with its objectives being:

- technical re-equipment and replacement of equipment with low technical, economic and environmental indicators with more cost-effective and environmentally friendly one;
- involvement of personnel in activities to reduce environmental risks, improve the environmental management system and the production indicators in the field of environmental protection;
- increasing the efficiency of non-renewable natural resources;
- minimization of the negative man-made impact on the environment.



The environmental policy of JSC RAO ES East can be found on the website:  
<http://www.rao-esv.ru/en/>



## Mechanisms for the implementation of the Environmental Policy of PJSC RusHydro

PJSC RusHydro has approved a programme of measures to ensure the implementation of the Environmental Policy. Within the framework of the Technical Rehabilitation and Modernization Programme, measures are being taken to modernize and replace hydroelectric power stations of HPPs and repair hydro turbine equipment, including those aimed at eliminating environmental pollution during the operation of hydroturbine equipment. Coastal protection measures are regularly carried out to maintain the proper condition of the water protection zones. RusHydro Group replaces oil-filled electrical equipment with vacuum or SF6 gas, which does not contain oils, or replaces this equipment with that with lower oil content.

The Company conducts other activities aimed at reducing the negative impact on the environment, among which are:

- construction of sites for the accumulation of scrap metal;
- reconstruction of stormwater drainage system of HPP buildings;
- collection of floating rubbish and transfer to waste disposal facilities;
- landscaping and planting of greenery.

### The key environmental measures implemented in 2017 by the branches and controlled companies of PJSC RusHydro, within the framework of the Technical Rehabilitation and Modernization Programme

#### Branch /controlled companies Events

Votkinskaya HPP	<ul style="list-style-type: none"> <li>■ Replacing hydraulic unit No. 4</li> <li>■ Current repair of concrete slopes of earthen and spillway dams</li> </ul>
Zeyskaya HPP	<ul style="list-style-type: none"> <li>■ Replacement of oil-filled current transformers with transformers with lower oil content</li> <li>■ Replacement of rotor blades of turbine impeller</li> </ul>
Saratovskaya HPP	<ul style="list-style-type: none"> <li>■ Modernization of hydraulic turbines No. 1-21, 24</li> <li>■ Current repair of concrete and earthen slopes of the left bank dam and channel dam</li> </ul>
Zhigulevskaya HPP	<ul style="list-style-type: none"> <li>■ Replacement of hydraulic turbines No. 8, 11, 20</li> <li>■ Comprehensive reconstruction with the replacement of power and measuring equipment of switchgear-500 kV in accordance with design documentation</li> </ul>
Volzhsкая HPP	<ul style="list-style-type: none"> <li>■ Repair of oil-filled impellers of hydraulic turbines</li> <li>■ Replacement of hydraulic turbines No. 2, 1 with new ones</li> <li>■ Repair of perennial green plantations of groundfill dams No. 40,41,42</li> <li>■ Replacement of 10 oil-filled transformers by dry ones</li> </ul>
Kamskaya HPP	<ul style="list-style-type: none"> <li>■ Repair of industrial and storm water drain</li> <li>■ Repair of HPPs' drainage systems</li> </ul>
Nizhegorodskaya HPP	<ul style="list-style-type: none"> <li>■ Reconstruction of switchyard-110/220 kV with the replacement of the equipment with gas-insulated one</li> <li>■ Reconstruction of the water supply and sewerage system with replacement of pipelines and stop valves</li> </ul>
Karachaevo-Cherkessia Branch	<ul style="list-style-type: none"> <li>■ Replacement of oil circuit breakers with vacuum ones</li> </ul>
Verkhnevolzhskiy HPPs Cascade	<ul style="list-style-type: none"> <li>■ Reconstruction of fastening of slopes of Rybinskaya HPP's earth-fill dam No. 5</li> <li>■ Reconstruction of the drainage system of dam 40 with the installation of treatment facilities at the Uglichskaya HPP</li> </ul>
Zagorskaya PSP	<ul style="list-style-type: none"> <li>■ Comprehensive reconstruction of switchyard - 35 kV with the replacement of auxiliary transformers-1,2,3,4 to dry ones with cast insulation</li> </ul>
Novosibirskaya HPP	<ul style="list-style-type: none"> <li>■ Replacement of hydraulic turbine No. 3 with new one</li> <li>■ Replacement of 5 oil-filled switches of 220 kV switchyard with gas-insulated modules</li> </ul>
Cheboksarskaya HPP	<ul style="list-style-type: none"> <li>■ Works on purification facilities</li> </ul>
PJSC Kolymaenergo	<ul style="list-style-type: none"> <li>■ Reconstruction of switchgear -10 kV with the replacement of the switches with vacuum and microprocessor ones</li> </ul>

## Normative and technical regulation in the field of environmental safety

There are a number of standards in the field of environmental safety within the framework of technical regulation in PJSC RusHydro.

To assess the impact on the environment and the organisation of production control, PJSC RusHydro has introduced corporate standards "Hydroelectric Power Plants. Protection of the environment. Environmental impact assessment. Methodical instructions and Hydroelectric power stations. Industrial environmental control. Norms and requirements".

The National Standard of the PNST 15-2014 "Environmental protection. Norms of losses of oil products of the hydroturbine equipment during operation. Method for calculating losses of turbine oil in the process of operation of hydroturbine equipment." has been developed to apply both within its own management activities and within the framework of state control.

## Environmental Impact Assessment

PJSC RusHydro provides environmental safety of production activities at all stages of the life cycle of industrial facilities. Before a new project's implementation or before the modification of existing facilities (at the initiation and design stages), measures are taken to assess the impact of such projects on the environment (EIA).

In 2017, there was no need to hold public hearings on the EIA of the designed facilities and facilities under construction.

## Assessment and mechanisms for managing the environmental impact at all stages of the project life cycle

Stage	Mechanisms for managing the environmental impact
Planning (pre-project stage)	<ul style="list-style-type: none"> <li>■ Research and development work of ecological orientation</li> <li>■ Preliminary Environmental Impact Assessment for New Construction and Reconstruction Planning</li> </ul>
Engineering	<ul style="list-style-type: none"> <li>■ Conduct of the EIA: Assessment of the impact of the facility on the environment for making decisions on the possibility of construction and reconstruction of production facilities</li> <li>■ Design of measures to ensure the required level of environmental safety</li> </ul>
Construction	<ul style="list-style-type: none"> <li>■ Implementation and control of the implementation of activities, envisaged projects and projects aimed at ensuring the environmental safety of the facilities</li> <li>■ Compliance with the requirements of environmental legislation in the performance of construction and installation works</li> </ul>
Exploitation	<ul style="list-style-type: none"> <li>■ Implementation of industrial environmental control: implementation of measures to prevent deviation from a given level of the facility's environmental safety</li> <li>■ Voluntary initiatives to conserve biodiversity and improve the environmental awareness of the public and employees</li> </ul>

## Provision of activities in accordance with legislative requirements in the field of environmental protection

Projects of all required environmental standards are in mandatory manner developed during construction and operation of facilities, including standards of allowed emissions and discharges of pollutants into the environment, draft standards waste disposal limits, sections of design documentation related to environmental protection, including biodiversity conservation measures.

The documents are approved by the executive authorities that carry out state regulation in the field of environmental protection, among which:

- Ministry of Natural Resources and Environment of the Russian Federation;
- Federal Service for Supervision of Nature Management;
- Federal Agency for Water Resources;
- Federal Agency for Fisheries;
- Federal Service for Supervision of Consumer Rights Protection and Human Welfare.

On the basis of agreed projects, permits for environmental protection, which are necessary for the performance of production activities, are obtained.

## Scientific and Technical Council

The Company has a permanent expert collegial body - the Scientific and Technical Council (STC). It ensures the creation and functioning of a unified system of technical expertise of scientific and technical solutions, projects and programs in compliance with the requirements of the Technical Policy and the current regulatory and technical documents.

To ensure environmental safety in the formation of new technical solutions, a profile section of the STC "Reservoirs and environmental protection" was created. The section includes representatives of scientific research and design institutes: the Institute of Water Problems of the Russian Academy of Sciences, the Department of Land Hydrology of the Moscow State University and Federal Agency for Water Resources.





## Mechanisms for implementing the environmental policy of JSC RAO ES East

Within the framework of the Environmental Policy of JSC RAO ES East, Subgroup companies implement initiatives aimed at:

- reconstructing gas cleaning equipment;
- switching combined heat and power plants to gas fuel;
- constructing of wastewater treatment plants.

The implementation of these initiatives allows not only to increase the basic production performance indicators, but also to reduce the negative impact on the environment.

There were no accidents and incidents that caused damage to the environment in the reporting year in companies of RAO ES East Subgroup.

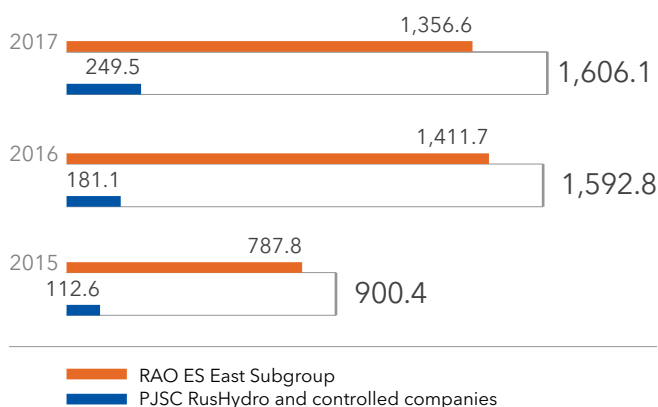
### Key environmental measures implemented in 2017 by the RAO ES East Subgroup

Branch / controlled companies	Actions
JSC DGK	<ul style="list-style-type: none"> <li>■ Repair, commissioning, testing of ash collecting and aspirating plants</li> <li>■ Construction of a wastewater treatment plant at Khabarovskaya CHPP-2</li> <li>■ Repair of circulating hydraulic ash sluice at Birobidzhan GRES</li> <li>■ Construction of ash dump dykes</li> <li>■ Transition to the use of gas fuel at Khabarovskaya CHPP-1</li> </ul>
JSC DRSK	<ul style="list-style-type: none"> <li>■ Repair, reconstruction, organisation of oil receiving devices under power transformers</li> <li>■ Replacement of oil circuit breakers with vacuum ones</li> </ul>
PJSC Magadanenergo	<ul style="list-style-type: none"> <li>■ Current repair of ash collecting facilities of MCHPP, ArGRES</li> <li>■ Repair of the aeration tank of the secondary treatment plant at GRES</li> <li>■ Replacement of oil circuit breakers with SF<sub>6</sub> circuit breakers</li> </ul>
PJSC Kamchatskenergo	<ul style="list-style-type: none"> <li>■ Major overhaul of boiler equipment</li> </ul>
PJSC Sakhalinenergo	<ul style="list-style-type: none"> <li>■ Repair of metal pipes Venturi, repair of scrubbers hydroelectric units No. 1 - 5</li> <li>■ Major overhaul of boiler equipment</li> <li>■ Repair works of industrial sewerage, fecal pumping</li> </ul>
JSC Chukotenergo	<ul style="list-style-type: none"> <li>■ Repair, adjustment, testing of ash collecting facilities</li> <li>■ Cleaning oil traps</li> <li>■ Replacement of cyclonic elements of the BC in the period of overhaul of boiler equipment</li> <li>■ Maintenance, repair and operation of ash-and-slag disposal sites</li> </ul>
JSC SENK	<ul style="list-style-type: none"> <li>■ Flue gas cleaning from soot and dust with special equipment (cyclones)</li> <li>■ Reconstruction of DPP-23 in Ust-Kamchatsk with replacement of the diesel generator</li> </ul>
PJSC Yakutskenergo	<ul style="list-style-type: none"> <li>■ Replacement and repair of boiler burners</li> <li>■ Repair of the cooling tower section</li> <li>■ Replacement of the oil circuit breakers with vacuum ones</li> </ul>
JSC Sakhaenergo	<ul style="list-style-type: none"> <li>■ Current repair, removal of air suction cups from the ramjet and battery cyclone (4, 5 boiler) CHPP, Deputatskiy settlement</li> <li>■ Commissioning of hazardous waste class from I to IV (Tiksi settlement, Olekminsk, Batagay settlement)</li> <li>■ Replacement of oil circuit breakers with vacuum ones</li> <li>■ Reconstruction of ash and slag recycled water supply, CHPP, Deputatskiy settlement</li> <li>■ Construction of solar power plants:               <ul style="list-style-type: none"> <li>– Zhigansky power distribution zone (Kystatyam settlement SPP 40 kV)</li> <li>– Kobyayskiy grids (Batamai settlement, increase in the autonomous inverter system of the accumulation system of Autonomous power supply systems)</li> <li>– Kobyayskiy grids (Sebyan-Kuel settlement SPP-50 kV)</li> <li>– Oymyakonsky power distribution zone (Orto-Balagan settlement SPP-50 kV)</li> </ul> </li> </ul>
JSC LUR	<ul style="list-style-type: none"> <li>■ Water spraying (dust suppression) of roads, downhole platforms, construction opencast mines</li> <li>■ Repair of oil traps for the treatment of transport vessels in mountain areas</li> </ul>

## Investments in environmental protection

Expenses for the implementation of RusHydro Group's environmental activities in 2017 amounted to 1,606.1 million rubles.

### Total expenditures and investments for environmental protection, RUB mn [103-2], [103-3]



## Cooperation in the field of environmental protection

RusHydro Group actively cooperates with international organisations on issues of environmental protection and conservation of biological diversity. The Company supports industry and international initiatives to reduce the anthropogenic load on the environment and strives to adopt the best practices for the successful implementation of its environmental projects.

PJSC RusHydro is a partner of the project of the United Nations Development Programme, Global Environmental Facility and the Ministry of Natural Resources and Environment of the Russian Federation "The Tasks of Biodiversity Conservation in Russia's Energy Sector Policies and Programmes" (hereinafter, the UNDP Project). [102-44] Since 2012 the project has been implemented on the territory of Russia. The Project Objectives are as follows:

- demonstration and introduction of the best international practices in the field of biodiversity conservation in the energy sector of Russia;
- improving the status of biodiversity in the industrialized regions of Russia;
- assistance in the set-up of a monitoring system for the status of biodiversity and the testing of environmental technologies in oil producing, coal mining, and hydropower production;
- promoting the adoption of normative and methodological documents on the conservation of biodiversity in the energy sector;

Within the UNDP project in RusHydro, the work is carried out in the following directions:

- biodiversity conservation;
- sustainable development of hydropower;
- development of methodological documents on biodiversity conservation in the hydropower sector.

### Russian Climate week 2017

**Within the framework of the Russian Climate Week 2017 in Moscow, the roundtable "Hydropower in the Context of Global Climate Change" organized by PJSC RusHydro was held. Scientists of leading Russian scientific centers discussed the actual problem of the influence of reservoirs on the balance of greenhouse gases in the atmosphere.**

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In 2017, PJSC RusHydro continued its membership in international industry associations, such as the Centre for Energy Advancement through Technological Innovation (CEATI), the International Hydropower Association (IHA) and the International Commission of Large Dams (ICOLD). Participation in these organisations allows the Company to interact with the world community on the safe, innovative and sustainable development of hydropower.

To promote the principles of sustainable development in Russia, the Company promotes the implementation of the Hydropower Sustainability Assessment Protocol (HSAP) as an official regulatory and legal act.

In 2013-2014, PJSC RusHydro carried out approbation of the Methodology on designed hydropower projects and HPPs under construction. As a result of the audit, a number of inconsistencies, which require the improvement of internal processes of development and decision-making in PJSC RusHydro, were identified. Primarily, the changes should concern the processes of interaction with stakeholders, ensuring the preservation of cultural heritage sites and conservation of biodiversity.

To fulfill these tasks, the Working Group on the Development of Methodological Approaches to Ensuring and Evaluation of the Compliance of Hydropower Projects with the Criteria for Sustainable Development was formed. It is planned to prepare a local regulatory document (act) for ensuring the compliance of hydropower projects with the criteria for sustainable development, and to begin work on giving the Methodology the status of an official normative legal act on the territory of the Russian Federation.



### Cooperation to combat climate change

At the end of 2015, PJSC RusHydro supported the initiative to unite the efforts of Russian business to reduce the impact on the environment and prevent climate change. RusHydro signed a Statement of Russian Business on the Negotiation Process and Adoption of a New Climate Agreement at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change.

This initiative is intended to be an additional step, aimed at ensuring the adoption of a new climate agreement at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change.

Since 2015, PJSC RusHydro has been a member of the Climate Partnership of Russia. The main purpose of the partnership is to unite the efforts of business in the interests of transition to environmentally friendly technologies.

In 2017, the Company continued to report on greenhouse gas emissions to CDP (Carbon Disclosure Project), in which it participates since 2015.

In addition, in 2017, PJSC RusHydro in cooperation with JSC EuroSibEnergo and the Association of Hydropower of Russia continued its work within the Working Group on the development of methodological approaches to study global climate change processes in terms of greenhouse gas emissions from the surface of freshwater reservoirs of HPP and the evaluation of their absorbing capacity.

# RESULTS IN THE FIELD OF ENVIRONMENTAL PROTECTION

## Water use

RusHydro Group is a large water user in the water management system of Russia, most of the Company's activities are carried out at water bodies. The Group uses water bodies in strict compliance with legal requirements. [103-2], [103-3] The Company receives permits in a timely manner, for the implementation of water use and protection of water bodies in the relevant executive authorities. The diversion of water from the RusHydro Group's water bodies does not have a significant impact on water sources. [303-2]

In 2017, the amount of water withdrawn by RusHydro Group decreased by 0.99% and amounted to 753,352 thousand m<sup>3</sup>.



Since 2013, the Company has published data on changes in the levels of the reservoirs of the Hydro Power Plant of RusHydro Group on a special Internet portal: <http://www.rushydro.ru>

### Total amount of water withdrawn by source, thousand m<sup>3</sup> [303-1]

Sources of water supply	PJSC RusHydro and controlled companies without RAO ES East Subgroup			RAO ES East Subgroup			RusHydro Group		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Total amount of water withdrawn from sources, including:	64,252	58,554.6	57,651.9	699,394	697,706.3	685,637.7	763,646	756,260.9	743,289.6
surface water bodies, including swamps, rivers, lakes	62,768	57,338.2	56,459.6	566,880	589,568.1	591,154.6	629,648	646,906.3	647,614.2
underground water bodies, municipal and other water supply systems	1,484	1,216.4	1,192.3	132,514	108,138.2	94,483.0	133,998	109,354.6	95,675.3

## Impacts on water bodies

### Total volume of wastewater discharges with indication of the receiving facility, thousand m<sup>3</sup> [306-1]

Receiving facility	PJSC RusHydro and controlled companies without RAO ES East Subgroup			RAO ES East Subgroup			RusHydro Group		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
waterbody	74,766	63,949.8	68,321.4	512,453	514,188.4	512,510.7	587,219	578,138.2	580,832.1
terrain	116	14.1	14.5	4,238	4,523.2	4,447.6	4,354	4,537.3	4,462.1
underground	0	0	0	22	17.9	0	22	17.9	0
water accumulator	8	7.4	2.6	0	0	19.6	8	7.4	22.2
<b>Total discharges</b>	<b>74,890</b>	<b>63,971.3</b>	<b>68,338.5</b>	<b>516,713</b>	<b>518,729.5</b>	<b>516,977.9</b>	<b>591,603</b>	<b>582,700.8</b>	<b>585,316.4</b>

## Results of Activities

### The total volume of wastewater discharges by the purification method, thousand m<sup>3</sup> [306-1]

Purification methods	PJSC RusHydro and Subsidiary Companies without RAO ES East Subgroup		RAO ES East Subgroup		RusHydro Group	
	2016	2017	2016	2017	2016	2017
Without purification	3,474.7	3,429.4	213,330.7	216,611.2	216,805.4	220,040.6
Insufficiently purified	1,076.0	923.5	21,385.3	21,825.3	22,461.3	22,748.7
Satisfying established norms	57,913.6	59,873.4	279,245.9	273,792.9	337,159.5	333,666.3
Purified in compliance with established norm on facilities (biological, chemical, mechanical cleaning)	1,351.1	4,111.3	226.6	281.3	1,577.7	4,392.6

### Water protection works of RusHydro Group

Name	Activities
Branches of PJSC RusHydro	<ul style="list-style-type: none"> <li>Bank protection hydraulic works</li> <li>Repair of anti-erosion hydraulic structures</li> <li>Repairs of regulatory structures</li> <li>Regulation of clearing and dredging of water bodies</li> <li>Clearing sections of river channels and canals;</li> <li>Bank-reinforcement hydro-engineering works (repair)</li> <li>Other water protection works</li> </ul>
The controlled companies of PJSC RusHydro, except for RAO ES East Subgroup	<ul style="list-style-type: none"> <li>Clearing the water area of the reservoir</li> <li>Other water protection works</li> </ul>
RAO ES East Subgroup	<ul style="list-style-type: none"> <li>Regulation of clearing dredging of water bodies</li> <li>Bank protection hydraulic works</li> <li>Construction and repair of water checks (reservoirs, ponds, spur-guiding dams, etc.)</li> <li>Other water protection works</li> </ul>



## Emissions

RusHydro Group controls emissions of pollutants into the air at all production facilities.

In 2017, the emissions exceeded the established maximum permissible values for Raichinskaya GRES by 1,907.55 tonnes. The increase in emission allowances is due to increased electricity production.

### Emissions into the atmosphere of SO<sub>x</sub>, CO, NO<sub>x</sub> solids, tonnes [305-7]

Pollutants	PJSC RusHydro and controlled companies without RAO ES East Subgroup			RAO ES East Subgroup			RusHydro Group		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Solids	162	161.3	162.2	97,243	93,689.8	92,182.3	97,405	93,851	92,344.54
Gaseous and liquid	975.5	976.7	980.6	180,561.7	176,692.3	177,784.4	181,537.2	177,669.0	178,765.0
including gaseous and liquid:									
Sulfur oxides (SO <sub>x</sub> )	3.4	2.6	3.4	73,547.6	73,334.1	73,780.5	73,551.0	73,336.7	73,783.9
Carbon monoxide (CO)	18.0	21.4	34.3	42,343.2	42,207.8	41,498.5	42,361.2	42,229.2	41,532.9
Oxides of nitrogen (NO <sub>x</sub> )	13.4	16.9	26.3	64,670.9	61,150.4	59,973.4	64,684.3	61,167.3	59,999.7
<b>Total pollutants, released into the atmosphere</b>	<b>1,137.5</b>	<b>1,138.0</b>	<b>1,142.8</b>	<b>277,804.7</b>	<b>270,382.1</b>	<b>269,966.7</b>	<b>278,942.2</b>	<b>271,520.0</b>	<b>271,109.5</b>

Operations of HPPs do not lead to large-scale greenhouse gases emissions.

Calculation of greenhouse gas emissions is carried out for RAO ES East Subgroup facilities in accordance with the Decree of the Ministry of Natural Resources and Environment of the Russian Federation of June 30, 2015 No. 300 and using RD 153-34.0-02.318-2001 "Methodological guidelines for calculating the emissions of carbon dioxide into the atmosphere from boilers of thermal power plants and boiler houses" and inventory data of the Carbon

Fund. Emissions of greenhouse gases are determined on the basis of data for a specific facility, based on the fuel balance of the facility. [103-2], [103-3]

In 2017, greenhouse gas emissions increased by 1.05%. That increase is due to the growth in electricity generation by the facilities of the RAO ES East Subgroup and increased consumption of tonnes of equivalent fuel of the East for electricity generation.

### Greenhouse gases direct emissions of RAO ES East Subgroup (scope 1) [305-1]

Indicator	2015	2016 <sup>1</sup>	2017	2017/2016, %
Emissions CO <sub>2</sub> , t	36,182,305.5	34,096,453.1	34,457,073.3	+1.06
Emissions N <sub>2</sub> O in CO <sub>2</sub> , eq. t	125,283.1	119,085.5	117,141.0	-1.63
Emissions CH <sub>4</sub> in CO <sub>2</sub> eq. t	14,433.5	14,369.5	13,895.4	-3.30
<b>Total emissions</b>	<b>36,322,022.2</b>	<b>34,229,908.1</b>	<b>34,588,190.4</b>	<b>+1.05</b>
including:				
from burning natural gas	10,453,851.7	9,935,983.0	10,101,464.3	+1.67
from burning oil	670,338.1	693,485.5	712,034.1	+2.67
from burning solid fuel	25,197,832.3	23,600,439.5	23,774,612.1	+0.74

### Intensity of greenhouse gas emissions of RAO ES East Subgroup<sup>2</sup>, tonnes CO<sub>2</sub>-eq. [305-4]

Indicator <sup>2</sup>	2016 <sup>3</sup>	2017	2017/2016, %
Specific CO <sub>2</sub> emissions, associated with electricity generation, in tonnes CO <sub>2</sub> -eq.	785.10	785.80	+0.10
Specific CO <sub>2</sub> emissions associated with generation of heat, in tonnes of CO <sub>2</sub> -eq.	375.60	373.90	-0.45

In 2017 in the controlled companies in the Far East, measures were taken to reduce emissions of harmful substances into the atmosphere: [305-5]

- repair of ash removers, scrubbers, cyclones, electrostatic precipitators in order to maintain the degree of flue gas cleaning at the normative level. Such measures were carried out at the Arkagalinskaya GRES, Magadanskaya CHPP, Primorskaya GRES, Birobidzhanskaya CHPP, Urgalskaya boiler plant, Raichikhinskaya GRES, Blagove-

shchenskaya CHPP, Amurskaya CHPP, Vladivostokskaya CHPP-2, Partizanskaya GRES, Kamchatka, Nikolskoye, Central and School coal boiler houses, and also in Tigil coal-fired boiler No. 4 and in Manily, Central Coal Boiler House;

- transition to gas for Khabarovskaya CHPP-1.

<sup>1</sup> The change in CO<sub>2</sub> emissions for 2016, in direct and specific terms, is due to the clarification of data on the costs of tonnes of equivalent fuel, for electricity generation and heat release.

<sup>2</sup> This is the development excluding the Cascade of Vilyuisky HPPs and solar power plants, whose activities do not produce greenhouse gas emissions.

<sup>3</sup> Specific emissions of CO<sub>2</sub> equivalent are determined by the ratio of emissions of tonnes of CO<sub>2</sub>-eq. to the generation of electricity in million kWh and heat production in thousand Gcal.

## Waste

At RusHydro Group's energy facilities, the main share is generated by waste products of the 4th and 5th hazard classes, which are formed as a result of the reconstruction of facilities, as well as during the repair and maintenance of equipment and structures. RusHydro Group companies do not transport their own wastes. The generated wastes are transferred under contracts to specialised organisations that have licenses for activities related to the transportation, collection and further management of wastes. [306-4]

The increase in the volume of waste generation in 2017 compared to 2016 for RusHydro Group was because of the increase in the volume of generation of waste of hazard class 5:

- in JSC DRSK, JSC Kamchatskenergo, PJSC Sakhalinenergo ash and slag wastes volumes increased due to the increase in the volume of coal combustion in the main production;
- in JSC LUR - the formation of wastes of overburden increased in connection with the increase in work on the development of overburden.

### The total weight of waste generated in 2017, by hazard class, tonnes [306-2]

Waste	2015	2016	2017	2017/2016, %
<b>PJSC RusHydro and Subsidiary Companies (without RAO ES East Subgroup)</b>				
Wastes of the 1 and 2 hazard classes	14.2	20.7	31.2	51.0
Wastes of the 3, 4 and 5 hazard classes	30,964.61	29,179.35	29,191.0	0.04
<b>Total</b>	<b>30,978.83</b>	<b>29 200.01</b>	<b>29,222.2</b>	<b>0.1</b>
<b>RAO ES East Subgroup</b>				
Wastes of the 1 and 2 hazard classes	39.9	32.8	39.0	18.8
Wastes of the 3, 4 and 5 hazard classes	27,694,388.90	24,743,428.9	26,570,307.4	7.4
<b>Total</b>	<b>27,694,428.8</b>	<b>24,743,461.7</b>	<b>26,570,346.4</b>	<b>7.4</b>
<b>RusHydro Group</b>				
Wastes of the 1 and 2 hazard classes	54.12	53.5	70.2	31.3
Wastes of the 3, 4 and 5 hazard classes	27,725,353.51	24,772,608.2	26,599,498.4	7.4
<b>Total</b>	<b>27,725,407.63</b>	<b>24,772,661.7</b>	<b>26,599,568.6</b>	<b>7.4</b>

## Biodiversity conservation

### Impacts on biodiversity

Generating production facilities of PJSC RusHydro are not located within the boundaries of specially protected natural areas. The grid infrastructure facilities included in the RAO ES East Subgroup are located on the territories of specially protected natural areas, where rare species of plants and animals inhabit. [304-1], [103-2], [103-3]

The RAO ES East Subgroup seeks not to have a significant impact on biodiversity and protected natural areas. As a result of the activities of the Subgroup, there is no reduction in the number of species, the change of habitats, the spread of invasive species, pests and pathogens. [304-2]



## Protected species the habitats of which are affected by the activities of RusHydro Group <sup>[304-4]</sup>

The habitat of the mandarin duck (*Aix galericulata*) in the Amur Region fell into the flood zone of the reservoir of the Nizhne-Bureyskaya HPP. The bird is listed in the Red Book of the Russian Federation as a rare species, as well as in the IUCN-96 Red List, Appendix 2 of the Bonn Convention, annexes of bilateral agreements concluded by Russia with Japan and the Republic of Korea and the DPRK on the protection of migratory birds.

Also in the flood zone of the reservoir, the main habitat of the fern species, *Aleuritopteris kuna* (*Aleuritopteris kuhni*), was found. The plant is listed in the Red Book of the Russian Federation as a threatened species.

The process of filling the reservoir of the Nizhne-Bureyskaya HPP affected also the habitats of ungulates living in the flood zone of the reservoir.

Construction of the Nizhne-Bureyskaya HPP, as well as the activities of JSC DRSK of RAO ES East Subgroup, has an impact on endangered species, Far Eastern storks (*Ciconia boyciana*) in particular. This specie is listed in the Red Book of the Russian Federation and in the Red List of IUCN-96, Appendix 1 of CITES, annexes of bilateral agreements concluded between Russia and Japan, the Republic of Korea and the DPRK on the protection of migratory birds.

RusHydro Group implemented the "Bureysky Compromise" project. Within the framework of this project activities for the resettlement of animals and birds from the flooded zone and transfer of rare plants were carried out.

## Belonging, volume and value from the point of view of biodiversity of water bodies impacted by activities of RAO ES East Subgroup <sup>[306-5]</sup>

Subsidiaries of the RAO ES East Subgroup	Water body <sup>1</sup>	The volume of the water body or the average source of the river, mn m <sup>3</sup>	Value in terms of biodiversity
JSC DRSK	Kivdinskoe Reservoir	9.6	first category
	River Controvod	-	highest category
	A creek without a name, flowing into the river Knevichinka	-	highest category
	Promezhutichnaya Bay	-	highest category
	Obyasneniya River	-	first category
	Lozovyy Kluch Creek	-	first category
	Partizanskaya River	-	first category
	Rudka Creek	-	second category
	Reservoir on the Olongoro river	43.2	first category
	Semenovskiy Creek	-	second category
	The Bezymyanniy Creek	-	second category
	Amnunakt River	-	first category
	Amur Channel	-	highest category
	Amur River	-	highest category
	Lake Horpy	-	highest category
	Channel Galbon (Old Amur)	-	highest category
	West Bay	-	highest category
	Nantes Creek	-	highest category
	Pravaya Berezovaya River	-	second category
	Chernaya River	-	second category
	Polezhaevka Creek	-	second category
	Gnilaya Pad Creek	-	second category
	Malaya Sita River	-	first category

<sup>1</sup> All facilities are not protected natural areas.

Subsidiaries of the RAO ES East Subgroup	Water body <sup>1</sup>	The volume of the water body or the average source of the river, mn m <sup>3</sup>	Value in terms of biodiversity
PJSC Kamchatskenergo	Avachinskaya Bay	3,800	highest category
	The river of Halaktyrka	-	highest category
	Lake Halaktyrskoye	11	highest category
	Lake Sypuchka	-	highest category
JSC SENK	Bystraya River	43.2	first category
PJSC Magadanenergo	Magadanka River	127.5	highest category
	Kamenushka River	37.9	first category
	Myoungja River	37.9	highest category
PJSC Sakhalinenergo	Terpeniya Bay of the Sea of Okhotsk	211,250	highest category
PJSC Yakutskenergo	Lena River	515,610	highest category
	Vilyuy River	21,290	highest category
JSC Chukotenergo	The Kazachka River	22	second category
	Lake Hunting	0.25	second category
	Chaun Bay	-	first category
JSC Teploenergoservis	Vilyuy river	72,400	highest category
	Yana River	29,297	highest category
	Aldan River	154,683	highest category
	Indigirka River	14,002	highest category
	Allah-Yun River	5,550	highest category
JSC LUR	Nera River	3,658	highest category
	Controvod River	-	highest category



## Activities on biodiversity conservation

RusHydro Group is implementing biodiversity conservation activities in five areas.

### Activities of the RusHydro Group for Biodiversity Conservation



Support of protected natural areas  
(Cooperation and charity)



Preservation of the ungulate animal population  
(The project "Bureysky compromise")



Plants preservation  
(The project "Bureysky compromise")



Preservation of the bird species



Restoration of the fish resources  
(Planting of fish actions)

PJSC RusHydro develops international cooperation in the field of environmental protection, in particular, in matters of biological diversity's conservation. Within the framework of the UNDP project in 2017, the practical part of the implementation of the environmental project "Bureysky Compromise" was completed. It was implemented by the State-Financed Institution " Directorate for the Protection and Use of Wildlife and Specially Protected Natural Areas", JSC Nizhne-Bureyskaya HPP, scientific and environmental organisations of the region, and the media.

In 2015, the Bureysky Nature Park was established in the area of the reservoir of the Nizhne-Bureyskaya HPP. Since 2014, JSC Nizhne-Bureyskaya HPP has been implementing a programme of socio-ecological monitoring on the territory of the natural park and on adjacent territories. With the support of the UNDP Project in the programme of socio-ecological monitoring for 2015-2017, an assessment of the impact of economic activities on biodiversity was included. In 2017, the monitoring coverage area was 567 thousand hectares.

<sup>1</sup> All facilities are not protected natural areas.

In 2017, PJSC RusHydro supported the programme to restore the Persian leopard in the Caucasus. Within the framework of the Agreement on Cooperation between the North Ossetian Branch of PJSC RusHydro and the Severtsov Institute of Ecology and Evolution of RAS, a unique project has been launched to prepare the zone for the release of individuals of the Persian leopard in Ossetia. The project of the IEE RAS and PJSC RusHydro for the implementation of the programme for the restoration of the Persian leopard (Caucasian leopard) on the territory of Ossetia includes a set of scientific, environmental and eco-education activities aimed at ensuring the preparation of the territory as a zone for the production of Asian leopards that are prepared in the framework of the international programme implemented Ministry of Natural Resources of Russia.

## Measure on the preservation of the ungulate animal population

To minimise the risks of injuries and death of ungulates during the filling of the reservoir of the Nizhne-Bureyskaya Hydroelectric Power Plant, more than 25 feeding complexes equipped with mineral and vitamin additives were placed in advance on the territory of the Bureysky nature park adjacent to the reservoir. The event is intended to concentrate the animals in the center of the Bureysky Nature Park and to displace them from the reservoir storage areas.

The complexes are equipped with automatic cameras for photo and video recording, which allows receiving information about their attendance by animals. In 2017, the feeding grounds were repaired and equipped with additional mangers for the winter period and the period of filling the reservoir.

## Measures on the preservation of plants

In the flood zone of the reservoir of Nizhne-Bureyskaya HPP, five species of rare and endemic plant species were found. For the conservation of rare plant species in 2017, an additional transfer of endemics to new growth sites was implemented. An additional measure of plant support was the "ex-situ" event in relation to the fern *Alevritopters Kuna*, listed in the Red Book, the main habitats of which were in the flood zone of the Nizhne-Bureyskoye Reservoir. In the Botanical Garden of Blagoveshchensk, with the support of the UNDP Project, the creation of specialized climate chambers began, where, from the spores of a rare fern, plants are grown to be introduced into places suitable for growth. The first planting of plants grown in the Botanical Garden of Blagoveshchensk took place in June 2017. Planting of plant populations grown in a climatic chamber will be carried out until 2019.

## Preservation of the bird species

Measures to minimize the impact on the bird fauna were directed at the two most vulnerable species: the mandarin duck and the Far Eastern stork. In 2017, measures were continued to install additional artificial nests during the filling of the reservoir and monitor the effectiveness of this solution to maintain the mandarin duck population in the process of creating a water body.

Artificial supports for nests of Far Eastern storks are established in Muravievsky reserve.

The subsidiary company of JSC RAO ES East - PJSC Yakutskenergo equips high-voltage power lines with special bird protection devices passing through a specially protected natural area in Ust-Maysky ulus in Yakutia, where 24 species of birds are under protection.

PJSC Yakutskenergo provides insulation of the power lines with a special self-supporting insulated cable in the territory of the natural park "Living diamonds of Yakutia", through which the high-voltage line 6-10 kV passes. In addition, the company equips with fences and shrouds transformer substations on transmission lines to prevent animals from entering the substation.

## Restoring fish resources activities

Due to the specifics of its activities, the Company pays special attention to the conservation and restoration of fish stocks of rivers, for which, since 2003, annual voluntary stocks for stocking rivers and reservoirs of hydroelectric power stations have been held.

In early 2017, the Dagestan branch released 20,000 fry of rainbow and stream trout to the Chirkey reservoir. In June, the Cheboksary HPP released 11,000 fry of sterlet into the Cheboksary water reservoir, a fish of a particularly valuable species listed in the Red Book. In June 2017 in the Amur Region there was an action on stocking the Zeya River - Krasnoyarsk, with the participation of PJSC RusHydro, released 5,000 fry of Amur sturgeon into the river, a rare and particularly valuable representative of sturgeons. The project was implemented to maintain the abundance of species in the Upper and Middle Amur basin. In July 2017, RusHydro's funds to the Volga near Saratov produced 14,000 sterlet fry and in October, 77,000 carp and white carp. Nizhne-Bureyskaya HPP in July 2017 in Bureya released 6,000 fry of valuable species of fish species.

## Restoration of disturbed lands

### The preserved and restored habitats by RAO ES East Subgroup [304-3]

Controlled companies	PJSC DGK	PJSC Magadanenergo	PJSC Sakhalinenergo	JSC Chukotenergo	JSC LUR	Total
<b>01.01.2017</b>						
<b>Total disturbed land, ha</b>	<b>2,267.92</b>	<b>272.0</b>	<b>257.64</b>	<b>175.48</b>	<b>3,932.39</b>	<b>6,905.43</b>
including:						
Processed disturbed land, ha	59.00	51.00	3.22	0.00	24.39	137.61
Stored topsoil, thousand m <sup>3</sup>	287.48	0.00	0.00	0.00	578.78	866.26
<b>For 2017</b>						
<b>Total disturbed land, ha</b>	<b>32.60</b>	<b>0.00</b>	<b>0.08</b>	<b>0.00</b>	<b>94.80</b>	<b>127.98</b>
Total processed disturbed land, ha	0.00	0.00	0.08	0.00	0.00	0.08
Total re-soiled land, ha	0.00	0.00	0.08	0.00	0.00	0.08
<b>31.12.2017</b>						
<b>Total disturbed land, ha</b>	<b>2,300.52</b>	<b>272.00</b>	<b>257.64</b>	<b>175.48</b>	<b>4,027.19</b>	<b>7,033.33</b>
Total processed land, ha	75.10	51.00	3.22	0.00	24.39	153.71
Stored topsoil, thousand m <sup>3</sup>	287.48	0.00	0.00	0.00	578.78	866.26
Location	Far Eastern Federal District					



## RENEWABLE ENERGY SOURCES<sup>1</sup>

The Group considers the use of traditional and alternative renewable energy sources (RES) as its priority and steadily increases the installed generation capacity through the construction of new hydroelectric power stations and the commissioning of new power generating capacities.

RusHydro was one of the first companies in Russia to develop projects based on renewable energy sources. One of the tasks of the Innovation Development Programme of RusHydro Group for 2016-2020, with the prospect of prolonging it through 2025, is to increase energy efficiency through the use of alternative renewable energy sources.

RusHydro Group is engaged in wind, solar, and geothermal energy. Most of these projects are located in isolated areas that are not part of the unified energy system.

Over the past five years, in Yakutia, the Group has launched 19 solar stations with a capacity of 1.6 MW and three wind power plants with a capacity of 2.2 MW. The total volume of investments in the projects amounted to 895.63 million rubles, the annual planned savings of diesel fuel - 1,580 tonnes per year.

Due to the peculiarities of each settlement, all projects under implementation are individual, including the northernmost solar power plant in the village of Batagay with a capacity of 1 MW. As part of the research and development activities, RusHydro Group developed its own models of wind-diesel and solar-diesel complexes, tested various equipment options, including power storage, for use in isolated power districts.

<sup>1</sup> Here, RES is all renewable energy sources, except hydropower.

RusHydro is actively engaged in the development of small hydropower, which is important for remote, hard-to-reach and energy-deficient regions and local water supply for small towns and settlements.

Small HPPs are environmentally friendly, as well as a number of additional effects, such as the possibility of the accumulation and the subsequent use of drinking water.

## RES projects in Republic of Sakha (Yakutia)



### SUN

Project	Capacity, kW
SPP-50 kW in Sebyan-Kuel village Kobyaysky ES	50
SPP-50 kW in Orto-Balagan village, Oymyakonsky ES	50

#### 2017 results

Facilities put into operation



### WIND

Project	Capacity, kW
WPP-900 kW in Tiksi village, Bulun region	900

#### 2017 results

The design of the wind farm foundations is completed, the construction started

#### 2018 plan

Delivery and installation of wind turbines, commissioning of the WPP facility

In 2017, during the Eastern Economic Forum, Japanese Agency for the Development of New Energy and Industrial Technology Development Organisation (NEDO), the Government of the Sakha (Yakutia) Republic and PJSC RusHydro signed a memorandum of understanding to build a 900 kW wind generation project in the village of Tiksi in order to develop energy infrastructure. It will work jointly with a 3 MW diesel power plant and an energy storage system managed by Automated Control System to optimise the operation of the wind-diesel complex.

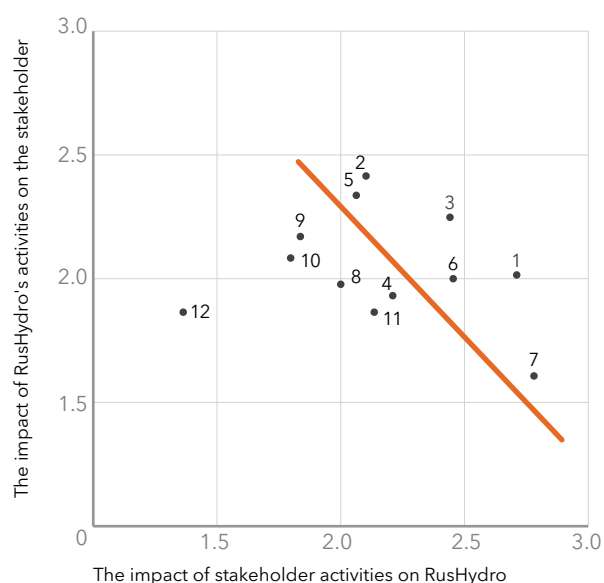
# INTERACTION WITH STAKEHOLDERS

## APPROACH AND MECHANISMS OF INTERACTION WITH STAKEHOLDERS

The stakeholder map of RusHydro Group is updated every two years by a survey of the Company's management. In preparing the Report for the year of 2017, the Map of the main stakeholder groups of the RusHydro Group was updated. Regarding the list and map presented in the social report of RusHydro Group for 2016, the names of a number of groups were adjusted and merged into new groups. Accordingly, the average values of the new groups were calculated and their position on the map was changed. Stakeholders located above the cut-off line are recognised as key stakeholders. [102-42]

RusHydro Group builds mechanisms for interaction with each of the stakeholder groups to ensure ongoing cooperation and empowering the representatives of the parties to participate in the Group's activities. In the course of its activities RusHydro seeks to identify and maintain a balance of interests of all stakeholders, ensuring the most complete and timely disclosure of relevant information for them.

**Stakeholder map** [102-40]



### Mechanisms of interaction with key stakeholders of RusHydro Group

 [102-43]

Nº	Stakeholder	Stakeholder Interests	Basic mechanisms of interaction
1	Shareholders and investors	<ul style="list-style-type: none"> <li>Economic efficiency</li> <li>Sustainability of business</li> <li>Transparency of business processes</li> </ul>	<ul style="list-style-type: none"> <li>Meetings of shareholders and other corporate events</li> <li>IR-presentations and IR-events</li> <li>Publication of accounts</li> <li>Ensuring equal and timely access to essential information on tariff regulation, disclosure of information on official websites of controlled companies of PJSC RusHydro in accordance with the rules for disclosure of information defined by the Government of the Russian Federation</li> </ul>
2	Customers and consumers	<ul style="list-style-type: none"> <li>Reliable power supply</li> <li>Improving the quality of products and services</li> <li>High standards of service</li> </ul>	<ul style="list-style-type: none"> <li>Online consultations on the sites of marketing companies</li> <li>Trust Line</li> <li>Mobile Service Centers, virtual reception</li> <li>Contact center</li> <li>Personal accounts of consumers guaranteeing suppliers</li> <li>Development of client offices</li> </ul>

Nº	Stakeholder	Stakeholder Interests	Basic mechanisms of interaction
3	Business partners, suppliers and contractors	<ul style="list-style-type: none"> <li>Fair competition and responsible market behavior</li> <li>Transparency, including transparency of procurement activities</li> </ul>	<ul style="list-style-type: none"> <li>Forums, exhibitions, conferences, dialogues</li> <li>Open and competitive procurement procedures</li> <li>Joint projects</li> </ul>
4	Public environmental organisations	<ul style="list-style-type: none"> <li>Protection of the environment</li> </ul>	<ul style="list-style-type: none"> <li>Running environmental impact assessment</li> <li>Environmental projects in the regions of presence</li> </ul>
5	Employees and labor union organisations	<ul style="list-style-type: none"> <li>Professional and career growth</li> <li>Safe working conditions</li> <li>Worthy conditions of remuneration</li> </ul>	<ul style="list-style-type: none"> <li>Staff development</li> <li>Social support of employees</li> <li>Information and communication through internal channels</li> <li>Interaction with trade union organisations</li> </ul>
6	Professional associations and industry organisations	<ul style="list-style-type: none"> <li>Development of research in power engineering</li> <li>Innovative technologies development</li> <li>Prospects for cooperation</li> </ul>	<ul style="list-style-type: none"> <li>Forums / conferences / exhibitions</li> <li>Joint programmes</li> <li>Public reporting</li> <li>Work in the Organisation / Association Programmes</li> </ul>
7	The authorities at federal, regional and municipal levels	<ul style="list-style-type: none"> <li>Development and modernization of electric and thermal power facilities</li> <li>Development of regions of presence</li> <li>RES development</li> <li>Improvement of the regulatory and legal support of the Company</li> <li>Ensuring reliable and uninterrupted power supply</li> </ul>	<ul style="list-style-type: none"> <li>Agreement on socio-economic cooperation with the subjects of the Russian Federation</li> <li>Carrying out public hearings on plant construction projects</li> <li>Work in joint committees, commissions, expert groups on the development of the fuel and energy facilities</li> </ul>
8	Regulatory and controlling authorities	<ul style="list-style-type: none"> <li>Compliance with the requirements of Russian and international law</li> </ul>	<ul style="list-style-type: none"> <li>Reporting</li> <li>Development of proposals for improving legislation</li> </ul>
9	Educational institutions	<ul style="list-style-type: none"> <li>Targeted training</li> <li>Development of branch science</li> <li>Development of innovative technologies, including reducing the negative impact on the environment</li> </ul>	<ul style="list-style-type: none"> <li>Cooperation in the field of scientific and research activities</li> <li>Training, retraining and advanced training of workers</li> <li>R&amp;D Contracts</li> </ul>
10	Local communities and residents of regions of presence	<ul style="list-style-type: none"> <li>Support for the development of regions of presence</li> <li>Ensuring reliable and uninterrupted power supply</li> <li>Workplaces creation at the Group's facilities</li> </ul>	<ul style="list-style-type: none"> <li>Holding public hearings on energy facilities construction projects</li> <li>Providing decent working conditions and pay</li> </ul>
11	Media	<ul style="list-style-type: none"> <li>Preparation of press releases, statements, comments and messages for the media</li> <li>Timely response to media requests</li> <li>Preparation of reference, information-analytical and presentation materials</li> <li>Organisation and holding of briefings, press conferences, interviews, approaches to the press, press tours and other events for the media</li> </ul>	<ul style="list-style-type: none"> <li>Distribution of press releases, statements, comments and messages</li> <li>Placement of information on the corporate website and in social media</li> <li>Press conferences, briefings, interviews, press approaches, press tours</li> </ul>
12	Public social and charitable organisations	<ul style="list-style-type: none"> <li>Support of public activities</li> <li>Care for the environment</li> </ul>	<ul style="list-style-type: none"> <li>Social and charitable programmes</li> <li>Public reporting</li> <li>Carrying out actions of social orientation</li> </ul>

RusHydro held public hearings on this Report for 2017 on April 20, 2018, where various groups of stakeholders participated. Representatives expressed their views on the completeness and materiality of the information presented in the Report and made recommendations to the prospective plans of the RusHydro Group.



The Protocol of public hearings on the Report for 2017 are posted on the Company's website:  
<http://www.eng.rushydro.ru>



# RESULTS OF INTERACTION WITH STAKEHOLDERS

## Federal and regional authorities

As part of the strategy of PJSC RusHydro, management and specialists of the Company interact with state authorities at federal and regional levels.

One of the priorities of the activities of PJSC RusHydro in this area is the partnership to improve the competitiveness of the national and regional economy, the social development of the regions on the basis of compliance with legislation and transparency of the Company's activities.

With regard to interaction with federal authorities, PJSC RusHydro's managers actively participate in the work of the commissions and working groups under the President and the Government of the Russian Federation on the development of the fuel and energy facilities and socio-economic development of the regions of the Russian Federation.

Apart from that, work is being carried out with industry and other committees of the Federal Assembly of the Russian Federation on issues affecting the activities of PJSC RusHydro.

In 2017, specialists of PJSC RusHydro participated in parliamentary hearings, round tables and a number of extended meetings of committees of the Federal Assembly of the Russian Federation with the participation of representatives of federal authorities of the Russian Federation and authorities of the subjects of the Russian Federation, as well as representatives of energy companies on topics directly related to activities and prospects of the Company's development.

With the active participation of representatives of PJSC RusHydro:

- Federal Law of June 30, 2017 No. 129-FL "On Amendments to the Federal Law of March 26, 2003 No. 35-FL "On Electricity", regarding the resolution of the issue of achieving in the territories of the Far Eastern Federal District planned for the next period regulation of basic price levels (tariffs) for electric energy (capacity), when applying a surcharge to the price for capacity of the wholesale market entities - energy producers of the price zone;
- Resolution of the Government of the Russian Federation of July 28, 2017 No. 895 "On the achievement of basic

levels of prices (tariffs) for electricity (capacity) in the Far Eastern Federal District";

- Decree of the Government of the Russian Federation of July 28, 2017 No. 1614-r on determining the subject of the wholesale market - the producer of electric energy (capacity), to the price of the capacity of which the surcharge to the price for capacity is applied;
- Decree of the Government of the Russian Federation of July 28, 2017 No. 1615-r on prices (tariffs) for electricity (capacity) for the constituent entities of the Russian Federation that are part of the Far Eastern Federal District.

In accordance with the above-mentioned regulatory acts of PJSC RusHydro, the following work has been done:

- interaction with regional authorities to ensure compliance of regional regulatory legal acts with regulatory acts;
- interaction between Federal Antimonopoly Service of Russia and the Far East regions in terms of agreeing and matching the estimated allowance to the adopted tariff decisions.

PJSC RusHydro makes efforts to develop strategic interaction with authorities in the regions of its presence and create a favorable social climate for the effective development of the Group's companies, including through the development of social partnership in these regions. One of the forms of development of social partnership is the conclusion of agreements on mutually beneficial cooperation in the field of social and economic development of the region of presence.

In addition, with the state authorities of the constituent entities of the Russian Federation, on the territory of which the reservoirs of the hydroelectric power stations included in PJSC RusHydro are located, close interaction was conducted on the preparation and safe passage of floods.

On December 31, 2017, agreements and memoranda signed with the authorities of the following regions:

- Republic of Dagestan
  - Republic of Sakha (Yakutia)
  - Republic of Tatarstan
  - Republic of Khakassia
  - Kamchatka Territory
  - Chukotka Autonomous District
  - Amur Region
  - Volgograd Region
  - Irkutsk Oblast
  - Magadan Region
  - Moscow Region
  - Sverdlovsk Oblast
- 

Guided by the decision of the country's leadership on the need for the priority development of the territories of the Far Eastern Federal District, the Company's executives interacted with state authorities at the federal and regional levels on such key issues for PJSC RusHydro, such as:

- formation of mechanisms for attracting investments in the modernization of heat and electric power generation facilities in the Far East;
- development of approaches to improve the mechanisms for tariff regulation of the activities of electric power facilities in the non-price zone of the wholesale market and in isolated power systems of the Far East.

## Shareholders and investors

During the reporting year, the Company actively interacted with participants of the stock market and improved disclosure of information. Within the framework of interaction with the investment community, the following activities were carried out during 2017:

- more than 200 individual and group meetings with the managers of the largest international and Russian investment funds;
- four quarterly conference calls of the management with analysts, investors, and rating agencies;
- Capital markets day with participation of analysts, portfolio managers, and business media.

During the meetings, the focus was on communicating the Group's strategic priorities and plans. In particular, the company clarified details of the transaction on raising 55 billion rubles from VTB Bank (PJSC) to the share capital of the Company by entering into a five-year forward contract in order to solve the debt burden problem of RAO ES East Subgroup, and on RusHydro's Group Expansion Plan, developed and approved in the reporting year until 2021.

## Analytical agencies

RusHydro actively cooperated with analytical agencies specialising in the assessment of companies from the point of view of sustainable development in 2017, which enabled the Company to significantly improve its results in the relevant international ratings and indices.

## Business partners

Information on interaction with business partners can be found in the section "International activity".



See section "Awards and ratings".

# Customers and consumers

PJSC RusHydro has successful experience of cooperation with prospective energy-intensive industrial consumers within the energy-industrial complexes, the purpose of which is to contract new generation and consumption facilities to hedge the risks of serious fluctuations in electricity prices necessary for the operation of new enterprises for a long-term period, as well as an integrated implementation of joint investment projects.

Free contracts for the purchase and sale of electricity and capacity between new generators and consumers can serve as an effective tool for raising borrowed funds on the terms of project financing. This practice is mutually beneficial both for producers and consumers of electric energy, since it allows us to determine in advance the price (price formula) of electric energy and fix it on a long period of time sufficient for the return of investments and ensuring the accepted parameters of economic efficiency of investment projects.

## Basic agreements with potential energy-intensive industrial consumers, signed in 2017

Agreement	Direction of cooperation	Benefits
Agreement on cooperation dated 01.06.2017 No. 1010-240-19-2017, signed between PJSC RusHydro and PJSC SIBUR Holding within the framework of SPIEF-2017	The agreement creates conditions for reliable energy supply of one of the largest possible petrochemical projects - the Amur Gas Chemical Complex (AGCC), whose construction project SIBUR is currently working on and to optimise the performance of the company's energy equipment	Increasing the load of existing and future generating facilities of RusHydro in the Amur Region and IES of the East due to the organisation of energy supply to AGCC from the generating facilities of RusHydro Group and the failure of SIBUR from the option of power supply to AGCC from its own generating source
The contract of purchase and sale of electric energy (capacity) of 16.09.2017 No. 1817 between PJSC Polyus in the person of SC Matrosov Mine (JSC RiM) and PJSC RusHydro represented by PJSC Kolymaenergo	Provision of power supply for Natalka Mining and Processing Plant (RM) in the Magadan Region.	Ensuring the loading of the Ust-Srednekanskaya HPP under construction in the Magadan Region.
Power Supply Agreement No. 1 dated 01.03.2017 between PJSC Polyus represented by JSC Vitimenergostroy and PJSC RusHydro represented by PJSC Yakutskenergo	Provision of power supply for the Polyus Verninskoye facilities located in the Irkutsk Region	Ensuring the loading of the cascade of the Vilyuiskiy HPPs in the Republic of Sakha (Yakutia)

As part of ongoing work on contracting the generating facilities of RusHydro Group in the regions where new construction of generating facilities is planned, in particular in the regions of the Far East, a database on potential consumers of electricity and capacity generated by RusHydro Group's power plants for a long-term period has been signed, in cooperation with prospective energy-intensive consumers.



Corporate website of PJSC RusHydro contains special section for potential consumers: <http://www.eng.rushydro.ru>

## Programmes, including those with the participation of the Government of the Russian Federation, on improving or maintaining access to electricity and serving consumers [103-2], [103-3]

Name, region	Description
Chuvash Republic: target model "Technological connection to electric grids" (Order of the Government of the Russian Federation No. 147-r of 31.01.17)	Simplification of procedures for technological connection to electric grids and conclusion of an energy supply contract (on the principle of "one-stop shopping")
The state programme of the Ryazan Region "Development of communal infrastructure, energy saving and energy efficiency improvement for 2015-2020", approved by the Resolution of the Government of the Ryazan Region No. 314 of October 29, 2014	Objectives of the Programme: <ul style="list-style-type: none"> <li>■ improving the quality and reliability of providing housing and communal services to the people;</li> <li>■ realisation of the state policy of energy saving and increase of energy efficiency on the territory of the Ryazan Region,</li> <li>■ Increasing the efficiency of the use of fuel and energy resources through the implementation of energy-saving measures.</li> </ul>
The interaction of the applicant with the energy sales company on the conclusion of contracts (Ministry of Industry, Energy and Housing and Communal Services of the Krasnoyarsk Territory, in accordance with the order of the Government of the Russian Federation of January 31, 2017 No. 147-p)	Regulation of interaction between grid and energy sales organisations when concluding an energy supply contract in parallel with the procedure of technological connection.
Long-term programme for replacement of ageing capacities and development of power systems of the Far East, the region - Far Eastern Federal District	The programme is a fundamental document for the development of the electric power industry of the Far East. The objectives of the Programme are: <ul style="list-style-type: none"> <li>■ to ensure high-quality and reliable energy supply to FEED consumers by developing timely and consolidated solutions, including on the improvement of energy facilities;</li> <li>■ the formation of sound management and investment decisions for the medium and long term, the formation of proposals for funding sources of activities and the necessary changes in the regulatory framework.</li> </ul> <p>The implementation of the Programme will solve the problem of providing reliable energy supply to existing and prospective consumers and will contribute to the development of the FEED economy as a whole.</p> <p>Based on the results of the development of the Programme, proposals for the new construction and modernization of generating sources in the territory of the Far Eastern Federal District.</p>



## Professional associations and industry organisations

RusHydro Group is a member of Russian industry associations and non-profit partnerships. Among them are the organisations presented below RusHydro Group considers its participation strategic. [102-13]

### Membership in Russian and international industrial organisations

Organisations	Field of activities
International Hydropower Association	Maintenance and dissemination of knowledge on hydropower under the auspices of the International Hydrological Programme of UNESCO
Global Sustainable Electricity Partnership	The development of joint political platforms and the implementation of relevant initiatives in both domestic markets and internationally
NP Market Council	Organisation of electricity purchase and sale in the wholesale electricity market The group views participation as strategic
NP Association of Land and Real Estate Owners and Investors	The partnership is a platform on which the promotion of PJSC RusHydro's interests is carried out and a dialogue is being built with the state authorities on the issues of improving land and property legislation
NP Hydropower of Russia	Increase of the efficiency of hydropower facilities and the use of hydropower resources of Russia (The group views participation as strategic)

Organisations	Field of activities
All-Russian Association of Employers "The Russian Union of Industrialists and Entrepreneurs"	Protection of common economic and social interests and legal rights that are necessary for the sustainable development of companies and the market economy as a whole. The group views participation as strategic
NP Council of Energy Veterans	Assistance to the members of the Partnership in carrying out activities aimed at providing comprehensive assistance to energy veterans The group views participation as strategic
NP Russian-Chinese Business Council	The RCBC was created to promote joint economic projects between Russia and China, to protect mutual investments and settle corporate disputes, and to promote cooperation between Russian and Chinese business communities
NP Club of Directors for Science and Innovation	The Club is a communicative platform for a community of professionals in research, development and innovation
SRO Association EnergoStroyAlyans	Assistance in creating favorable conditions for the activities of enterprises engaged in construction, reconstruction, capital repairs of capital construction facilities, protection of the energy sector from unscrupulous foreign and domestic organisations and enterprises
NP Scientific and Technical Council of UES	Assistance to the members of the Partnership in the formation of scientific, technical and economic policy in the Unified Energy System of Russia
Association ENERGOPROEKT	Association of companies engaged in designing in the field of energy construction in order to ensure a high level of safety and reliability of capital construction projects. The scope of activities of the "ENERGOPROEKT" Association covers all types of design works that affect the safety of capital construction facilities, including highly dangerous and technically complex facilities, nuclear power facilities
All-Russian branch of the Association of Electrical Power Industry (Association EEPI)	Representation of interests of employers of electric power industry, protection of their rights in public authorities, local self-government bodies, in relations with trade unions, their associations; representation of the interests of the industry's employers when concluding sectoral tariff agreements and other agreements regulating social and labor and related relations
Self-regulating organisations (SROs)	Representing the interests of organisations that specialize in the construction, reconstruction and overhaul of capital construction projects. Such organisations include: <ul style="list-style-type: none"> <li>■ Association "Self-Regulating Corporation " Union of Builders of the Amur Region";</li> <li>■ Association "Self-Regulating Corporation of Builders of the Krasnoyarsk Territory";</li> </ul> and other SROs at the controlled companies of PJSC RusHydro location

Within the framework of the Year of the Environment, the Board of Directors of PJSC RusHydro recognised the importance of the Company joining the largest United Nations initiative for business in sustainable development, - the UN Global Compact. In 2017, RusHydro signed and sent a letter of commitment to the UN Secretary-General expressing support for the Compact and its ten principles in the field of human rights, labor relations, environmental protection and combating corruption. In 2018, it is planned to join the Association "National Network of the Global Compact".

This integrated report is the first progress report on sustainable development in accordance with the principles of the UN Global Compact. [102-12]

## Charter, principles and initiatives that the Company supports

Name	Year of accession	Scope of the document
Declaration of "Reservoirs for Sustainable Development" (ICOLD)	2012	International document
The Social Charter of Russian Business (RSPP)	2013	RF
The Anti-Corruption Charter (RSPP)	2013	RF
The concept of long-term socio-economic development of the Russian Federation for the period until 2020	2008	RF
Methodology for assessing the compliance of hydropower projects with the criteria of sustainable development (International Hydropower Association (IHA))	2011	International document
Industry tariff agreement in the electric power industry of the Russian Federation for 2016-2018	2016	RF
The UN Global Compact	2017	International document

## Media

Interaction with the media in 2017 was aimed at ensuring the operational access of stakeholders to reliable information about the Company's activities. The key tasks of information and PR support of RusHydro's activities in 2017 were:

- a demonstration of the leading role of RusHydro in the development of the energy infrastructure of the Far East on the example of informing about the progress in the implementation of projects for the construction of new power capacities in the Far Eastern regions;
- informing about the unique technical parameters and the progress of the implementation of the Comprehensive Modernization Programme aimed at updating the Company's main production assets - HPPs;
- information on the implementation of construction projects for new hydro-generation facilities;
- emphasis on the key role of hydropower plants in regulating water regimes and protecting territories and populations from seasonal and extraordinary flooding;
- promotion of the topic of social responsibility of the Company and implementation of charitable initiatives;
- informing shareholders and investors on the results of the activities and development strategy of RusHydro;
- Spreading knowledge of the industry in the media and the general public.

To interact with the media and provide objective information about the activities of RusHydro, such tools as sending out press releases, posting information on the corporate website and in social networks, interviews with managers, press conferences, press tours to RusHydro's sites in the regions, media publications, are employed.

During the reporting period, the media published 58,705 publications with a reference to PJSC RusHydro and its controlled companies. More than 96 % of these reports were neutral and positive.

Negative publications about the RusHydro Group were related to two events: criticism by President of Kyrgyzstan Almazbek Atambayev of situation with the construction of the Upper Naryn cascade of hydropower plants and damage to the gate of the spillway of the Nizhne-Bureyskaya HPP in August 2017.

### Work with the media in the reporting period

**Case:** On July 25, Kyrgyz President Almazbek Atambayev made a number of criticising remarks regarding PJSC RusHydro and the situation with the construction of the Verkhne-Narynsky cascade of HPPs.

**Reaction:** On July 25, PJSC RusHydro prepared a statement on the unacceptability of information speculation and statements by Kyrgyz partners. The company recalled that the intergovernmental agreement on the construction and operation of the Verkhne-Narynsky cascade of hydropower plants was unilaterally cancelled by the Kyrgyz side. At the same time, RusHydro said that it reserves right to initiate an international arbitration with a claim for compensation by the Kyrgyz side of all costs incurred by the Company in connection with the participation in the project.

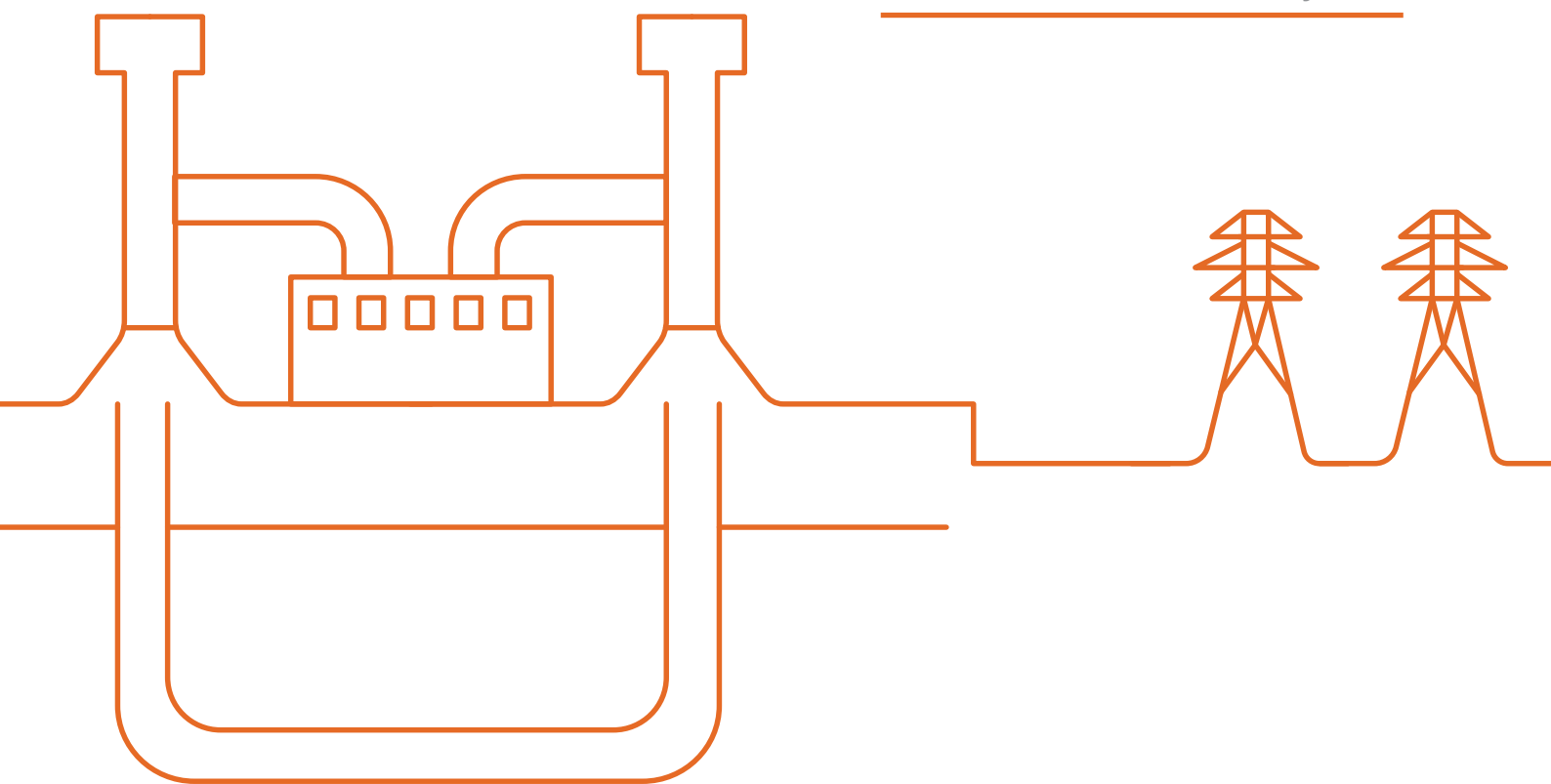
**Case:** On August 24, with normal manoeuvring in span No. 1 of the spillway dam of the Nizhne-Bureyskaya HPP, the shutter was damaged.

**Reaction:** The Company quickly prepared, published on RusHydro's website and sent out a press release to all mass media with a detailed description of the incident, an indication of the absence of victims and injuries. In addition, the Company released video reflecting the state of the machine room of the Nizhne-Bureyskaya HPP at 23:30 on August 24, 2017. On August 25, the Company published a report on the stable situation at the Nizhne-Bureyskaya HPP, the progress of construction of the plant, and the results of testing the technological systems. It was stated that there was no threat to the population, for the equipment and main facilities of the HPP. Photos confirming the stable position around the station are published. Subsequently, there were published reports on the progress of restoration work, their completion, investigation of the reasons for the damage to the shutter. Nikolay Shulginov, Chairman of the Management Board of PJSC RusHydro, reported to the President of the Russian Federation on the progress of the investigation into the causes of the incident. The report on the work of the Commission for Technical Investigation of the incident was published on RusHydro's corporate website, the press release was sent to the media.

# CORPORATE GOVERNANCE

The corporate governance of RusHydro Group is aimed at creating and maintaining the Company's trustworthy relations with investors, protecting the rights and interests of shareholders, and increasing the value of shares.

About **350**  
thousand  
shareholders of PJSC RusHydro





# CORPORATE GOVERNANCE SYSTEM

The corporate governance system was created in accordance with the requirements of the legislation, taking into account the current trends and practices, as well as the requirements arising from the listing of shares and depositary receipts on the Moscow Stock Exchange, the London Stock Exchange and the OTCQX OTC market in the USA.

The model of corporate management in PJSC RusHydro is characterised by the presence of a controlling shareholder - the State<sup>1</sup>, which, due to the prevailing participation in the authorised capital, has a significant impact on corporate governance. However, such influence is exercised not in the administrative, but in the corporate order. Separate procedures for the implementation of the rights of the state as an owner are enshrined in legislation and reflect the procedure for the state to take its decisions with respect to the Company, exercised through corporate rights.

The principles and procedures for corporate governance of the Group are enshrined in the Charter and in the internal regulatory documents of the Company. The Corporate Governance Code of PJSC RusHydro<sup>2</sup> (hereinafter - the Code) is a document that systematises corporate practices.

The approval of the Code demonstrates the Company's commitment to comply with the best practices of corporate governance, including the recommendations of the Bank of Russia's Corporate Governance Code (approved by the Bank of Russia Board of Directors on March 21, 2014). [102-16]

## Key principles of the corporate governance:

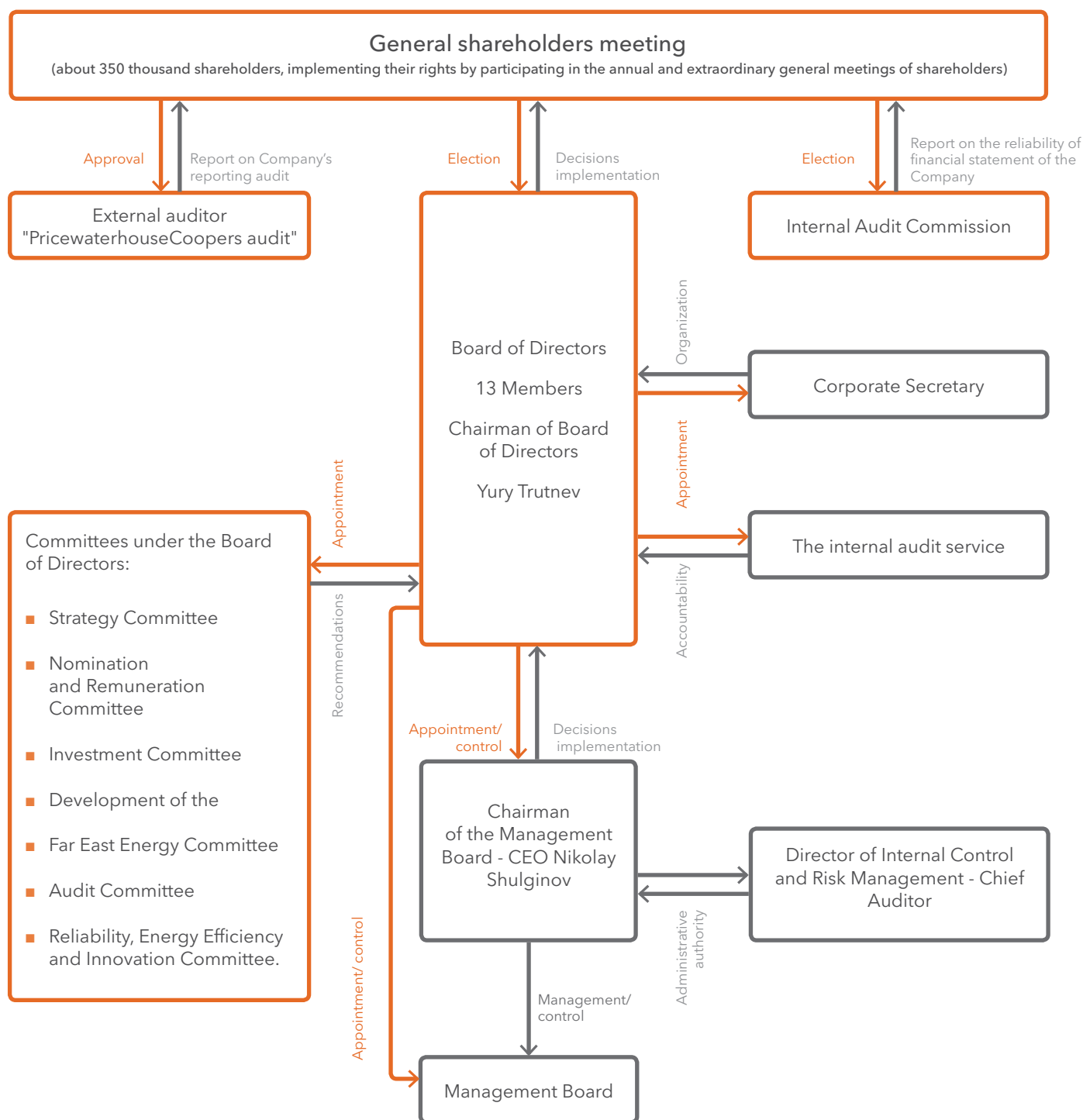
- equal and fair treatment of all shareholders;
- professionalism, responsibility, and accountability of the Board of Directors to the Company's shareholders;
- ensuring the transparency and openness of information about the Company;
- effective system of risk management and internal control;
- fair exercise by all shareholders, the Company, its management bodies, officials and other interested persons of their rights, prevention of cases of abuse of rights;
- inadmissibility of actions of shareholders which are aimed at causing harm to other shareholders or the Company;
- continuous improvement of the corporate governance practices.

<sup>1</sup> Information on the existence of a memorandum on the plans of the Russian Federation in relation to the Company <http://www.rushydro.ru/investors/stockmarket/capital/svedeniya-o-nalichii-memoranduma-o-planakh-kontroliruyushchego-obshchestvo-litsa-v-otnoshenie-obshch>.

<sup>2</sup> Approved by the Board of Directors on June 19, 2015 (with amendments approved by the decisions of the Board of Directors of PJSC RusHydro (Minutes No. 239 of 23.06.2016, No. 263 of December 28, 2017).

The responsibility for implementing this code is vested in the Board Member who oversees the Financial and Corporate Governance Unit. Familiarisation of all interested persons with this Code takes place through the disclosure of the Code on the official website of the Company on the Internet. Thus, their familiarisation with them, as well as the signing by all (as well as new) members of the Board of Directors, employees and business partners is not required. Regular training of all (and also new) members of the Board of Directors, employees, and business partners is not required.

# CORPORATE GOVERNANCE STRUCTURE



## Evaluation of the quality of corporate governance

External evaluation of both individual aspects and corporate governance in 2017 was carried out by the Working Group on the Establishment of an International Financial Centre in the Russian Federation and the Expert Council under the Government of the Russian Federation, the Russian Union of Industrialists and Entrepreneurs and the Russian Institute of Directors.

In November 2017, the Working Group on the Establishment of the International Financial Center in Russia in conjunction with the Expert Council under the Government of the Russian Federation published the results of a study of the practice of introducing companies' priority recommendations of the Code and the quality of corporate governance. PJSC RusHydro took the 4th place in this study alongside PJSC Rosneft Oil Company.

Following the results of 2017, the Company became one of the leaders in the the Russian Union of Industrialists

and Entrepreneurs (RSPP) index of sustainable development - 'Responsibility and Openness'. The Responsibility and Openness index reflects the quality and breadth of disclosure of corporate information on sustainable development and corporate responsibility.

In May 2017, the Russian Institute of Directors, engaged by which the Company on an ongoing basis, conducted an annual assessment of the corporate management practices of PJSC RusHydro in accordance with the updated methodology of the National Corporate Governance Rating (NCGR). As a result of the assessment, PJSC RusHydro was assigned a corporate governance rating of 7 ++ Advanced Corporate Governance Practices on the NCGR scale.

This assessment confirms that the Company complies with the requirements of the Russian legislation in the field of corporate governance and follows a significant number of recommendations of the Russian Corporate Governance Code.



## CORPORATE GOVERNANCE DEVELOPMENT

In 2017, the Company continued to implement Code standards aimed at improving the level of corporate governance by bringing internal documents in line with it, as well as the application of standards in everyday practice.

In 2017, the following key events were conducted:

- PJSC RusHydro shares held by controlled entities did not participate in voting during the reporting period. In 2017, a significant portion of quasi-treasury shares were sold to VTB Bank (PJSC). At the moment, the companies of RusHydro Group held 0.9% of the Company's voting shares;
- The PJSC RusHydro Board of Directors assessed the effectiveness of the Company's risk management and internal control system, and also discussed the corporate governance practice in the Company;
- Senior Independent Director was elected;
- The Board of Directors approved the Regulation on the Information Policy of the Company in a new version, and at the end of 2017 reviewed the report on its implementation;

- The Nominations and Remuneration Committee made an assessment of the independence of nominees to the Board of Directors for the purpose of providing information to the Company's shareholders before the annual General Meeting of shareholders;
- the list of materials provided to the shareholders of the Company for the annual General Meeting of Shareholders has been expanded.

The main directions of improving the Company's corporate governance system for 2018:

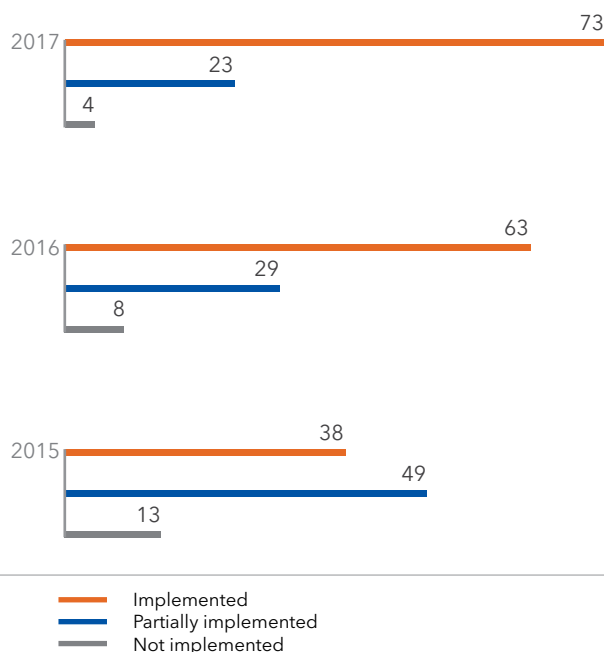
- update and inclusion in the internal documents of the Company of norms aimed at:
  - forming an introductory course programme for the members of the Board of Directors elected for the first time,
  - preventing and resolving conflicts of interest of members of the Board of Directors,
  - creating an opportunity for the Board of Directors to attract external independent experts (consultants) to study issues that are the subject of its consideration,
  - creating an opportunity to increase the efficiency of the work of the members of the Board of Directors through training and improving their skills,
  - providing members of the Board of Directors with access to documents of entities controlled by the Company;
- depending on the actual circumstances and requirements – increase in the number of full-time meetings of the Board of Directors of the Company;
- Improving the quality and detail of information disclosure in the Annual Report and on the Company's website.

## Compliance with the principles of the Corporate Governance Code<sup>1</sup>

The status of the implementation of the norms and principles of the Code	Shareholder rights and equality of conditions for shareholders in exercising their rights		The remuneration system for members of the Board of Directors, executive bodies, and other key management personnel of the Company		Risk management and internal control system		Disclosure of information about the Company, information policy of the Company		Significant corporate actions
	Year	Board of Directors of the Company	Corporate Secretary of the Company						
Implemented	2015	9	12	–	3	5	1	–	
	2016	10	20	2	10	5	3	–	
	<b>2017</b>	<b>11</b>	<b>23</b>	<b>2</b>	<b>10</b>	<b>6</b>	<b>6</b>	<b>–</b>	
Partially implemented	2015	3	17	2	6	1	6	4	
	2016	2	12	–	–	1	4	4	
	<b>2017</b>	<b>2</b>	<b>10</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>1</b>	<b>5</b>	
Not performed	2015	1	7	–	1	–	–	1	
	2016	1	4	–	–	–	–	1	
	<b>2017</b>	<b>–</b>	<b>3</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	
<b>Total 2017</b>		<b>13</b>	<b>36</b>	<b>2</b>	<b>10</b>	<b>6</b>	<b>7</b>	<b>5</b>	

<sup>1</sup> The assessment of compliance with the principles of corporate governance enshrined in the Code of Corporate Governance was carried out according to the methodology developed by the Bank of Russia, taking into account recommendations on compiling a report on compliance with the principles and recommendations of the Corporate Governance Code (annex to Bank of Russia Letter No. IN-06-52 / 8 of February 17, 2016). For a full report on the Company's compliance with the principles and recommendations of the Corporate Governance Code and the explanation of deviations from the criteria for assessing compliance with corporate governance principles, see Appendix No. 1 to the annual report.

### Implementation of the Code of Corporate Governance, %



As a result of the gradual introduction of the Code, the share of principles fully observed in PJSC RusHydro increased: 38% in 2015, 63% in 2016 and 73% in 2017.

## MANAGEMENT OF CONTROLLED COMPANIES

PJSC RusHydro (including indirectly through controlled companies) participates in the authorised capital of companies that are engaged in production and sales of electricity and heat, design, construction, maintenance, technical rehabilitation and modernisation of power facilities, as well as other activities.

The Company's interaction with the subsidiaries helps implement the strategy, ensuring stable economic development and investment attractiveness, as well as protecting the rights and interests of shareholders of both the Company itself and its controlled companies.

The Company manages controlled companies through its representatives at general meetings of shareholders / participants, on boards of directors and in controlled companies control bodies in accordance with the Charter and the Regulations on the formation of instructions to rep-

resentatives of PJSC RusHydro on issues on the agenda of meetings of management bodies of PJSC RusHydro controlled companies.

Determination of the position of the Company (its representatives in the management bodies of subsidiaries) on the most significant issues related to the activities of its subsidiaries (reorganisation, liquidation, change of the authorised capital, approval of major transactions, and participation of subsidiaries in other organisations) falls within the competence of the Board of Directors. Determination of the position on other significant issues related to the activities of subsidiaries (on the approval (adjustment) of KPIs, on transactions with shares (shares), etc.), and decisions on the competence of the supreme management bodies of subsidiaries, 100% of the authorised capital of which belongs to the Company to the competence of the Management Board.

# GOVERNING BODIES OF PJSC RUSHYDRO

## GENERAL MEETING OF SHAREHOLDERS

The supreme management body in the Company is the General Meeting of Shareholders, which operates in accordance with the laws of the Russian Federation, the Company's Charter, and the Regulations on the procedure for convening and holding the General Meeting of Shareholders of PJSC RusHydro approved by the annual General Meeting of Shareholders on June 26, 2017 (Minutes dated June 27, 2017 No. 16).

The annual General Meeting of Shareholders following the results of 2016 was held on June 26, 2017 in Moscow (Minutes No. 16 dated June 27, 2017), at which the following decisions were made:

- Annual Report of PJSC RusHydro for 2016 was approved;
- annual accounting (financial) statements for 2016 was approved;
- distribution of profits by the end of 2016 was approved;
- dividend payment for 2016 was approved;
- new members of the Board of Directors and the Audit Commission were elected;
- Company's auditor was approved;
- remuneration to the members of the Board of Directors and members of the Audit Commission was approved;
- Charter, Regulations on the Procedure for Convening and Holding the General Meeting of shareholders of the Company, the Regulations on the Procedure for Convening and Holding Meetings of the Board of Directors of the Company, the Regulations on the Management Board of the Company, the Regulations on Remuneration and Compensation to the members of the Audit Commission, the Regulations on the Payment of Remuneration and Compensation to Members of the Board of Directors;

- termination of participation of PJSC RusHydro in NP KONTSEES approved;
- a loan agreement between PJSC RusHydro and JSC RAO ES East, which is an interested party transaction, was approved.

Extraordinary General Meetings of Shareholders of the Company were not held in 2017.



Materials of the meeting, including the Protocol, are available at the Company's website: <http://www.eng.rushydro.ru>

# BOARD OF DIRECTORS

The Board of Directors of PJSC RusHydro is annually elected by the General Meeting of Shareholders and carries out the strategic management of the Company.

The Board of Directors acts on the basis of the Charter and the Regulations on the Procedure for Convening and Holding Meetings of the Board of Directors of PJSC RusHydro approved by the annual General Meeting of Shareholders on June 26, 2017 (Minutes dated 27.06.2017 No. 16).

The Board of Directors implements the following key functions in the management of the Company: it determines the main principles and approaches to the organisation of the risk management and internal control system in the Company, makes decisions on improving corporate governance practices, determines the directions of investment and business planning, efficiency management, innovative development, and it also addresses issues related to sustainable development. The Board of Directors is also involved in some of the most important or regular operational issues, such as ensuring the reliability and safety of the operation of the Company's facilities, the status of implementing the largest projects, the approval of individual transactions, the management of controlled companies.

**The number of members of the Board of Directors is 13, which is determined by the Company's Charter.**

The Board of Directors includes 4 independent directors: Maxim Bystrov, Pavel Grachev, Vyacheslav Pivovarov and Sergey Ivanov.

In 2017, there were two Board of Directors – the members were elected at the Annual General Meetings of Shareholders on June 27, 2016 and June 26, 2017. The composition of the Board of Directors has not changed since June 27, 2016.

The Board of Directors members' civil responsibility for losses that may arise from the Company and from third parties as a result of the adoption of certain decisions of the Board of Directors is insured annually. For more details, see the Insurance cover section.



For more details about the criteria and grounds for independence, see the table "Board of Directors membership as of December 31, 2017"

## Conflict of interests

In accordance with the Code of Corporate Ethics of PJSC RusHydro approved by the Board of Directors on May 21, 2012 (Minutes No. 152) and the Code of Corporate Ethics of PJSC RusHydro approved by the Board of Directors on April 7, 2016 (Minutes No. 235), the members of the Board of Directors should refrain from actions that will lead or potentially lead to a conflict of interest, and in the event of a conflict of interest, a member of the Board of Directors must notify the Company of a conflict of interest. The obligation to notify of the existence of a conflict of interest also (from June 27, 2016) is contained in the Regulations on the procedure for convening and holding meetings of the Board of Directors of PJSC RusHydro.

In 2017, no notifications from members of the Board of Directors of PJSC RusHydro that they had a conflict of interest in 2017 were received.



## Board of Directors membership as of December 31, 2017<sup>1</sup>

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**TRUTNEV  
Yury**

*Chairman of the Board  
of Directors*

Representative  
of the Russian Federation,  
public servant

Membership in the Board  
of Directors since 2015

**Born in: 1956**

**Education:**

Perm Polytechnic Institute (Mining Engineering)

**Work experience for the last 5 years:**

2013 – present - Deputy Prime Minister of the Russian Federation - Plenipotentiary  
Representative of the President of the Russian Federation in the Far Eastern Federal District  
2012-2013 - Aide to the President of the Russian Federation

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Supervisory Board of Rosatom State Corporation
- Member of the Supervisory Board of the Federal State Autonomous Educational Institution of Higher Education "Far Eastern Federal University"
- Co-chairman of the All-Russian Union of Public Associations "Russian Union of Martial Arts"

**Committees:**

Committee for the Development of Energy in the Far East

**Extended:**

2017, Russian Federation

**AVETISYAN  
Artem**

Representative  
of the Russian Federation,  
professional attorney

Membership in the Board  
of Directors since 2015

**Born in: 1976**

**Education:**

Finance Academy of The Government of the Russian Federation (Appraisal, Finance  
and Credit)

**Work experience for the last 5 years:**

2011 – present - Director of New Business, ANO Agency of Strategic Initiatives for Promotion  
of New Projects  
2015-2017 - President of LLC Commercial Bank Uniastrum  
2014-2016 - Vice-President of LLC NEO Center

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Board of Directors of PJSC CB "Vostochny" (Chairman)
- Member of the Board of Directors of JSC CB "Modulbank" (Chairman)

**Extended:**

2017, Russian Federation

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<sup>1</sup> Members of the Board of Directors as of December 31, 2017 do not own shares in the Company, including indirectly. In the reporting year, the members of the Board of Directors did not acquire or alienate shares of the Company. The Company and the Group companies did not issue loans to members of the Board of Directors.

The duties of the Representatives of the Russian Federation are determined by Decree of the Government of the Russian Federation No. 738 of December 3, 2004.

The independence of the members of the Board of Directors is determined in accordance with the criteria for the independence of the PJSC Moscow Exchange and the Corporate Governance Code recommended by the Bank of Russia.

<sup>2</sup> Information on all the positions held in the management bodies of other organisations for the last 5 years is given in Section 5.2.1 of the Company's quarterly report for the 4th quarter of 2017, which is published at <http://www.rushydro.ru/upload/iblock/d01/1-EZhO-4-kv.17.pdf>

**BYSTROV  
Maxim**

Independent director

Membership in the Board  
of Directors since 2013**Born in: 1964****Education:**

V. V. Kuibyshev Moscow Civil Engineering Institute (Hydraulic Engineering Structures and River Hydro Power Plants)  
All-Russian Academy of Foreign Trade (World Economy)

**Work experience for the last 5 years:**

2013 – present - Chairman of the Board of the Association NP Market Council  
2013 – present - Chairman of the Management Board of ATS  
2010-2013 - Deputy Plenipotentiary Representative of the President of the Russian Federation in the North Caucasus Federal District

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Supervisory Board of the Association NP Market Council;
- Member of the Board of Directors of ATS;
- Member of the Board of Directors of JSC SO UES.

**Committees:**

Audit Committee, Personnel and Remuneration Committee, Investment Committee

**Extended:**

2017, Russian Federation

Detailed information on the recognition by the Board of Directors of Maxim Bystrov as an independent director is disclosed on the Company's website at: <http://www.rushydro.ru/upload/iblock/881/Vipiska-iz-protokola--263.pdf>

Recognised by the Board of Directors as an independent director since the director on the date of recognition has formal criteria of connection with the Company's significant counterparties - ATS, JSC SO UES, JSC CFR and ANO UTS Market Council. This connection is formal and does not affect the ability of Maxim Bystrov to act on the Board of Directors in the interests of the Company and all its shareholders.

**GRACHEV  
Pavel**

Independent Director

Membership in the Board  
of Directors since 2016**Born in: 1973****Education:**

St. Petersburg State University (Law)  
University of Trieste (a PhD in Law)

**Work experience for the last 5 years:**

2014 – present - CEO of PJSC Polyus  
2016 – present - CEO of LLC UK Polyus  
2014-2016 - President of JSC Polyus Krasnoyarsk  
2011-2013 - Head of Representative Office ALPINAKAPITAL E.I.S.E.L. LIMITED (Republic of Cyprus), Moscow

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Board of Directors of OOO SL Gold (Chairman)
- Member of the Board of Directors of PJSC Polyus
- Member of the Board of Directors of PJSC FGC UES

**Committees:**

The Strategy Committee, the Committee for the Development of Energy in the Far East

**Extended:**

2017, Russian Federation

### IVANOV Sergey

Senior Independent Director

Membership in the Board of Directors from 2013 till 2014, since 2015

**Born in: 1961**

**Education:**

Moscow Engineering Physics Institute (theoretical nuclear physics)  
Doctor of Economic Sciences, professor  
Corresponding Member of the Russian Academy of Natural Sciences

**Work experience for the last 5 years:**

2016-2017 - CEO of LLC RT-Capital  
2015-2016 - CEO of JSC Corporation Nechernozemagropromstro  
2011-2016 - CEO of OJSC ERKO  
2012-2015 - CEO of LLC Lensent

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Board of Directors of JSC RT-Stroytech
- Member of the Board of Directors of RT-Capital LLC

**Committees:**

Audit Committee, Personnel and Remuneration Committee, Investment Committee

**Extended:**

2017, Russian Federation

Recognised by the Personnel and Remuneration Committee of Board of Directors as a Senior Independent Director.

Recognised by the Board of Directors as an Independent Director, since the director on the date of recognition had formal criteria of connection with:

- a key shareholder of the Company - the Russian Federation, as a member of the Board of Directors of more than two organisations controlled by the Russian Federation and the state as he is the CEO of "RT-Capital" LLC - a organisation controlled by the Russian Federation.

This connection is formal and does not affect the ability of Sergey Ivanov to act on the Board of Directors in the interests of the Company.

Detailed information on the recognition by the Board of Directors of Sergey Ivanov as an independent director is disclosed on the Company's website at: <http://www.rushydro.ru/upload/iblock/881/Vipiska-iz-protokola--263.pdf>

### KRAVCHENKO Vyacheslav

Representative of the Russian Federation, public servant

Membership in the Board of Directors since 2014

**Born in: 1967**

**Education:**

Moscow State University (Law)

**Work experience for the last 5 years:**

2013 - present - Deputy Minister of Energy of Russia  
2012-2013 - Chairman of the Management Board of the Association NP Market Council

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Board of Directors of PJSC Rosseti
- Member of the Board of Directors of PJSC MOESK
- Member of the Board of Trustees of NIU MEI
- Member of the Board of Directors of JSC SO UES (Chairman)

**Committees:**

Committee on Reliability, Energy Efficiency and Innovation, Committee for the Development of Energy in the Far East

**Extended:**

2017, Russian Federation

**PIVOVAROV  
Vyacheslav**

Independent Director

Membership in the Board  
of Directors since 2013**Born in: 1972****Education:**Sergo Ordzhonikidze State Academy of Management (World Economy)  
American University in Paris (Applied Economics)  
Stanford Business School, MBA**Work experience for the last 5 years:**2017 - present - President of Altera Capital LLC<sup>3</sup>  
2011-2017 - President of Altera Capital LLC<sup>4</sup>**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Board of Directors of GeoProMining Investment Ltd (Cyprus)

Has experience and knowledge in the field of preparation, analysis, evaluation, and audit of accounting (financial) reporting

**Committees:**

Audit Committee, Personnel and Remuneration Committee, Investment Committee, Strategy Committee

**Extended:**

2017, Russian Federation

**PODGUZOV  
Nikolay**Representative  
of the Russian FederationMembership in the Board  
of Directors since 2016**Born in: 1974****Education:**St. Petersburg State Technical University  
Moscow State Institute of International Relations of the Ministry of Foreign Affairs of Russia**Work experience for the last 5 years:**2017 - present - CEO of FSUE Russian Post  
2013 - 2017 - Deputy Minister of Economic Development of Russia  
2012-2013 - Deputy Director of the Department of Economics and Finance of the Government of Russia**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Supervisory Board of VTB Bank (PJSC)
- Member of the Supervisory Board of PJSC Pochta Bank
- Member of the Board of Directors of PJSC Rosseti
- Member of the Board of Directors of GC DIA

**Extended:**

2017, Russian Federation

<sup>3</sup> Tax reference number 7714961556.<sup>4</sup> Tax reference number 7703741291.

### **ROGALEV Nikolay**

Representative  
of the Russian Federation,  
professional attorney

Membership in the Board  
of Directors since 2016

**Born in: 1962**

**Education:**

Moscow Power Engineering Institute (Thermal Power Plants)

**Work experience for the last 5 years:**

2016 - present - President of NP "Scientific and Technical Council of the Unified Energy System"

2015 - present - Head of Department in NIU MPEI FGBOU HPE (part-time)

2013 - present - rector of the NIU MPEI FGBOU HPE

2013 - acting rector of the NIU MPEI FGBOU HPE

2001-2013 - Head of a Department NIU MPEI FGBOU HPE (part-time)

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Board of Directors of PJSC Rosseti
- Member of the Supervisory Board of the Energy Without Borders Foundation (Chairman)

**Committees:**

Committee on Reliability, Energy Efficiency and Innovation; Strategy Committee; Investment Committee

**Extended:**

2017, Russian Federation

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### **CHEKUNKOV Alexey**

Representative  
of the Russian Federation

Membership in the Board  
of Directors since 2016

**Born in: 1980**

**Education:**

Moscow State Institute of International Relations (Economics)

**Work experience for the last 5 years:**

2014 - present time - CEO of the Fund for Development of the Far East and Baikal Region JSC

2013-2014 - First Deputy CEO of LLC Kada-Neftegaz

2011-2013 - Director, member of the Management Board of LLC MC RFPI

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Board of Directors of LLC Skolkovo Venture Investments
- Member of the Board of Directors of Voskhod JSC
- Member of the Supervisory Board of AK ALROSA (PJSC)
- Member of the Supervisory Board of ANO Agency of the Far East for Attracting Investments And Supporting Exports (Chairman)

**Committees:**

Committee on Energy Development of the Far East; Committee on Reliability, Energy Efficiency and Innovation; Investment Committee

**Extended:**

2017, Russian Federation

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**SHISHIN  
Sergey**

Representative  
of the Russian Federation

Membership in the Board  
of Directors since 2011

**Born in: 1963**

**Education:**

Higher School of KGB, Border Guard

University of KGB

Russian Academy of Public Administration of the President of the Russian Federation (State and Municipal Administration)

Doctor of Economics

**Work experience for the last 5 years:**

2007 - present - Senior Vice-President of Bank VTB (PJSC)

**Committees:**

Strategy Committee

**Extended:**

2017, Russian Federation

**SHULGINOV  
Nikolay**

Representative  
of the Russian Federation,  
professional attorney

Membership in the Board  
of Directors since 2016

**Born in: 1951**

**Education:**

Sergo Ordzhonikidze Polytechnic Institute of Novocherkassk (Electricity Supply of Industrial Companies and Cities)

PhD in Technical Sciences

**Work experience for the last 5 years:**

2015 - present - Chairman of the Management Board - CEO

2004-2015 - Deputy Chairman, First Deputy Chairman of the Management Board of JSC SO UES

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Board of Directors of Global Sustainable Electricity Partnership
- Member of the Board of Trustees of the Siberian Federal University
- Member of the Board of Directors of PJSC Rosseti
- Member of the Supervisory Board of NP "Hydropower of Russia"
- Member of the Board of Trustees of the NIU MPEI FGBOU HPE
- Member of the Supervisory Board of NP "Scientific and Technical Council of the Unified Energy System" (Deputy Chairman)
- Member of the Supervisory Board of the Association NP Market Council
- Member of the Management Board of RSPP

**Committees:**

Strategy Committee

**Extended:**

2017, Russian Federation

### SHISHKIN Andrey

Member of the Board  
of Directors

Membership in the Board  
of Directors since 2014

**Born in: 1959**

**Education:**

Gubkin Moscow Institute of Petrochemical and Gas Industry (Oil Engineering)

**Work experience for the last 5 years:**

2016 - present - President, Chairman of the Management Board of PJSC ANC Bashneft

2015 - present - CEO of LLC RN-Active

2012 - present - Vice-President, since 2015 - also a member of the Management Board of PJSC Rosneft Oil Company

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Board of Directors of LLC Zvezda-Hyundai (Chairman)
- Member of the Board of Directors of PJSC ANC Bashneft (Deputy Chairman)
- Member of the Board of Directors of RIG Research Pte. Ltd
- Member of the Board of Directors of JSC DCCS
- Member of the Board of Directors of JSC Central Design Bureau Lazurit (Chairman)
- Member of the Board of Directors of JSC 82 Ship Repair Factory (Chairman)
- Member of the Board of Directors of Arctic Research Centre LLC (Chairman)

**Extended:**

2017, JSC Gazprombank

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<sup>1</sup> Members of the Board of Directors as of December 31, 2017 do not own shares in the Company, including indirectly. In the reporting year, the members of the Board of Directors did not acquire or alienate shares of the Company. The Company and the Group companies did not issue loans to members of the Board of Directors.

The duties of the Representatives of the Russian Federation are determined by Decree of the Government of the Russian Federation No. 738 of December 3, 2004.

The independence of the members of the Board of Directors is determined in accordance with the criteria for the independence of the PJSC Moscow Exchange and the Corporate Governance Code recommended by the Bank of Russia.

<sup>2</sup> Information on all the positions held in the management bodies of other organisations for the last 5 years is given in Section 5.2.1 of the Company's quarterly report for the 4th quarter of 2017, which is published at <http://www.rushydro.ru/upload/iblock/d01/1-EZhO-4-kv.17.pdf>



## Board of Directors assessment

In accordance with the recommendations of the Corporate Governance Code of the Bank of Russia, the performance of the Board of Directors is assessed on a regular basis.

In 2016, the Board of Directors for the first time conducted a self-evaluation of its activities for the corporate years 2015-2016, resulting in a Plan of measures to improve the activities of the Board of Directors of the Company (approved by the Board of Directors on June 23, 2016).

As part of the implementation of this Plan, the Company implemented the following measures to improve the effectiveness of the Board of Directors:

- increase in the number of informal meetings of members of the Board of Directors (meetings of the Board of Directors held in person);
- consideration of strategic issues at the meetings of the Board of Directors held in person;
- consideration by the Board of Directors of issues related to the risk management system;
- review of RusHydro Group's consolidated business plans and investment programmes, an action plan for optimising the costs of RusHydro Group companies, and reports on their execution.

To conduct an external independent evaluation of the activities of the Board of Directors of PJSC RusHydro for 2017, the Company attracted an independent company with a worldwide reputation - PricewaterhouseCoopers Advisory LLC.

These activities were carried out through:

- evaluation of the effectiveness of the Board of Directors as a whole (for the purpose of balancing the membership of the Board, the Board's performance of key functions assigned to it and its role in the corporate governance system and the successful development of the Company, as well as the Board's operating procedures);
- evaluation of the effectiveness of each Committee of the Board of Directors (also on the membership, role and procedures of the work of the Committees);
- evaluation of the effectiveness of the Chairman of the Board of Directors and the Senior Independent Director;
- individual evaluation of the effectiveness of the members of the Board of Directors.

The methodology for conducting an independent evaluation of the activities of the Board of Directors of the Company assumed the following activities:

- questioning sessions with members of the Board of Directors;
- individual interviews with members of the Board of Directors, the Corporate Secretary, and some key management personnel of the Company;
- analysis of internal documents and materials related to the activities of the Board of Directors and its Committees, as well as their protocols.

The preliminary results of the independent evaluation of the Board of Directors' activity testify to the fact that the Company complies with most of the principles and recommendations of both Russian and British corporate governance codes concerning the activities of the Board of Directors and its Committees. The explanation of certain areas of non-compliance with these principles and recommendations is provided in Appendix 1 to the Annual Report.

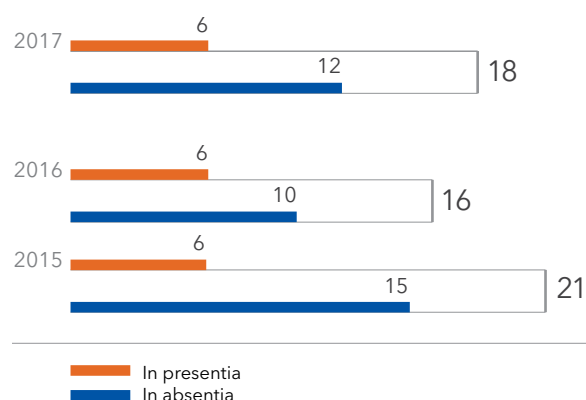
The results of an external independent evaluation of the activities of the Board of Directors and recommendations aimed at improving the efficiency of the Board of Directors and its Committees are planned to be considered at the in-person meeting of the Board of Directors in the second quarter of 2018. Based on the results of the evaluation and based on the recommendations of PricewaterhouseCoopers Advisory LLC, an action plan (roadmap) will be prepared to increase the effectiveness of the Board of Directors.

Also in 2017, PJSC RusHydro conducted a procedure for evaluating the activities of the Board of Directors to determine the contribution of Russian Federation representatives to the Company's operations, taking into account its development strategy. The valuation was carried out in accordance with the methodology approved by Federal Property Management Agency for the individual evaluation of members of the Board of Directors of joint-stock companies with state participation (Order of the Federal Property Management Agency of March 6, 2014 No. 71). The evaluation was carried out in Company's personal account on the cross-sectoral portal of the Federal Property Management Agency by filling out the questionnaire on the members of the Board of Directors, proposed by the Federal Property Management Agency.

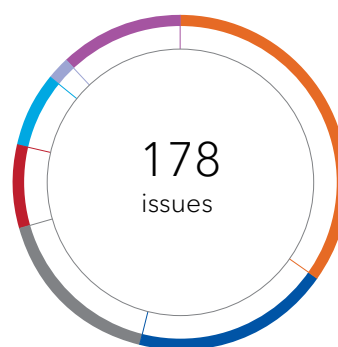
## Report on the activities of the Board of Directors

In 2017, 18 meetings of the Board of Directors were held, of which 6 meetings were held in person. Number of issues - 178.

### Number of meetings of the Board of Directors



### The issues considered by the PJSC RusHydro Board of Directors, %



Corporate governance	35
Controlled companies management	19
Business planning and investment	17
Strategy and strategic deals	8
Company transactions	7
Efficiency and KPI management	2
Other	12

In 2017, on average, attendance at meetings of the Board of Directors was 93% of all meetings held in 2017.

### Personal attendance of meetings of the Board of Directors in 2017

Member of the Board of Directors	Jan. 18	Feb. 21	Apr. 4	Apr. 5	Apr. 18	Apr. 19	May 22	June 21	Aug. 10
	In absentia	In absentia	In presentia	In absentia	In absentia	In presentia	In absentia	In absentia	In absentia
Avetisyan A.D.	+	+	+	+	+	-	+	+	-
Bystrov M. S.	+	+	+	+	+	+	+	+	-
Grachev P.S.	+	+	+	+	+	+	+	+	+
Ivanov S. N.	+	+	+	-	+	+	+	+	+
Kravchenko V. M.	+	+	+	+	+	-	+	+	-
Pivovarov V. V.	+	+	+	+	+	+	+	+	+
Podguzov N.R.	+	+	+	+	+	+	+	+	+
Rogalev N.D.	+	+	+	+	+	+	+	+	+
Trutnev Y. P.	+	+	+	+	+	+	+	+	+
Chekunkov A.O.	+	+	+	+	+	+	+	+	+
Shishin S.V.	+	+	+	+	-	-	+	+	+
Shishkin A.N.	+	+	+	+	+	+	+	+	+
Shulginov N.G.	+	+	+	+	+	+	+	+	+

Member of the Board of Directors	Aug. 29	Aug. 30	Oct. 11	Oct. 27	Oct. 27	Nov. 24	Dec. 13	Dec. 25	Dec. 26	Share of participation in the total number of meetings
	In absentia	In presentia	In absentia	In presentia	In absentia	In absentia	In presentia	In absentia	In presentia	
Avetisyan A. D.	-	-	-	+	+	+	+	+	+	13/18
Bystrov M. S.	+	+	+	+	+	+	+	+	+	17/18
Grachev P.S.	+	+	+	+	+	+	+	+	+	18/18
Ivanov S. N.	+	+	+	+	+	+	+	+	-	16/18
Kravchenko V. M.	+	+	+	+	+	+	+	+	+	16/18
Pivovarov V. V.	+	-	+	+	+	+	+	+	+	17/18
Podguzov N.R.	+	+	+	+	+	+	+	-	-	16/18
Rogalev N.D.	+	+	+	+	+	+	+	+	+	18/18
Trutnev Y. P.	+	+	+	+	+	+	+	+	+	18/18
Chekunkov A.O.	+	+	+	+	+	+	+	+	+	18/18
Shishin S.V.	+	+	+	+	+	+	+	+	+	16/18
Shishkin A.N.	+	-	-	+	+	-	+	+	+	15/18
Shulginov N.G.	+	+	+	+	+	+	+	+	+	18/18

## Agenda of the Board of Directors meetings on the most significant issues (quarterly)

### 1st Quarter

- On the election of a member of the Management Board of PJSC RusHydro.
- On the disposal of shares of PJSC RusHydro owned by its subsidiary.
- On measures to refinance debts of companies of the RAO ES East Subgroup.
- Approval of the Charity and Sponsorship Programme of the Company for 2017.
- Transactions and priority projects.

### 2nd Quarter

- Preliminary approval of the Company's consolidated investment programme.
- Amendments to the Long-term Development Programme of RusHydro Group.
- On the approval of the report on the implementation of the Company's Business Plan for 2016 (including reports on the implementation of the Investment Programme (including the Programme for the comprehensive modernisation of generating facilities), the Annual Comprehensive Programme of Purchases for 2016 and the Progress Report on the implementation of the set of measures (list of activities) for the reduction of operating expenses for 2016).

- On consideration of the report on the implementation of the consolidated business plan (including the consolidated Investment Programme) of RusHydro Group for 2016.
- On the execution of KPI for PJSC RusHydro for the 4th quarter of 2016 and for 2016.
- Consideration of the consolidated Business Plan (including the consolidated Investment Programme) of RusHydro Group for 2017-2021, and approval of the target values of annual KPIs of the members of the Management Board of PJSC RusHydro for 2017 and the KPI target values of the long-term motivation programme of PJSC RusHydro for the first cycle for 2017-2019.
- Consideration of issues related to the convening of the Annual General Meeting of Shareholders.
- Report of the Management Board of the Company for 2016.
- On the approval of the report on the implementation of the Innovative Development Programme of RusHydro Group for 2016-2020 with a prospect up to 2025.
- Priority projects.

### 3rd Quarter

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- Election of the Chairman of the Board of Directors of the Company.
- The committees under the PJSC RusHydro's Board of Directors formation.
- On the conclusion of agreements on the introduction of gratuitous contributions allocated to the budgets of the regions of the Far Eastern Federal District pursuant to Art. 32 of the Federal Law of March 26, 2003 No. 35-FL "On Electrical Power Industry" and in order to ensure the functioning of the mechanism for bringing prices (tariffs) for electricity (capacity) to basic levels.
- On approval of the Company's report for 2016 in the field of corporate social responsibility and sustainable development.
- Transactions and priority projects.

### 4th Quarter

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- On the implementation of the Long-term development programme of RusHydro Group for the first half of 2017.
- Business plan of the Company for 2017 (adjustment and report for the first half of 2017, including reports on the implementation of the Investment Programme (including the Programme for the comprehensive modernisation of generating facilities and the Annual comprehensive programme of purchases for the first half of 2017).
- Consideration of RusHydro Group's Value Increase Plan for the period up to 2021.
- On the approval of the Insurance Coverage Programme of PJSC RusHydro for 2018.
- Transactions and priority projects.
- On the PJSC RusHydro's Business plan for 2018-2022.



See the minutes of the meetings  
of the Board of Directors at  
<http://www.eng.rushydro.ru>

## Company's strategy issues. Strategic deals

- February 21, 2017, examined the information on the measures taken to attract funds for the repayment of loans and borrowings of the companies of the RAO ES East Subgroup, and concluded a procedure for the early execution of the transaction (forward contract) with VTB Bank (PJSC);
- April 18, 2017, in order to ensure the relationship between the achievement of KPI LDP RusHydro and the management remuneration, approved changes in the LDP of RusHydro Group;
- August 10, 2017, approved the conclusion of agreements on the introduction of donated earmarked contributions to the budgets of the regions of the Far Eastern Federal District in pursuance of Art. 32 of the Federal Law of March 26, 2003 No. 35-FL "On Electrical Power Industry" and in order to ensure the functioning of the mechanism for bringing prices (tariffs) for electricity (capacity) to basic levels;
- August 30, 2017,<sup>1</sup> took the decision to approve the preliminary results of the structuring of the participation project of PJSC RusHydro in the construction of the Taishet Aluminum Smelter, taking into account the simultaneous fulfilment of the conditions approved by the Board of Directors of the Company;
- October 11, 2017, reviewed the report on the implementation of the LDP RusHydro, including information on the implementation of the activities for the first half of 2017 in accordance with the LDP of RusHydro, as well as the interim results of the KPI of LDP of RusHydro for the first half of 2017. The Report includes information on the implementation of activities provided for by the Directives of the Government of the Russian Federation for inclusion in the LDP of RusHydro;
- October 27, 2017,<sup>1</sup> approved RusHydro Group's Value Growth Plan for the period until 2021 and decided on the expediency of the Company joining the UN Global Compact.



Information on the Strategy is presented in section Strategy.

## Business-planning and investments

- April 4, 2017,<sup>1</sup> considered the draft of RusHydro Group consolidated investment programme for 2017 and for 2018-2022 (adjustment), and preliminarily approved the draft investment programme of PJSC RusHydro for 2018-2027 and the draft amendments to the investment programme of PJSC RusHydro for 2017-2019;
- April 19, 2017,<sup>1</sup> considered the report on the implementation of the Business Plan and the Investment Programme of the Company for 2016;
- June 21, 2017, considered and took into account the consolidated Business Plan, which includes the Consolidated Investment Programme of RusHydro Group for 2016-2020.;
- December 26, 2017,<sup>1</sup> approved the Business plan and the Investment programme of the Company for 2018, and considered the planned data on the investment facilities of PJSC RusHydro and sites of new construction of subsidiaries for the calculation of KPIs of members of the Management Board of PJSC RusHydro; at the same meeting, reviewed the Business Plan of the Company, including the Company's Investment Programme, for 2019-2022;
- June 21, 2017, October 11, 2017 and December 25, 2017, reviewed reports on the implementation of the Business Plan and the Investment Programme of the Company for the 1st quarter, the first half-year and the third quarter of 2017 respectively;
- Quarterly, the Board of Directors of JSC RusHydro considered issues related to the construction of four facilities in the Far East (Yakutskaya GRES-2 (1st stage), 2nd stage of Blagoveshchenskaya CHPP, CHPP in Sovetskaya Gavan, Sakhalinskaya GRES-2 (1st stage));
- April 4, 2017,<sup>1</sup> approved the list of investment projects being implemented and planned for implementation within the Investment Programme of PJSC RusHydro, for conducting a public technological and price audit in 2017-2018;
- April 18, 2017, approved a report on the implementation of a public technological and price audit for 2016 of projects implemented and planned for implementation under the Investment Programme of PJSC RusHydro;
- regularly discussed the implementation of certain investment projects of the Company.




Information on the results of operations and investments is presented in sections Financial results and Investment activity.

<sup>1</sup> The meetings were held in the form of a joint presence.


## Performance, Innovation and Key Performance Management

- April 5, 2017, amended the Regulations on the procurement of products for the needs of PJSC RusHydro, related to the implementation of import substitution plans;
- April 19, 2017,<sup>1</sup> reviewed the report on the implementation of the annual comprehensive procurement programme of JSC RusHydro for 2016, as well as a report on the implementation of a set of measures (list of measures) to reduce operating costs for 2016; approved the report on the execution of the Business Plan;
- April 19, 2017,<sup>1</sup> considered the report on the achievement of KPI of the Company for the 4th quarter of 2016 and 2016;
- June 21, 2017, approved KPIs, including target values and methodology for calculating and evaluating the annual key performance indicators of the Management Board members of PJSC RusHydro, the target values and methodology for calculating and evaluating the KPI for the long-term motivation programme of PJSC RusHydro for the first cycle of 2017-2021;
- June 21, 2017, approved the report on the implementation of the Innovative Development Programme of RusHydro Group for 2016-2020, with a prospect up to 2025;
- October 11, 2017, approved the report on the execution of the key performance indicator "Integral KPI of innovation activity, %" of PJSC RusHydro for 2016;
- December 25, 2017, instructed the Company's management to ensure the benchmarking of the level of technological development and the values of the composite indicators of KPI of the Innovative Development Programme of RusHydro Group with the level of development and indicators of leading competitor companies;
- December 26, 2017,<sup>1</sup> approved the annual comprehensive procurement programme of PJSC RusHydro for 2018;
- June 21, 2017, October 11, 2017 and December 25, 2017, respectively, approved the reports on the implementation of the Annual Comprehensive Programme of Purchases for the 1st quarter of 2017, the 1st half-year, and the first 9 months of 2017.

 Information on measures to improve operational efficiency is presented in Section Financial Results. The information on purchases is presented in section Procurement. Information on innovations is presented in section Innovative development.

## Corporate governance

- January 18, 2017, changed the membership of the Management Board;
- February 27, 2017, approved the Regulations on the Information Policy of PJSC RusHydro;
- June 21, 2017, approved amendments to the Regulations on the Audit Committee and the Nominations and Remuneration Committee under the Board of Directors, and recognised two candidates to the Board of Directors as meeting the criteria of independent directors (Bystrov M.S. and Ivanov S.N.) After election of these candidates to the Board of Directors at a meeting of December 25, 2017 (recognised the afore-mentioned individuals as independent directors;
- December 25, 2017, approved amendments to the Corporate Governance Code of the Company, approved the Insurance Coverage Programme of PJSC RusHydro for 2018 and the report on compliance with the information policy of PJSC RusHydro.

 All issues considered by the Board of Directors, except those considered confidential, are listed in the form of the texts of the protocols in Appendix 4.

In addition to these issues, in 2017 the Board of Directors also made decisions related to the audit (recommendation to the General Meeting of Shareholders of the auditor and the approval of the auditor's remuneration), determined the position of the Company (representatives of the Company) by voting at the meetings of the management bodies of subsidiaries on a number of key issues on their agenda, approved the new version of the Anti-Corruption Policy and Internal Audit Policy of PJSC RusHydro.

Apart from that, the Board of Directors considered the Charity and Sponsorship Programme and the report regarding its execution, approved the transactions of the Company and the controlled companies.

<sup>1</sup> The meetings were held in the form of a joint presence.

# COMMITTEES UNDER THE BOARD OF DIRECTORS

The Board of Directors of PJSC RusHydro has six committees:

- Strategy Committee;
- Audit Committee;
- Investment Committee;
- Nominations and Compensations Committee;
- Committee on Reliability, Energy Efficiency, and Innovation;
- Committee for Energy Development of the Far East.

**THE AUDIT COMMITTEE** functions for the purpose of assisting the Board of Directors in monitoring the financial and business activities of the Company. The key functions of the Committee are to control financial reporting, the functioning of the internal control system, risk management, corporate governance, the system of notification of fraudulent actions, as well as ensuring the independence and objectivity of internal audit and external audit.



Provisions on committees under the Board of Directors can be found on the Company's website <http://www.eng.rushydro.ru>

## 1st half of 2017

### Membership

Ivanov S.N. (Chairman of the Committee)  
Bystrov M.S.  
Pivovarov V.V.<sup>1</sup>

### Key issues considered by the Committee:

- Annual report
- Annual financial statements
- Compliance with insider information requirements
- Auditor's reports for the year 2016

- Conclusion of the Company's Audit Commission
- Opinion of the Company Auditor
- Candidate for the position of the Company's Auditor
- Regular reports of the Head of the Internal Audit Service of the Company
- Report on the implementation of the Action Plan for the implementation of the Comprehensive Anti-Corruption Programme of PJSC RusHydro
- Report on the functioning of the corporate internal control and management system taking into account the internal audit evaluation
- Results of evaluation of corporate governance practices with account of appraisal of the Internal Audit Commission

## 2nd half of 2017

### Membership

Ivanov S.N. (Chairman of the Committee)  
Bystrov M.S.  
Pivovarov V.V.<sup>1</sup>

### Key issues considered by the Committee:

- Compliance with the requirements on insider information
- Report on the corporate social responsibility and sustainable development of RusHydro Group for 2016
- Results of the on-site inspection by the Ministry of Energy of Russia
- Optimisation of the functions and structure of the Company's internal audit
- The Company's Insurance Coverage Programme
- Anticorruption policy of the Company
- Report on compliance with the information policy of the Company
- The programme for ensuring and improving the quality of internal audit
- Schedule of control activities of the Internal Audit Service for 2018

The Chairman of the Audit Committee is an independent director and has sufficient experience and knowledge to implement the tasks assigned to the committee.



For information on internal audit, see section Audit and control



All issues considered by the Audit Committee in 2017, except those considered confidential, are listed in Appendix 5.

<sup>1</sup> Has experience and knowledge in the preparation, analysis, evaluation, and audit of accounting (financial) reporting.



### NOMINATIONS AND REMUNERATION COMMITTEE

functions for the purposes of developing recommendations on the formation of a professional membership of the Company's management bodies and effective and transparent practice of their remuneration. The main task of the Committee is preliminary analysis and development of recommendations to the Board of Directors on issues within the competence of the Board of Directors.

### 1st half of 2017

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#### Membership

Pivovarov V.V. (Chairman of the Committee)  
Bystrov M.S.  
Ivanov S.N.

#### Key issues considered by the Committee:

- Typical collective agreement of the branch of PJSC RusHydro for 2017-2019
- Regulations on the Corporate Secretary of PJSC RusHydro, a new version
- Consideration of the consolidated Business Plan (including the consolidated Investment Programme) of RusHydro Group for 2017-2021, and approval of the Target values of the annual key performance indicators of the members of the Management Board of PJSC RusHydro for 2017 and the Target values of the key performance indicators of the long-term motivation programme of PJSC RusHydro for the first cycle for 2017-2019
- Approval of contracts which constitute an interested party transaction
- Consideration of the progress report on the implementation of the Plan of measures (the list of measures) for the implementation of professional standards in the activities of the Company
- Approval of the List of annual key performance indicators of the members of the Management Board of PJSC RusHydro for 2017, the target values of the annual key performance indicators of the members of the Management Board of PJSC RusHydro for 2017 (including the methodology for calculating and evaluating key performance indicators of the Management Board members of PJSC RusHydro)
- Approval of the Provision on the payment of remunerations and compensations to members of the Board of Directors of the Company, a new version
- Compliance of candidates of the Board of Directors of PJSC RusHydro with independence criteria
- Determination of the number of members of the Management Board of PJSC RusHydro

### 2nd half of 2017

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#### Membership

Pivovarov V.V. (Chairman of the Committee)  
Bystrov M.S.  
Ivanov S.N.

#### Key issues considered by the Committee:

- Progress in the implementation of the Plan of a set of measures to introduce professional standards in the activities of the Company
- Report of the Committee
- Election of the Company's senior independent director
- KPI of the members of the Management Board for 2017
- Typical collective agreement of the branch for 2017-2019.

The Chairman of the Nominations and Remuneration Committee is an independent director and has sufficient experience and knowledge to implement the tasks assigned to the committee.



Information on remuneration to management bodies, control bodies, and the auditor is provided in section with the relevant name.



Issues considered in 2017 by the Nominations and Remuneration Committee, except those recognised as confidential, are listed in Appendix 5.

**THE STRATEGY COMMITTEE** functions to ensure effective work of the Board of Directors on strategic development issues of RusHydro Group.

## 1st half of 2017

### Membership

Members of the Board of Directors:  
Grachev P.S.  
Podguzov N.R.  
Rogalev N.D.  
Shishin S.V.  
Shishkin A.N.  
Shulginov N.G.  
Members of the Executive Bodies:  
Rizhinashvili G.I.

Members of the Committee:  
Zadvornov I.A. (Chairman of the Committee)  
Mamin V.V.  
Nikonov V.V.  
Olkhovich E.A.  
Rusakov M.V.  
Snikkars P.N.

### Key issues considered by the Committee:

- Taishet Aluminum Smelter Construction Project
- Amendments to the Long-term Development Programme of RusHydro Group.
- Report of the Committee

## 2nd half of 2017

### Membership

Members of the Board of Directors:  
Grachev P.S.  
Pivovarov V.V.  
Shishin S.V.  
Shulginov N.G.  
Rogalev N.D.  
Members of the Executive Bodies:  
Rizhinashvili G.I.

Members of the Committee:  
Bogashov A.E.  
Gabov A.V.  
Zadvornov I.A. (Chairman of the Committee)  
Livshits B.A.  
Nikonov V.V.  
Snikkars P.N.  
Stolyarov E.M.

### Key issues considered by the Committee:

- Approval of RusHydro Group's Value Growth Plan for the period up to 2021
- Progress in the implementation of the Long-term Development Programme of RusHydro Group for the first half of 2017
- Status of execution of individual orders of the President of the Russian Federation and the Government of the Russian Federation on refinancing loan debts of the group of JSC RAO ES East
- Joining the Society to the UN Global Compact and preparing to join the Association "National Network of the Global Compact"
- On acquisition by the Company of additional ordinary shares of JSC "Holding Company of BoHPP"
- Report of the Committee



Detailed information about the Strategy is given in section RusHydro Group Strategy.



Information on the members of the Strategy Committee and the issues considered by the Committee in 2017, except those recognised as confidential, are listed in Appendix 5.

**THE COMMITTEE ON INVESTMENTS** functions for the purpose of preliminary consideration of new investment projects and investment programmes, as well as the improvement and development of the Company's investment policy.

## 1st half of 2017

### Membership

Members of the Board of Directors:  
Bystrov M.S.  
(Chairman of the Committee)  
Pivovarov V.V.  
Avetisyan A.D.  
Chekunkov A.O.  
Rogalev N.D.

Members of the Committee:  
Domnich V.A.  
Zhuravlev S.I.  
Milyutin D.V.  
Podgorny A.Yu.  
Skulkin V.S.  
Tikhonova M.G.

Members of the Executive Bodies:  
Khmarin V.V.  
Kirov S.A.  
Rizhinashvili G.I.

### Key issues considered by the Committee:

- Approval of the Company's business plan for 2017-2021, including the investment programme of PJSC RusHydro for 2017, an action plan for optimising costs based on the results of an external independent audit of the costs of PJSC RusHydro. Regulation on the business planning system
- Implementation of the Company's Business Plan for 2016 (including reports on the implementation of the Investment Programme (including the Programme for the comprehensive modernisation of generating facilities), the Annual Comprehensive Programme of Purchases for 2016, and the Progress Report on the implementation of the package of measures to reduce operating expenses for 2016)
- Implementation of KPI for PJSC RusHydro for Q2 2016, Q3 2016, Q4 2016 and 2016
- Report of the Committee

## 2nd half of 2017

### Membership

Members of the Board of Directors:  
Bystrov M.S.  
(Chairman of the Committee)  
Pivovarov V.V.  
Ivanov S.N.  
Chekunkov A.O.  
Rogalev N.D.

Members of the Executive Bodies:  
Kazachenkov A.V.  
Kirov S.A.  
Khmarin V.V.  
Members of the Committee:  
Zhuravlev S.I.  
Milyutin D.V.  
Gabov A.V.  
Snikkars P.N.

### Key issues considered by the Committee:

- Approval of the Business Plan for 2018-2022
- Investment programme of PJSC RusHydro for 2017
- Approval of the adjusted Business Plan for 2018-2022
- Investment programme of PJSC RusHydro for 2018
- Report of the Committee

 For detailed information on investments, see section Investment activity.

 Information on the members of the Investments Committee and the issues considered by the Committee in 2017 are listed in Appendix 5.

### THE COMMITTEE FOR RELIABILITY, ENERGY EFFICIENCY AND INNOVATION

functions to ensure the efficient work of the Board of Directors on issues of the Company's technical policy, the reliable and safe operation of the Company's hydrotechnical facilities, energy conservation policies, innovation policy, environmental policy and other issues within the competence of the Committee.

#### 1st half of 2017

##### Membership

Members of the Board of Directors:  
Rogalev N.D.  
(Chairman of the Committee)

Chekunkov A.O.  
Shishkin A.N.

Kravchenko V.M.  
Members of the Executive

Bodies:

Bogush B.B.  
Rizhinashvili G.I.  
Frolov K.E.  
Karpukhin N.I.  
Tolstoguzov S.N.

Members of the Committee:  
Vikhansky A.E.  
Vishnevsky Yu.M.  
Fedorov M.P.  
Gromov R.E.

#### 2nd half of 2017

##### Membership

Members of the Board of Directors:  
Rogalev N.D.  
(Chairman of the Committee)

Chekunkov A.O.  
Kravchenko V.M.

Members of the Executive  
Bodies:


Frolov K.E.  
Karpukhin N.I.  
Bogush B.B.  
Rizhinashvili G.I.  
Tolstoguzov S.N.

Members of the Committee:  
Belchenko E.V.  
Vishnevsky Yu.M.  
Fedorov M.P.  
Gromov R.E.

### Key issues considered by the Committee:

- Innovative Development Programme of RusHydro Group for 2016-2020, with a prospect up to 2025
- Improving the quality of preparation and implementation of the Innovative Development Programme of RusHydro Group for 2016-2020, with the possibility of prolonging it till 2025
- Measures to improve reliability conducted at power facilities of RusHydro Group
- Report of the Committee

 Information on innovation activities is given in section Innovation Development.

 Information on the members of the Committee on Reliability, Energy Efficiency, and Innovation and the issues considered by the Committee in 2017 are listed in Appendix 5.

### THE COMMITTEE FOR THE DEVELOPMENT OF ENERGY IN THE FAR EAST

operates to ensure the effective work of the Board of Directors in the development of the power industry of the Far Eastern Federal District in the area of responsibility of the Company and its controlled companies.

#### 1st half of 2017

##### Membership

Members of the Board of Directors:  
Trutnev Yu.P.  
(Chairman of the Committee)

Chekunkov A.O.  
Grachev P.S.

Kravchenko V.M.  
Members of the Executive

Bodies:

Kazachenkov A.V.  
Tolstoguzov S.N.

Members of the Committee:  
Zadvornov I.A.  
Kachaev S.V.  
Molsky A.V.  
Nikonov V.V.  
Olkhovich E.A.  
Pilenieks D.V.  
Tupikin V.V.

#### 2nd half of 2017

##### Membership

Members of the Board of Directors:  
Trutnev Yu.P.  
(Chairman of the Committee)

Chekunkov A.O.  
Grachev P.S.

Kravchenko V.M.  
Members of the Executive

Bodies:

Kazachenkov A.V.  
Tolstoguzov S.N.

Members of the Committee:  
Zadvornov I.A.  
Kachaev S.V.  
Konstantinov D.S.  
Molsky A.V.  
Pilenieks D.V.  
Kolesnikov M.A.  
Tupikin V.V.

**Key issues considered by the Committee:**

- RES programme in the Far East
- Status of construction of priority projects in the Far East
- Debt financing of the RAO ES Subgroup



Information on the members of the Committee for the Development of Energy in the Far East and the issues considered by the Committee in 2017 are listed in Appendix 5.

## Corporate Secretary

---

**KOVALEVA**  
**Natalya**

### Was born in 1972

In 1996 she graduated from the Irkutsk State University, with a major in Law, qualification - a lawyer.

By the decision of the Board of Directors dated November 11, 2016 she was appointed Corporate Secretary of the Company (Minutes No. 243 of November 14, 2016).

Currently, she holds the position of deputy director of the Corporate Governance and Assets Management Department, a corporate secretary whose main duties include participation in organising the preparation and holding of General Meetings of Shareholders and ensuring the work of the Board of Directors and its Committees, as well as ensuring the interaction of the Company with its shareholders and participation in the prevention of corporate conflicts.

Also, as of December 31, 2017, she was a member of the Board of Directors in the following companies:

- Blagoveshchenskaya CHPP JSC;
- CJSC Boguchansky Aluminum Smelter;
- PJSC DEK;
- JSC Malaya Dmitrovka;
- OJSC Sakhalin Municipal Company;
- LLC SNRG;
- Chuvash Energy Retail Company JSC.

Until 2016, she held the position of an advisor to the First Deputy CEO of the Company.

From 2010 to 2015 she worked as the Director of the Corporate Management Department of PJSC MOESK.

Has no shares in the Company (including indirectly). In the reporting year, she made no transactions with the shares of the Company.

The Company and the Group companies did not issue loans to Kovaleva N.G.

In 2017 there was no conflict of interest.

# EXECUTIVE BODIES - MANAGEMENT BOARD AND CHAIRMAN OF THE MANAGEMENT BOARD - CEO

The executive bodies carry out the current management of the Company's activities.

The competence of the Management Board and the Chairman of the Management Board - CEO - is defined in Articles 18 and 19 of the Company's Charter, respectively. The competence of the executive bodies includes issues that are not within the competence of the General Meeting of Shareholders of the Company and the Board of Directors.

The number of members of the Management Board is determined by separate decisions of the Board of Directors.

In 2017, the Board consisted of 6 people, including the Chairman of the Management Board, the Company CEO.

## Management Board membership as of December 31, 2017<sup>1</sup>



**SHULGINOV**

**Nikolay**

Chairman of the Management Board, CEO

**Born in: 1951**

**Education:**

Sergo Ordzhonikidze Polytechnic Institute of Novocherkassk (Electricity Supply of Industrial Companies and Cities)  
PhD in Technical Sciences

**Work experience for the last 5 years:**

2015 - present - Chairman of the Management Board - CEO  
2004-2015 - Deputy Chairman, First Deputy Chairman of the Management Board of JSC SO UES

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Board of Directors of Global Sustainable Electricity Partnership
- Member of the Board of Trustees of the Siberian Federal University
- Member of the Board of Directors of PJSC Rosseti
- Member of the Supervisory Board of NP "Hydropower of Russia"
- Member of the Board of Trustees of the NIU MPEI FGBOU HPE
- Member of the Supervisory Board of NP "Scientific and Technical Council of the Unified Energy System" (Deputy Chairman)
- Member of the Supervisory Board of the Association NP Market Council
- Member of the Management Board of RSPP

**Membership on the Management Board:**

Since 2015

**Shareholding:**

Does not own company shares

Did not purchase or sell company shares in the reporting period

**Availability of loans from the Company and the Group companies:**

No

**Membership in Committees under the Board of Directors:**  
**Strategy Committee**

<sup>1</sup> In the reporting year, no decisions were made on the early termination of the powers of persons who are members of the Management Board of the Company. The term of office of Shulginov Nikolai Grigorievich in accordance with the labour contract is till September 14, 2020, while the remaining members of the Management Board of PJSC RusHydro are employed on long-term contracts. No conflict of interests among members of the executive bodies of PJSC RusHydro in the reporting year was reported.

<sup>2</sup> Information on the positions held in the management bodies of other organisations for the last 5 years is given in section 5.2.2 of the quarterly report of the Company for the 4th quarter of 2017, which is published at <http://www.rushydro.ru/upload/iblock/d01/1-EZhO-4-kv.17.pdf>

**BOGUSH****Boris**

Member of the Management Board, First Deputy CEO - Chief Engineer

**Supervised blocks:**

Block of production activities

**Born in: 1952**

**Education:**

Saratov Polytechnic Institute (Mechanical Engineering)  
Academy of National Economy of the Government of the Russian Federation (Corporate Management Development)

**Work experience for the last 5 years:**

2009 - present - Managing Director, Head of the Business Unit "Production"; Member of the Management Board; Member of the Management Board - Chief Engineer; Member of the Management Board, First Deputy CEO of PJSC RusHydro - Chief Engineer

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Supervisory Board of NP "Hydropower of Russia"
- Member of the Board of Trustees of the Non-profit Foundation Soprichastnost

**Membership on the Management Board:**

Since 2010

**Shareholding:**

Share of the Issuer's ordinary shares owned - 0.003843 %  
Did not purchase or sell company shares in the reporting period

**Availability of loans from the Company and the Group companies:**

No

**Membership in Committees under the Board of Directors:**

Committee for Reliability, Energy Efficiency and Innovation

**KAZACHENKOV****Andrey**

Member of the Management Board, First Deputy CEO

**Supervised blocks:**

Block of financial and corporate governance

**Born in: 1980**

**Education:**

St. Petersburg State University of Engineering and Economics (Economics and Management at Engineering Enterprises, Management);  
University of Wisconsin, Madison, USA (MBA)

**Work experience for the last 5 years:**

2015 - present - Adviser to the Chairman of the Management Board - CEO; First Deputy CEO; Member of the Management Board, First Deputy CEO of PJSC RusHydro  
2009-2015 - Member of the Management Board; Deputy Chairman of the Management Board, First Deputy Chairman of the Management Board of PJSC FGC UES

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Board of Directors of JSC RAO ES East (Chairman)

**Membership on the Management Board:**

Since 2016

**Shareholding:**

Does not own company shares  
Did not purchase or sell company shares in the reporting period

**Availability of loans from the Company and the Group companies:**

No

**Membership in Committees under the Board of Directors:**

Committee for the Development of Energy in the Far East, Investment Committee



**KIROV****Sergey**

Member of the Management Board, First Deputy CEO

**Supervised blocks:**

Sales, economic planning and investments block

**Born in: 1976****Education:**

Pryanishnikova State Agricultural Academy of Perm (Economics and Management of Agricultural Production)  
Regional Interdisciplinary Retraining Centre at Perm Technical University (Economics and Management)

**Work experience for the last 5 years:**

2010 - present - Executive Director for Economics; Director for Economics; Executive Director for Economics and Procurement; Deputy CEO for Economics, Investments, and Procurement; Member of the Management Board, First Deputy CEO of PJSC RusHydro  
2010-2014 - CEO of RusHydro IT Service LLC

**Membership on the Management Board:**

Since 2015

**Shareholding:**

Does not own company shares

Did not purchase or sell company shares in the reporting period

**Availability of loans from the Company and the Group companies:**

No

**Membership in Committees under the Board of Directors:**

Investment Committee

**RIZHINASHVILI****George**

Member of the Management Board, First Deputy CEO

**Supervised blocks:**

Block of strategy and innovations

**Born in: 1981****Education:**

Moscow State University (Economics)  
PhD in Economics

**Work experience for the last 5 years:**

2009 - present - Member of the Management Board, Deputy Chairman of the Management Board; Member of the Management Board, First Deputy CEO of PJSC RusHydro  
2016 - present - Chairman of the Management Board of the Foundation for the Development of the Faculty of Economics of Moscow State University

**Information on positions held in management bodies as of December 31, 2017<sup>2</sup>:**

- Member of the Board of Trustees of the Faculty of Economics, Moscow State University
- Member of the Board of Trustees of the Non-profit Foundation Soprichastnost

**Membership on the Management Board:**

Since 2009

**Shareholding:**

Share of the Issuer's ordinary shares owned - 0.012860 %

**Availability of loans from the Company and the Group companies:**

No

**Membership in Committees under the Board of Directors:**

Committee for Reliability, Energy Efficiency and Innovation, Strategy Committee





**MARKIN**  
**Vladimir**

Member of the Management Board, First Deputy CEO

**Supervised blocks:**

Administrative support block

**Born in: 1956**

**Education:**

Moscow State University (Journalism)

The Institute of Economics and Culture (Law)

**Work experience for the last 5 years:**

2016 - present - First Deputy CEO; Member of the Management Board, First Deputy CEO of PJSC RusHydro

2016 - present - Chairman of the Committee on Safety and Work with the fans of the Russian Football Union

2011-2016 - Head of Media Department in the Investigative Committee of the Russian Federation

**Membership on the Management Board:**

Since 2017

**Shareholding:**

Does not own company shares

Did not purchase or sell company shares in the reporting period

**Availability of loans from the Company and the Group companies:**

No

**Membership in Committees under the Board of Directors:**

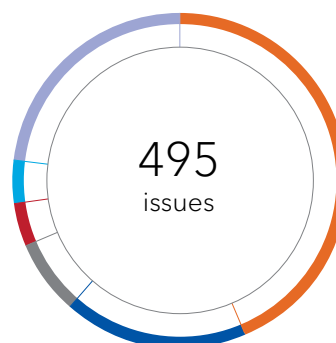
No

## Report on the activities of the Management Board

In 2017, 64 meetings of the Board were held (12 of them were in person), at which 495 issues related to the Company's current activities were considered. Also, all issues submitted for consideration by the Board of Directors were preliminarily discussed.

Within the framework of control over the activities of the executive bodies, the Board of Directors regularly reviews the Board's reports on the execution of the Company's business plan, as well as on the implementation of key investment projects of RusHydro Group. In addition, the Board of Directors determines the target values of annual KPIs of members of the Management Board of PJSC RusHydro, approves reports on the performance of KPIs by members of the Company's Management Board. In addition, the Board of Directors reviews the Board's reports on the execution of certain assignments of the Board of Directors.

### Issues considered by the Management Board of PJSC RusHydro in 2017, %



Controlled companies management	44
Implementation of the Company's projects	18
Approval of internal documents	7
Efficiency and KPI management	4
Business Planning and investment	4
Other	23

# AUDIT AND CONTROL

PJSC RusHydro has a system for monitoring financial and business activities, which consists of local regulatory documents, current practices, procedures and methodology, and key stakeholders:

- Internal Audit Commission;
- External Auditor;
- Audit Committee under the Board of Directors;
- Internal Audit Service.

The main principles, goals, tasks, methods, and processes of the control system are defined in the documents approved by the General Meeting of Shareholders and the Board of Directors of PJSC RusHydro:

- Regulations on the Internal Audit Commission (<http://www.rushydro.ru/upload/iblock/389/03Polozhenie-o-RK.pdf>);
- Code of Corporate Governance (<http://www.rushydro.ru/upload/iblock/65d/Kodeks-korporativnogo-upravleniya-RusGidro.pdf>);
- Internal Control and Risk Management Policy ([http://www.rushydro.ru/upload/iblock/c9c/Politika-VKiUR-PJSC-RusGidro\\_16.11.2015\\_utv.pdf](http://www.rushydro.ru/upload/iblock/c9c/Politika-VKiUR-PJSC-RusGidro_16.11.2015_utv.pdf));
- Internal Audit Policy (<http://www.rushydro.ru/upload/iblock/993/Politika-v-oblasti-vnutrennego-audita.pdf>);
- Regulations on the Audit Committee (<http://www.rushydro.ru/upload/iblock/20b/Prilozhenie-15.-Polozhenie-o-KA.pdf>);
- Code of Corporate Ethics (<http://www.rushydro.ru/upload/iblock/527/Prilozhenie-7.-Kodeks-korporativnoy-etiki.pdf>);
- Anticorruption Policy (<http://www.rushydro.ru/upload/iblock/094/Antikorrupsionnaya-politika-RusGidro-novaya-redaktsiya-2017.pdf>).

The Audit Commission of the Company is accountable to the General Meeting of Shareholders. The opinion of the Audit Commission is the subject of consideration of the Audit Committee. The opinion of the Audit Commission on the results of the audit of the Annual Report is a mandatory document submitted to the General Meeting of Shareholders.

The Auditor's report is subject to reviewing by the Audit Committee and the Audit Commission. The Audit Committee considers the auditor's plan for the annual audit of the Group.

The Audit Committee carries out functional management of the Internal Audit Service, including approving the annual schedule of control activities and quarterly reports on its performance.

# INTERNAL AUDIT COMMISSION

According to the Charter, the number of members of the Internal Audit Commission is five.

In 2017, the Internal Audit Commission conducted an audit of the financial and economic activities of PJSC based on the results of its activities for 2016. Conclusions of the Commission on the results of the audit were presented to the annual General Meeting of Shareholders on June 26, 2017. The audit confirmed that the data contained in the Company's reports and financial documents were reliable, the accounting standards were adhered to and the financial statements were provided in compliance with the requirements of the current legislation and internal regulations, the financial and economic activities were conducted in compliance with the interests of the Company and its shareholders. The conclusion also confirms the reliability of information in the Annual Report of the Company and the Report on interested-party transactions, made in 2016.

**REPIN**  
Igor

## Chairman of the Internal Audit Commission

Deputy Executive Director of the Non-Profit Organisation Investor Protection Association

**Born in: 1966**

**Nominated by**  
2017, Russian Federation

**Ownership of the Company's shares:**  
No

**ANNIKOVA**  
Natalia

First Deputy CEO of JSC Construction Directorate No. 308

**Born in: 1955**

**Nominated by**  
2017, Russian Federation

**Ownership of the Company's shares:**  
No

**KOSTINA**  
Marina

Deputy Director of the Department of Corporate Governance of the Ministry of Economic Development of the Russian Federation

**Born in: 1980**

**Nominated by**  
2017, Russian Federation

**Ownership of the Company's shares:**  
No

**SIMOCHKIN**  
Dmitry

Deputy head of section of the Federal Property Management Agency

**Born in: 1992**

**Nominated by**  
2017, Russian Federation

**Ownership of the Company's shares:**  
No

**ZOBKOVA**  
Tatyana

Head of section of department of the Ministry of Energy of Russia

**Born in: 1976**

**Nominated by**  
2017, Russian Federation

**Ownership of the Company's shares:**  
No



The conclusion of the Internal Audit Commission of PJSC based on the results of the audit of financial and economic activities for 2017 is presented in Appendix 17.

## AUDITOR

PJSC RusHydro annually conducts an independent external audit of financial (accounting) reports according to Russian and international standards. Selection of an external auditor who independently reviewed the accounting (financial) statements of PJSC RusHydro under RAS and IFRS for 2015-2017, was conducted in the manner of an open tender.

Competitive selection of the Auditor of PJSC RusHydro was carried out on the basis of the Federal Law of April 5, 2013 44-FL "On the contract system in the procurement of goods, works, services for the provision of state and municipal needs" (the date of procurements - February 27, 2015, the date of final decision - April 8, 2015). The tender documentation was approved by the Federal Agency for State Property Management. Following the results of the competitive procedures, JSC PwC Audit was declared the winner.

JSC PwC Audit is a member of the self-regulatory organisation of auditors - Non-Profit Partnership Audit Chamber of Russia (NP ACR).

In 2017, JSC PwC Audit conducted an independent audit of the Company's accounting (financial) statements for 2016 in accordance with the Russian Accounting Standards, and JSC PwC Audit prepared the consolidated financial statements for 2016 in accordance with the International Financial Reporting Standards.

In addition, JSC PwC Audit conducted a review of the consolidated interim financial statements of the issuer for the three and six months ending on June 30, 2017, and the three and nine months ending on September 30, 2017.

In 2018 JSC PwC Audit conducted the independent audit of the accounting (financial) statements of the Company for 2017 in accordance with the Russian Accounting Standards, and JSC PwC Audit compiled the consolidated financial statements for 2017 in accordance with International Financial Reporting Standards.

In 2017, the Audit Committee considered a number of issues related to the work of the external auditor, including the analysis of the Company's accounts and the evaluation of the results of the external audit of the Company's accounts for compliance with the legislation of the Russian Federation, International Standards of Auditing, and other regulatory legal acts and standards.

## INTERNAL AUDIT SERVICE

The main objective of the activity of the Internal Audit Service of PJSC RusHydro is to assist the Board of Directors and the executive bodies of RusHydro Group in improving the management of the Group, improving its operations, including through a systematic and consistent approach to the analysis and evaluation of the risk management system, internal control, and corporate governance. The number of members of the Internal Audit Service as of December 31, 2017, is five.

The Internal Audit Service is a separate structural unit of PJSC RusHydro, which is subordinate to the Board of Directors (the Audit Committee) and administratively subordinate to the CEO, the Chairman of the Management Board of PJSC RusHydro. The head of the Internal Audit Service was approved by the decision of the Board of Directors of PJSC RusHydro.

The tasks and functions of the Internal Audit Service include:

- organisation and conduct of internal audits of the Company and Subsidiaries, processes and activities;
- assessment of the effectiveness of the internal control system, the risk management system, corporate governance of the Company and Subsidiaries;
- organisation of methodological support and control over the activities of the Company's representatives in the Audit Commissions Subsidiaries;
- interaction with the Audit Committee.

**In 2017, the Board of Directors reviewed the report on the effectiveness of the internal control and risk management system, corporate governance, taking into account the assessment conducted by the Internal Audit Service and the recommendations for its improvement.**

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General principles and approaches to the Company's internal audit system are fixed in the Internal Audit Policy approved by the Board of Directors of PJSC RusHydro. The policy takes into account the requirements of the Corporate Governance Code of PJSC RusHydro, the Methodological Recommendations and Guidelines of the Federal Property Management Agency, and is aimed, among other things, at increasing the compliance of the Internal Audit Service of PJSC RusHydro to the International Professional Standards of Internal Audit.

The priorities of the Company's internal audit in accordance with the objectives of RusHydro Group, taking into account the available resources, as well as the risk-oriented approach to planning of control activities, are determined by the Monitoring Action Plan, which is approved annually by the Audit Committee.

In the course of 2017, 14 planned monitoring activities were carried out, and 6 unscheduled inspections and official investigations were conducted / attended, during which audit evidence was collected and analysed to assess the effectiveness of the internal control, risk management, and corporate governance system, including:

- checks of branches and subsidiaries engaged in the construction, operation, and repair of generation facilities;
- thematic audits aimed at identifying opportunities to improve the Company's business processes and the activities of key controlled companies;
- evaluation of the internal control and risk management system of RusHydro Group;
- evaluation of the corporate governance system.

Based on the results of the control activities, the Company's management and the controlled companies develop and implement corrective actions aimed at following the remarks, increasing the efficiency of the internal control system, preventing the repetition of violations, applying disciplinary measures to persons who committed violations. Internal auditors carry out follow-up control of corrective actions.

## Evaluation by the Audit Committee of the effectiveness of the internal audit process

On a quarterly basis, the Audit Committee reviews the report of the Head of the Internal Audit Service on the implementation of the Monitoring Schedule Plan, which contains a brief description of the identified material violations, remarks and shortcomings in the activities of the Company and its controlled companies, including information on significant risks, control and corporate governance issues, and recommendations on their elimination, increase of efficiency of internal control system.

Based on the results of the evaluation (feedback) in 2017, the high efficiency of the internal audit work was identified in terms of identifying shortcomings, the elimination of which would reduce / eliminate the impact of negative factors on the efficiency of the Company and the controlled companies.

In the reporting year, the Methodology for evaluating the effectiveness of the internal control and risk management system by the Internal Audit Service was approved. The Company also approved the Programme for ensuring and improving the quality of the Company's internal audit, designed to ensure proper control and evaluation of the internal audit activity, as well as to identify areas for its improvement.

The Programme defines the goals, directions, approaches and procedures for the continuous (ongoing) and cyclical monitoring of the quality of internal audit activities. The implementation of the Programme includes:

- conducting ongoing (continuous) monitoring of internal audit activities,
- conducting annual internal assessments of internal audit activities (self-assessments),
- regular external evaluation of internal audit activities (every 5 years),
- informing about the results of the evaluation,
- development / update of the plan of measures for the development and improvement of internal audit activities.

# REPORT ON THE REMUNERATION OF MANAGEMENT BODIES, SUPERVISORY BODIES, AND THE AUDITOR

## REMUNERATION OF THE BOARD OF DIRECTORS

In 2017, remuneration was paid to the Members of the Board of Directors elected on June 27, 2016, for work in the Board of Directors from June 27, 2016 to June 26, 2017.

The calculation of the remuneration was made in accordance with the Regulation on the payment of remuneration and compensation to members of the Board of Directors of PJSC RusHydro, approved by the Annual General Meeting of Shareholders on June 27, 2016 (Minutes No. 15 of June 29, 2016). Basic calculation parameters:

- the basic part of the remuneration of each member of the Board of Directors is 900,000 rubles;
- the amount of remuneration depends on the number of meetings in which a member of the Board of Directors participated;
- remuneration is not paid if a member of the Board of Directors of the Company did not participate in more than 25 (twenty five) % of the meetings held (from the moment of his election until the election of the Board of Directors of the Company in a new membership);
- the amount of remuneration is increased if the member of the Board of Directors is:
  - Chairman of the Board of Directors (by 30%);
  - Chairman of the Committee of the Board of Directors (by 20%);
  - Senior Independent Director (15%);
  - a member of the Committee of the Board of Directors (by 10%);
- remuneration to the Chairman and members of the Board of Directors of the Company who are (during the full or partial term of office of a member of the Board of Directors) individuals for whom the legislation of the Russian Federation stipulates a restriction or prohibition on receiving any payments from commercial organisations, is not accrued or paid;
- remuneration is not paid to members of the Board of Directors who are or have been members of the executive bodies of the Company.

The Company does not pay compensation to members of the Board of Directors other than those related to travel and residence for participation in the meeting, including the Company does not pay remuneration to members of the Board of Directors due to a change of control or early termination of powers.

Remuneration and allowances are paid by the Company in cash (Russian rubles) within 60 (sixty) days after the annual General Meeting of Shareholders of the Company at which the decision to elect a new Board of Directors of the Company was made.

The decision on the payment of remuneration to the members of the Board of Directors was adopted by the annual General Meeting of Shareholders on June 27, 2017. The decision on the payment of remuneration to members of the Board of Directors was previously reviewed and recommended by the Personnel and Remuneration Committee (Minutes No. 63 of May 22, 2017).

**Remuneration of the Board of Directors, thousand RUB**

	2015	2016	2017
Remuneration for participation in the work of the management body	7,861.99	5,561.54	7,472.31
Salary	0	0	0
Premium	0	0	0
Commission	0	0	0
Other types of remuneration	0	0	0
<b>Total:</b>	<b>7,861.99</b>	<b>5,561.54</b>	<b>7,472.31</b>
Costs associated with the performance of the functions of a management member, reimbursed by the Company	336.21	52.51	0

This remuneration methodology was not revised from 2010 to 2016.

In 2016 the Company attracted the world-wide renowned consultant Ernst & Young (CIS) BV (the Moscow branch), which conducted a survey of the practice of remuneration to board members of large Russian companies with comparable business size. Based on the results of the analysis, a new method for calculating the remuneration of members of the Board of Directors of the Company was developed, according to which the basic part of the remuneration of each member of the Board of Directors is set at RUB 3.51 mn, which corresponds to the average market level of remuneration. This approach will allow retaining and attracting professionals to the Board of Directors of the Company.

The General Meeting of Shareholders of PJSC RusHydro (Minutes No. 16 dated June 27, 2017) approved a new Regulation on the payment of remuneration and compensation to members of the Board of Directors of PJSC RusHydro.



The document is available at the Company's website: <http://www.eng.rushydro.ru>

## REMUNERATION OF THE MANAGEMENT BOARD

Remunerations to members of the Management Board, including the Chairman of the Management Board, the CEO, were paid in 2017 in accordance with the terms of employment contracts and the Regulations on Remuneration and Compensation to the members of the Management Board of PJSC RusHydro approved by the decision of the Board of Directors of the Company on November 11, 2016 (Minutes No. 243 of November 14, 2016).

In 2016 the Company attracted the world-wide renowned consultant Ernst & Young (CIS) BV (the Moscow branch), which conducted a survey of the remuneration practice regarding top of large Russian companies with comparable business size. Based on the results of the analysis, the procedure for calculating the remuneration of members of the Management Board of the Company was substantially revised.


Since January 1, 2017 the remuneration model was fully linked to the implementation of short-term and long-term KPI of the Company, approved by the Board of Directors of the Company on the recommendation of the Nominations and Remuneration Committee under the Company's Board of Directors.



The motivation system is based on the following principles: transparency, balance (observing the balance of interests of the shareholders of the Company, and the interest of management in achieving the Company's objectives in the long-term and short-term), objectivity (the amount of remuneration directly depends on the results of the Company's activities and the implementation of significant projects).

The current model of remuneration provides for a long-term motivation programme for the Management Board with reference to the growth of the value of shares and the fulfilment of key performance indicators of the Programme established by the Board of Directors of the Company. The programme is designed to more closely link the interests of the management and shareholders of the Company in the steady growth of the Company's capitalisation and business development. The main objectives and principles of the Programme: motivation of the Company's management for the implementation of strategic tasks and openness to shareholders, remuneration is determined taking into account the level of achievement of KPI of the Programme, a single mechanism for calculating remuneration and equal conditions for obtaining compensation.

The amount and terms of compensation to the members of the Management Board in connection with the early termination of the contract are determined by a document approved by the Board of Directors regulating the payment of remuneration and compensation to the members of the Management Board of PJSC RusHydro. Golden parachutes for the early termination of a contract in the Company are not provided. The maximum amount of compensation paid in case of an early dismissal of a member of the Management Board is limited in accordance with the legislation of the Russian Federation by a threefold average monthly salary of a member of the Management Board.

 For more details on the KPIs established by the Board and their execution, see section Key performance indicators.



Here you can find Information on remuneration to the members of the Management Board, including the Chairman of the Management Board, the CEO, is disclosed on the corporate website of the Company as part of the issuer's quarterly reports <http://www.rushydro.ru>

### Remuneration of the Management Board, mn RUB

	2015	2016	2017
Remuneration for participation in the work of the management body	0	0	0
Salary	97.83	71.66	185.39
Premium	625.84	153.92	344.62
Commission	0	0	0
Other types of remuneration	0	0	0
<b>Total:</b>	<b>723.67</b>	<b>225.57</b>	<b>530.01</b>
Costs associated with the performance of the functions of a management member, reimbursed by the Company	7.79	6.99	1.70

# REMUNERATION OF THE INTERNAL AUDIT COMMISSION

Payment of remunerations to members of the Internal Audit Commission in 2017 was made in accordance with the Regulations on Remuneration and Compensation to the members of the Audit Commission of PJSC RusHydro approved by the Annual General Meeting of Shareholders (Minutes No. 15 of June 29, 2016), according to which the basic remuneration to a member of the Audit Commission is set at the amount of 15% of the average annual remuneration of a member of the Board of Directors.

The basic remuneration is adjusted with the coefficient of personal participation of a member of the Audit Commission in meetings and a coefficient that takes into account the work placement as Chairman and Secretary of the Audit Commission. This Regulation applies to members of the Audit Commission who are not individuals for whom the legislation of the Russian Federation provides for a restriction or prohibition on receiving any payments from commercial organisations.

On June 26, 2017, the Annual General Meeting of Shareholders of PJSC RusHydro (Minutes No. 16 dated June 27, 2017) decided to pay compensation to the members of the Company's Internal Audit Commission for the period from June 27, 2016 to June 26, 2017, in the amount, procedure, and terms determined by the Regulations on Remuneration and Compensation to the members of the Internal Audit Commission of PJSC RusHydro approved by the decision of the annual General Meeting of Shareholders of the Company (Minutes No. 15 of June 29, 2016).

June 27, 2017, the General Meeting of Shareholders of PJSC RusHydro (Minutes No. 16 of June 27, 2017) approved a new Regulation on payment of remuneration and compensation to members of the Audit Commission of PJSC RusHydro, according to which clarifications were made in the methodology for calculating the remuneration of members of the Audit Commission.

## Remuneration of the Internal Audit Commission, thousand RUB

	2015	2016	2017
Remuneration for participation in the work of the body supervising the financial and economic activities of the issuer	342.2	629.5	530.5
<b>Total</b>	<b>342.2</b>	<b>629.5</b>	<b>530.5</b>
Expenses related to the performance of the functions of members of the bodies controlling the issuer's financial and business operations, reimbursed by the Company	0	0	0

# REMUNERATION OF THE AUDITOR

## Remuneration of the Auditor, mn RUB including VAT 18%

Audited fiscal year	2015	2016	2017 <sup>1</sup>
Audit of annual accounting (financial) reporting under RAS and Consolidated IFRS reporting, including a review of the consolidated financial statements for 6 months.	120	120	136
Remuneration for non-audit services	no	no	no

Remuneration of the auditor is determined by the decision of the Board of Directors of the Company taking into account the results of the competitive procedures and after preliminary consideration by the Audit Committee.

<sup>1</sup> The auditor's remuneration for 2017 includes also the cost of a review of the consolidated financial statements for 9 months.

# BUSINESS ETHICS AND ANTI-CORRUPTION

## CONTROL OVER MAJOR AND INTERESTED PARTY TRANSACTIONS

In PJSC RusHydro, there is a system of internal control over transactions. The adopted Regulation about contractual work in PJSC RusHydro regulates the unified procedure for approving, signing, and executing contracts concluded on behalf of PJSC RusHydro. Draft contracts are subject to corporate review in order to comply with Russian law while its signing.

In 2017, PJSC concluded interested-party transactions, the list of which, including the subject of transactions, the interested parties, and information on their approval, is given in Appendix 2 to the Annual Report. All transactions were approved by the Board of Directors or the General Meeting of Shareholders; thus, there was no conflict of interest in the performance of these transactions.

## PREVENTING THE USE OF INSIDER INFORMATION

PJSC RusHydro has a Regulation on insider information aimed at complying with the requirements of the Russian legislation in the field of countering the misuse of insider information and market manipulation. The Regulation takes into account international corporate governance practices, including the requirements of the Financial Services Authority's Disclosure and Transparency Rules (The Financial Conduct Authority).

The Regulation establishes the categories of individuals that PJSC RusHydro includes in the list of insiders, the access procedure and the rules for protecting the confidentiality of insider information, as well as restrictions on the use of information by insiders to conduct transactions with the Company's financial instruments and to transfer information about it to other persons.

The list of insider information is compiled in Russian and English and is published on the corporate site ([www.rushydro.ru](http://www.rushydro.ru) and [www.eng.rushydro.ru](http://www.eng.rushydro.ru)). The Company publishes information related to the insider in Russian in the news bulletin of the authorized news agency Interfax ([www.e-disclosure.ru](http://www.e-disclosure.ru)), in English - in the RNS news line (<http://www.londonstockexchange.com/exchange/news/market-news/market-news-home.html>).

The control over compliance with the requirements of the legislation on insider information is the responsibility of the member of the Management Board, First Deputy CEO, who supervises the block of financial and corporate governance, who, based on the results of each quarter, provides a report to the Audit Committee. The Audit Committee includes in its annual report information on the Company's performance of the data required.



## ANTI-CORRUPTION EFFORTS

The anti-corruption system of RusHydro Group is built in accordance with the regulatory documents (acts) of the Russian Federation in order to implement in RusHydro Group the state policy on combating corruption, minimising corruption risks, ensuring open and fair business in order to improve the corporate culture, follow the best corporate practices management and maintenance of business reputation at a high level.

In order to increase the effectiveness of countering corruption, PJSC RusHydro has approved a comprehensive Programme of anti-corruption activities for 2016-2019, which defines the main areas of anti-corruption activity.

Within the framework of the Programme, the Company annually carries out activities aimed at reducing corruption risks in the Company, ensuring compliance of the Company's activities with the requirements of Russian and international anti-corruption legislation.

In the reporting year, a number of local regulatory documents were developed and updated. Instead of the Anti-Corruption Policy of PJSC RusHydro, approved by the decision of the Board of Directors of April 7, 2016 (Minutes No. 235 of April 8, 2016) and the Policy on Conflict of Interest Management of PJSC RusHydro approved by the Board of Directors on April 7, 2016 (Minutes dated April 8, 2016 No. 235) was formed a unified Anti-Corruption Policy of PJSC RusHydro in new wording (Minutes No. 263 of the Board of Directors of December 28, 2017), which defines the main principles, requirements, and areas of activities to prevent corruption and ensure compliance with the anti-corruption lawmaker of the Russian Federation and include provisions for the settlement of conflicts of interest, as one of the anti-corruption measures.

In the reporting year, the Rules for the operation of the Line of Trust of RusHydro Group were amended in a new version (Order No. 898 of December 21, 2017) establishing a unified approach to receive, review, and record calls to the Trust Line in RusHydro Group, including the following changes:

- the concepts and definitions used were supplemented and refined;

**In 2017, no criminal cases related to corruption were initiated against JSC RusHydro and its employees. In 2017, there were no cases of non-renewal of contracts with business partners due to corruption-related violations as well as no legal actions were taken against the Group's companies or their employees related to corruption practices.** [205-3]

- the regulatory (legislative) basis for preventing and countering corruption were updated;
- the list was updated, as well as the functions of the responsible persons and units involved in the process of receiving, reviewing appeals coming to the Trust Line;
- the list of criteria limiting the consideration of appeals received on the Trust Line is updated.

The Regulation of the commissions for compliance with the norms of corporate ethics and the settlement of the conflict of interests of PJSC RusHydro (Order No. 934 of December 29, 2013) was developed and put into effect defining the tasks, powers, types, and procedures for the establishing and functioning of an Ethics Commissions and the order of their interaction.

In addition, in order to ensure a unified approach to the organisation of anti-corruption activities in RusHydro Group, local regulatory acts were implemented in the field of counteracting corruption and resolving a conflict of interests similar to the local regulatory acts of PJSC RusHydro in the controlled entities of PJSC RusHydro.

[103-2], [103-3]

## Ensuring openness and accessibility of information<sup>[102-17]</sup>

On the official website and the internal portal of PJSC RusHydro can be accessed updated information:

- on the local regulatory acts adopted in the Company for combating corruption, preventing illegal actions and conflicts of interest;
- plans and reports on the implementation of the activities of the Comprehensive Programme of Anti-Corruption Activities;
- information materials, current regulatory legal acts, methodological materials on combating corruption.

At PJSC RusHydro, the Trust Line (<http://www.rushydro.ru/form/>) is on an ongoing basis an accessible communication channel for calls from employees of RusHydro Group and third parties (including anonymous ones) on counter-ing fraud and corruption, suppression of unlawful actions and conflicts of interest, the improvement of the activities of the organisations of the Group.

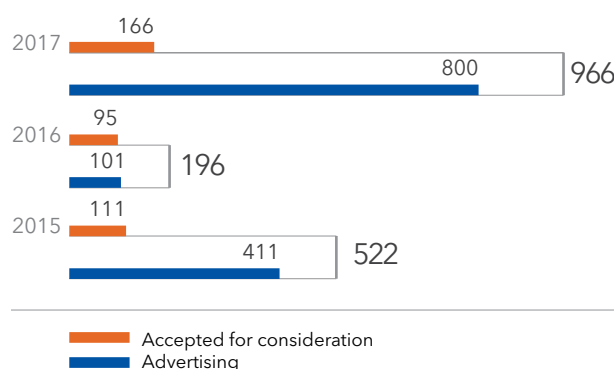
**PJSC RusHydro provides full-time assistance to law enforcement, controlling, and supervisory authorities in carrying out inspections and requests for information on the compliance of PJSC RusHydro with anti-corruption legislation, including the preservation and transfer of documents and information to these authorities that contain data on corruption offenses, when investigating the facts of corruption, while conducting inspections of the Company's activities on preventing and combating corruption.**<sup>[205-3]</sup>

## Trust Line

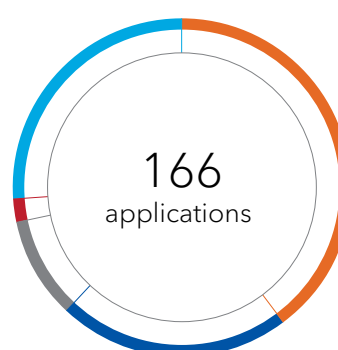
In 2017, 966 applications were received to the Trust Line of the Company. Compared to 2016, the number of applications increased 4.9 times. The main reasons for the multiple increase in the number of applications was the integration of the Company and JSC RAO ES East, the popularisation of the Line, as well as the growth of the applicants' trust in the communication channel. In 2017, 166 applications were considered as meeting the criteria established by local regulatory acts. The main reasons for the refusal was non-compliance with the criteria for considering appeals received by the Trust Line, or lack of information for feedback (letters without a return address).

Based on the materials received by the Trust Line in 2017, 5 internal investigations were initiated and completed.

### Number of applications



### Number of applications to the Trust Line



## Internal communications

To improve the effectiveness of interaction between members of the work team, to accelerate information exchange within the organisation, to shape and disseminate corporate values of the company, to promptly inform employees about events, the intranet portal [my.rushydro.ru](http://my.rushydro.ru) was created and is maintained. The portal publishes news, regulatory and administrative documents of the Company, provides information and useful information for employees, as well as information on the availability of vacancies in the Group, while various other service functions are implemented.

One of the most effective tools for internal communications of the Group is the intracorporate newspaper. The monthly edition of "Vestnik RusHydro" is a full-color edition of 16 pages, whose total circulation in 2017 was 100,000 copies. The newspaper publishes a wide range of news from all regions of its presence, reflects the activities of all the divisions of the Group. Much attention is paid to interviews with the heads of the companies of the Group and its divisions. The newspaper is distributed free of charge at all facilities of the Company. An electronic version of the newspaper was created on the website [www.vestnik-rushydro.ru](http://www.vestnik-rushydro.ru), which allows to expand the audience of the channel of internal communications.

## Improvement of the internal control system

Each year PJSC RusHydro updates the internal control system and implements plans to improve the internal control system, within surveys of the internal control systems of business processes of PJSC RusHydro.

Special attention is paid to the analysis of the adequacy of control procedures aimed at reducing the risks of corruption and fraud. Based on the results of the surveys, risk matrixes and control procedures are developed and updated to minimise risks.

## Perfection of conditions, procedures and mechanisms of purchasing activity

The Company regularly checks the legal entities and individuals with whom RusHydro intends to enter into financial and business relations as part of the procurement procedures, for the existence of conflicts of interest, including affiliation (interdependence) between the leaders (founders) of these organisations and employees of PJSC RusHydro.

In 2017, the Methodology for assessing the business reputation and financial status of participants in procurement procedures was updated (Order No. 246 of April 21, 2017) in the executive office and branches of PJSC RusHydro.

### Participation of representatives of PJSC RusHydro in anti-corruption events:

- **IV International GRC Forum "Anticorruption 2017. Revolutionising Values", organised by Thomson Reuters;**
- **Seminar of the Club of Companies on the Development of Corporate Governance with the participation of OECD representatives organised by PJSC Moscow Exchange and Deloitte, dedicated to the current world trends in business ethics and anti-corruption practices, as well as discussion of the state of compliance culture in Russian companies;**
- **All-Russian interactive action, timed to the annual International Day against Corruption, celebrated on December 9, organised by the Chamber of Commerce and Industry of the Russian Federation;**
- **seminar organised by the Russian Union of Industrialists and Entrepreneurs "Actualisation of mechanisms of counteraction to corruption on the example of separate business processes".**

# ADDITIONAL INFORMATION

## GLOSSARY

Company, PJSC RusHydro	Public Joint-Stock Company Federal Hydrogenerating Company RusHydro, including its branches and executive office
Controlled company	A legal entity that is under the direct or indirect control of a controlling person
Controlling person	A person who has the right, directly or indirectly (through the persons under his control), to dispose of by virtue of his participation in a controlled organisation and (or) on the basis of trust management agreements, and (or) a simple partnership, and (or) an instruction, and (or) a share agreement, and (or) another agreement, the subject of which is the exercise of rights certified by shares (interests) of the controlled entity, more than 50 percent of the votes in the supreme management body of the controlled entity or the right to appoint (elect) a sole executive body and (or) more than 50 percent of the managerial body of the controlled entity.
Day-Ahead Market	The competitive selection of price bids of suppliers and buyers conducted by JSC ATS a day before the actual delivery of electricity with the determination of prices and volumes of delivery for each hour of the day
Energy Efficiency	Effective (rational) use of energy resources. Use less energy to provide buildings or manufacturing processes in production with the same level of energy
Generating companies of the wholesale electricity market	Companies formed on the base of power plants
Gigacalorie	A unit of measurement for heating energy
Gigacalorie-Hour	A unit of measurement for heating power
Hydropower plant	A power plant as unified production and technological complexes, combining hydro-technical constructions and equipment that transforms mechanical energy from water into electric energy. In the text of the annual report, except when otherwise noted, tidal power plants and pumped storage plants are included as HPPs
Hydro-technical facilities	Dams, hydropower plant constructions, spillways, drain and water-discharge constructions, tunnels, channels, pumping stations, navigation locks, boat lifts; buildings used to protect from floods and the destruction of water reservoir shores; dam constructions, protecting the liquid waste reservoirs of production and agricultural organisations; devices that protect against washing-away and other constructions designed to use water resources and to prevent any negative impact from water and liquid waste



Integrated Energy System	Aggregated production and other electricity property assets, connected via a unified production process (including production in the form of the combined generation of electrical and heat) and the supply of electrical energy under the conditions of a centralized operating and dispatch management.
Installed capacity	Total nominal active capacity of generators at electric power plants which are part of the Group's structure
JSC RAO UES of Russia	The Russian energy company. Full name - Open Joint Stock Company Unified Energy System of Russia. The Company previously united almost all of Russian energy sector companies under its consolidation. JSC RAO UES of Russia ceased to exist as of June 30, 2008 as a result of a comprehensive energy sector reform
Kilowatt-Hour	A unit of measurement for produced electricity
Megawatt	A unit of measurement for electrical capacity
Pumped storage plants	Pump-storage power plants, which works by transforming electricity from other power plants into the potential energy of water; during reverse transformation, accumulated energy is contributed to the energy system primarily to cover deficits that may occur during peak load periods
Renewable energy sources	Include: hydro, solar, wind, geo-thermal, hydraulic energy, energy from water currents, waves, tides, the temperature gradient of sea water, temperature differences between air masses and the ocean, heat from the Earth, animal bio-masses and vegetable and household waste
RAO ES East Subgroup	JSC RAO ES East, including its controlled companies
Subsidiaries and dependent companies	Entities, in which another (main) economic entity due to its majority or greater participation in the charter capital or in accordance with a concluded agreement or in another way, has the opportunity to determine the decisions adopted by said entities.
The RusHydro Group, Group	PJSC RusHydro, including its controlled companies
Net supply of electricity	Electricity received and paid for by consumers
Wholesale electricity and capacity market	Sphere for the turnover of electric energy and capacity within the framework of Russia's integrated energy system within the country's unified economic space with the participation of large electricity producers and consumers that have the status of wholesale market objects, confirmed in full accordance with the Russian Federal Law "On the electric power industry" (by the Russian Government). The criteria for including large electricity producers and consumers in the category of large producers and large consumers are also established by the Russian government
Wind electric plants	Include two or more wind energy installations designed to convert wind energy into electric energy and its transmission to consumers

# LIST OF ABBREVIATIONS

PJSC RusHydro	Public joint-stock company RusHydro, including its branches and executive office
JSC RAO ES East	Joint-stock company RAO Energy Systems of the East
APAC	Asian-Pacific Region
AGM	Annual General Meeting of Shareholders
CHPP	Combined heat and power plant
CCA	Competitive capacity auction
CME	Control and measuring equipment
DAM	Day-Ahead Market
FEC	Fuel and Energy Complex
FEFD	Far Eastern Federal District
Gcal	Gigacalorie
Gcal/h	Gigacalorie-Hour
HPP	Hydropower plant
HS	Hydraulic structure
IES	Integrated Energy System
KPIs	Key performance indicators
kWh	Kilowatt-Hour

LDP	Long-term Development Programme
MW	Megawatt
MPP	Mobile Power Plant
PSP	Pumped storage plant
R&D	Research and development
REM	Retail energy market
RES	Renewable energy sources
SD	Sustainable development
GRES	A condenser type electricity-only thermal power plant
SPP	Solar power plant
TPP	Thermal power plant
TR&M programme	Technical rehabilitation and modernisation programme
VGP	Value growth plan
VNIIG	The B.E. Vedeneev All Russia Institute of Hydraulic Engineering
WECM	Wholesale electricity and capacity market
WPP	Wind electric plants

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## The reflection in the report of the fundamental concepts of <IR>

Fundamental concepts	Used / not used
Creating value for the organisation and stakeholders	Used
Capitals	Used
Value creation	Used

## Conformity of the report with the core principles of the <IR>Standard

Leading principles	Corresponds / does not correspond
Strategic focus and future orientation	Corresponds
Connectivity of information	Corresponds
Stakeholder relationships	Corresponds
Materiality	Corresponds
Conciseness	Corresponds
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# FEEDBACK FORM

## 1. Rate the report using the criteria "Completeness and relevance of information"

- ☐ Excellent
- ☐ Good
- ☐ Satisfactory
- ☐ Unsatisfactory

## 2. Does the report allowed us to obtain the necessary information about the Company?

- ☐ Yes
- ☐ No
- ☐ Other :

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## 3. What sections of the report, which proved to be most meaningful and useful for you:

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## 4. What topics do you think should be included in the next report:

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## 5. Your advice and additional comments:

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## 6. Indicate which stakeholder category you belong to:

- ☐ RusHydro Group Employees
- ☐ The customer / user (the subject of the retail market)
- ☐ The representative of the professional community or NPO
- ☐ Media representative
- ☐ Business partner / contractor / supplier
- ☐ Shareholder / Investor
- ☐ The representative of the public authorities
- ☐ The representative of local communities in the presence regions
- ☐ Representatives of universities and other educational
- ☐ Other (specify):

Dear reader!

You have read with the annual report of PJSC RusHydro, addressed to a wide range of stakeholders. Like the most significant global companies, RusHydro considers the task of disclosure quality improving as a priority, aspires to be more open and transparent in its interaction with stakeholders. Work on the public reporting quality takes place year-round - from building up the information collection system to carefully taking into account the opinions and recommendations of stakeholders and experts. The company intends to work on improving corporate reporting consistently.

The opinion of the readers - those for whom the report was created, it is extremely important to us. We would be grateful if you will contribute to the quality of the Group's reporting by answering the questionnaire.

The completed form can be sent to the address: 127006, Moscow, ul. Malaya Dmitrovka, 7, or by fax: +7 (495) 225-37-37 (marked "The Department for Corporate Governance and Property Management"), or by e-mail [corpupr@rushydro.ru](mailto:corpupr@rushydro.ru).

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Appendix No 2. Information on major transactions and interested party transaction in 2017 with an indication of the parties concerned, date and protocol number of the management body meeting approving the transaction, and description of the transaction (including its subject, agreement price and term), of the interested party(ies), and of the person(s), treated as a non-independent director

Appendix No 3. Information on participation in other organisations

3.1 Information concerning all forms of the company's participation in commercial entities including its objectives, form and financial involvement, basic data on the entities (main statutory activities, earnings, profit), and efficiency indicators, in particular, the amount of dividends received for the owned shares in the reported period

3.2 Information concerning all forms of the company's participation in non-commercial entities, including the entity name, date of joining, subscription fee in rub/ other currency, area of the entity's activities

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Appendices are available at  
<http://ar2017.rushydro.ru/en>

# CONTACTS

Full name	Public Joint-Stock Company Federal Hydro-Generating Company - RusHydro [102-1]
Abbreviated name	PJSC RusHydro
OGRN	1042401810494
INN	2460066195
KPP	246601001
OKPO	75782411
OKVED	35.11.2
Number and date of issue of the certificate of state registration as a legal entity	1042401810494 26.12.2004
Main activity	35.11.2 Production of electricity by hydroelectric power plants [102-2]
Information about the listing of strategic enterprises and strategic joint-stock companies	Presidential Decree of 21.05.2012 No.688 PJSC RusHydro on the list of strategic enterprises and strategic joint-stock companies, approved by Presidential Decree of August 4, 2004 N 1009 "On approval of the list of strategic enterprises and strategic joint-stock companies"
Location	43 Dubrovinskogo Street, Bldg 1, Krasnoyarsk, the Krasnoyarsk Region, Russia, 660017 [102-3]
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Telephone	+7 (800) 333-8000
Fax	+7 (495) 225-3737
E-mail	office@rushydro.ru
Internet address in Russian	www.rushydro.ru
Internet address in English	www.eng.rushydro.ru

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Current account	4070281043809 0001390
Bank	PJSC Sberbank, Moscow, Russia
BIC	044525225
Correspondence account:	3 30101810400000000225

## Shareholder relations

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Abbreviated name	VTB Registrar
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Abbreviated name NSD

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Full name Closed Joint Stock Company PricewaterhouseCoopers Audit

Abbreviated name CJSC PwC Audit

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