APPENDIX NO.9 REPORT ON THE LONG-TERM DEVELOPMENT PROGRAM IMPLEMENTATION OF THE RUSHYDRO GROUP FOR THE YEAR OF 2019

1. GENERAL INFORMATION

RusHydro's Long-Term Development Program for 2018–2022 (the LTDP) is prepared and updated in accordance with instructions of the Russian President (No. Pr-3086 dated December 27, 2013) and the Russian Government (Minutes No. 3 dated January 30, 2014, Directive No. 4955p-P13 of the Russian Government dated July 17, 2014). The LTDP was approved by resolution of the Company's Board of Directors[18].

RusHydro Group's LTDP sets out the main principles and activities for the Company's rapid growth, seeking to ensure efficient use of water resources, sustainability of Russia's Unified Energy System, as well as social and economic development of the Russian regions, including the Far East, by providing its existing and prospective consumers with access to energy infrastructure.

Pursuant to the Russian Government's Directive No. 4955p-P13 dated July 17, 2014, progress against the LTDP is audited on an annual basis in accordance with the LTDP Audit Standard[19] and the Terms of Reference for auditing the progress against the LTDP[20], developed in line with the recommendations of the Russian Government[21].

Calculation of the LTDP KPI for 2019 is presented in Section 12 of this report and complies with the Calculation and Evaluation Methodology for the KPIs of RusHydro Group's LTDP approved as part of this LTDP and amended as follows to facilitate unbiased assessment of certain indicators:

- use of data on the number of utility connections, including connections covered by agency agreements with PJSC DEK, JSC DGK, PJSC Sakhalinenergo and PJSC Yakutskenergo, to calculate the Decrease in Operating Expenses (Costs) KPI;
- use of data on the growth of controllable expenses taken into account by the regulator in estimating the required gross revenue on a year-on-year basis (GRR)[22] to calculate the Decrease in Operating Expenses (Costs) KPI for all Group companies where GRR for the reporting year exceeds CPI calculated as per this Methodology, particularly for PJSC DEK, PJSC Kamchatskenergo, JSC UESK, PJSC Mobile Energy, JSC Chukotenergo, JSC Geoterm and PJSC KamGEK;

[18] Minutes of the Board of Directors No. 271 dated June 1, 2018 as amended by resolutions of the Board of Directors (Minutes No. 279 of October 26, 2018, No. 294 of August 29, 2019, and No. 297 of October 21, 2019).
[19] Minutes of the Board of Directors No. 281 of December 27, 2018.
[20] Minutes of the Board of Directors No. 279 of October 26, 2018.
[21] Instruction of the Russian Government No. ISH-P13-2583 of April 15, 2014.
[22] Pursuant to the Methodology, GRR is calculated for heat suppliers and wholesale market suppliers owning or otherwise in control of thermal power plants operating in the non-price zones of the wholesale electricity and capacity market in the Russian Far East (South Yakutian, Western and Central districts in the Republic of Sakha (Yakutia), Primorye Territory, Khabarovsk Territory, Amur Region and Jewish Autonomous Region) whose tariffs are set through long-term indexation of required gross revenue.

- inclusion of the line "Redemption of bank deposits and proceeds from sale of other investments" from the Consolidated Statement of Cash Flows in the calculation of free cash flow (FCF);

- use of data on the capacity commissioned as a result of rehabilitation and modernization at RusHydro's facilities that do not require a commissioning permit issued by the regulator or an acceptance certificate for equipment following comprehensive testing by the working commission (as per the Methodology) to calculate the Adherence to the Capacity Commissioning Schedule, Funding and Spending Plan KPI (for the purpose of the 2019 KPI calculations, the Capacity Commissioning component was determined using the same calculation method as in 2018, which was duly accounted for in the resolution of the Company's Board of Directors adopted on April 3, 2020 (Minutes No. 306) to approve actual KPI performance values);

- inclusion of expenses to file Patent No. 1911112 for the "Device designed to automatically connect and switch power supply and load sources at hybrid power generating plants based on PV modules, storage batteries and a diesel generator" dated July 24, 2019 in the calculation of the Integrated Innovative KPI (its Increase in IP assets on the Balance Sheet in the Reporting Period component); as at December 12, 2019, these expenses were recognised as other current assets under the R&D contract signed to develop a commercial prototype of a combined modular portable power plant, but were not included in the balance sheet of JSC UESK as an IP asset.

2. PERFORMANCE AGAINST PLANNED AND ESTIMATED TARGETS BASED ON RUSHYDRO GROUP'S CONSOLIDATED BUSINESS PLAN

RusHydro's medium-term business plan is the central element in the Group's economic planning. The Company's Board of Directors approved the Regulations on the Business Planning Framework (Minutes No. 273 of June 27, 2018) to be used as guidelines to draft RusHydro Group's consolidated business plan in accordance with the IFRS[23].

The LTDP for 2018–2022 builds on RusHydro Group's Consolidated Business Plan approved by the Board of Directors on April 3, 2018 (Minutes No. 267 of April 4, 2018)[24].

The Company's Board of Directors approved adjustments for the targets included in RusHydro Group's Consolidated Business Plan for 2019 (Minutes No. 295 of September 23, 2019) reflecting changes in the business plans of RAO ES East Subgroup companies, updates in the non-deliverable forward for RusHydro's shares signed with VTB Bank, rescheduling of CHPP commissioning in Sovetskaya Gavan, and changes in the amount of funding allocated under the Consolidated Investment Program.

Assessment of performance against the LTDP draws on the data contained in RusHydro Group's Adjusted Consolidated Business Plan for 2019 and marked in the analytical tables of this report as 'Target'.

[23] Hereinafter the "International Financial Reporting Statements".
[24] RusHydro Group's Consolidated Business Plan for 2018–2022 was prepared based on the business plan forms of PJSC RusHydro and its direct or indirect affiliates and subsidiaries, as well as transformational and consolidation adjustments used to ensure compliance with the IFRS.

The information on actual performance against the LTDP for 2019 is sourced from the IFRS audited consolidated financial statements of RusHydro Group as at and for the year ended December 31, 2019.

The Report on progress against RusHydro Group's Consolidated Business Plan for 2019 was approved by the Company's Board of Directors on April 9, 2020 (Minutes No. 307 of April 10, 2020).

Pursuant to RusHydro's IFRS audited consolidated financial statements, the Company's authorized capital as at December 31, 2019 was RUB 426,288.8 mn[25].

As part of an effort to refinance the debt of RAO ES East, RusHydro signed a supplement to the forward contract with VTB Bank providing for a reduction of the forward rate by 0.5% (down to the level of the Bank of Russia's key rate + 1.0%) and contract extension for three more years to March 2025. The extension will enable the Company to find a strategic investor and take additional measures to increase the share price.

Improvements of the forward contract terms will help the Company save RUB 275 mn per year, with total savings over the entire term of the financial instrument set to reach RUB 1.5 bn.

The forward contract improvements brought the current effective forward rate to 5.41%, which is significantly below the interest rates under credit instruments available in the market.

Income

The analysis of RusHydro Group's data for 2019 shows a 0.7% decrease in actual income against the target.

Income structure in 2019, RUB mn

Item	2019P	2019A	Target/actual deviation	
			Absolute	Relative
Sales of electricity and capacity	288,756[26]	291,096[27]	2,340	0.8%

[25] The RUB 7 bn contributed by the Russian Federation to the authorized capital of PJSC RusHydro in April 2019 as part of the ongoing additional share issuance brought the total number of shares issued by PJSC RusHydro to 433,288.9 million, with the Russian Government's share in the Company's authorized capital amounting to 61.2%. The target number of shares issued by PJSC RusHydro, including additional issuance in 2020 (the Russian Federation is expected to contribute RUB 6 bn to the authorized capital of PJSC RusHydro), is 439,288.9 million, with the Russian Government's share set to stand at 62.34%. Relevant amendments to the Charter are expected to be made (to reflect additional issuance in 2019–2020) after the Bank of Russia registers RusHydro's Additional Issuance Report for 2020.

[26] In the Adjusted Consolidated Business Plan of RusHydro Group for 2019 (as approved by resolution of the Board of Directors (Minutes No. 295 of September 23, 2019)) the target for Sales of Electricity and Capacity is RUB 294,943 mn. For the purpose of data comparability in the report, targets were aligned with the IFRS 15 requirements. The costs of electricity purchased by the Group's companies in the WECM for production processes and other in-house needs are offset as an indemnity due to be paid to the buyer in the amount of RUB 6,187 mn. The same amount is excluded from operating expenses in the line "Infrastructure payments related to the sales of electricity heat".

[27] Including actual results in the lines "Sales of electricity and capacity in the retail market" in the amount of RUB 144,924 mn, "Sales of electricity in the wholesale market" in the amount of RUB 97,995 mn, and "Sales of capacity in the wholesale market" in the amount of RUB 48,177 mn in accordance with Note 24

Item	2019P	2019A	Target/actual deviation	
			Absolute	Relative
Heat and hot water sales	45,839	40,645	-5,194	-11.3%
Government grants	39,065	39,983	918	2.3%
Other revenue	36,969	34,901[28]	-2,068	-5.6%
Other operating income	0	1,174	1,174	100%
Total	**410,629**	**407,799**	**-2,830**	**-0.7%**

Revenue from sales of electricity and capacity accounts for the largest part of proceeds (71% of total income).

The increase in revenue from RusHydro's sales of electricity is associated with a rise in the actual output and net supply of electricity during the reporting period against RusHydro's business plan and is attributable to the efficient planning of hydropower operational regimes amid higher-than-usual water levels in the reservoirs of the Volgo-Kama HPP cascade (H2 2019) and Sayano-Shushenskaya HPP (H2 2019) and in the Bureyskoye water reservoir (throughout 2019)[29].

The decrease in revenue from heat and hot water sales by RUB 5,194 mn (or 11.3%) is attributable to changes in the share of intra-Group revenue, a decline in net supply against the targets (as a result of specific climate conditions with unusually high temperatures observed throughout Russia at the end of 2019), unscheduled maintenance works in between the heating seasons, and consumption savings achieved through the installation of metering devices. RAO ES East Subgroup companies account for almost 100% of total revenue from heat and hot water sales.

The increase in government grants by RUB 918 mn against the target is attributable to higher power consumption and changes in the relationship between PJSC Kamchatskenergo in its capacity of supplier of last resort and energy supply organizations operating within its footprint.

The 5.6% decrease in earnings recognised as other revenue is attributable to rescheduling of utility connections to 2020 and termination of contracts, as well as changes in the share of intra-Group revenue against targets set for the companies of RAO ES East Subgroup.

Earnings recognised as other operating income come from penalties in the amount of RUB 992 mn and changes in the value of financial assets measured through profit and loss in the amount of RUB 182 mn.

Expenses

to RusHydro Group's IFRS consolidated financial statements as at and for the year ended December 31, 2019.

[28] Including actual results in the lines "Rendering services for electricity transportation" in the amount of RUB 14,218 mn, "Rendering services for connections to the grid" in the amount of RUB 10,206 mn, and "Other revenue" in the amount of RUB 10,477 mn in accordance with Note 24 to RusHydro Group's IFRS consolidated financial statements as at and for the year ended December 31, 2019.

[29] For more details, see the Report on progress against RusHydro Group's Consolidated Business Plan for 2019 approved by the Company's Board of Directors on April 9, 2020 (Minutes No. 307 of April 10, 2020).

In 2019, actual expenses in RusHydro Group decreased by RUB 21,872 mn (or 6.1%) against the targets.

The greatest decline in expenses is observed in the lines "Depreciation of property, plant and equipment and amortisation of intangible assets", "Third party services", and "Other expenses".

Structure of operating expenses in 2019, RUB mn

Item	2019P	2019A	Target/actual deviation	
			Absolute	Relative
Fuel expenses	71,487	71,433	-53	-0.1%
Depreciation of PPE and amortization of intangible assets	34,194	25,686	-8,508	-24.9%
Employee benefit expenses (including payroll taxes and pension benefit expenses)	80,395	80,376	-19	0%
Taxes other than on income	14,794	12,133	-2,661	-18.0%
Third party services	39,976	33,888	-6,088	-15.2%
Water usage expenses	4,297	4,333	36	0.8%
Other materials	10,257	12,085[30]	1,828	17.8%
Infrastructure payments related to the sales of electricity and heat	46,772[31]	44,058[32]	-2,714	-5.8%
Purchased energy (capacity)	43,302	46,310	3,009	6.9%
Other expenses	12,973	6,273[33]	-6,700	-51.6%
Total	**358,447**	**336,575**	**-21,872**	**-6.1%**

The decrease in the line "Depreciation of property, plant and equipment and amortisation of intangible assets" is attributable to the rescheduling of PPE commissioning and different approaches to depreciation planning in the subsidiaries' business plans and financial statements as regards asset valuation methodologies.

[30] Including actual results in the lines "Other materials" in the amount of RUB 11,260 mn and "Purchase of oil products for sale" in the amount of RUB 825 mn in accordance with Note 26 to RusHydro Group's IFRS consolidated financial statements as at and for the year ended December 31, 2019.
[31] In the Adjusted Consolidated Business Plan of RusHydro Group for 2019 (as approved by resolution of the Board of Directors (Minutes No. 295 of September 23, 2019)) the target for Infrastructure Payments Related to the Sales of Electricity and Heat is RUB 52,959 mn. For the purpose of data comparability in the report, targets were aligned with the IFRS 15 requirements. The costs of electricity purchased by the Group's companies in the WECM for production processes and other in-house needs are offset as an indemnity due to be paid to the buyer in the amount of RUB 6,187 mn. The same amount is excluded from revenue in the line "Sales of electricity and capacity".
[32] Including actual results in the lines "Grid companies services on electricity distribution" in the amount of RUB 36,955 mn, "Support of electricity and capacity market operation" in the amount of RUB 4,020 mn, and "Purchase and transportation of heat power" in the amount of RUB 3,083 mn in accordance with Note 26 to RusHydro Group's IFRS consolidated financial statements as at and for the year ended December 31, 2019.
[33] Including actual results in the lines "Loss on disposal of property, plant and equipment, net" in the amount of RUB 1,582 mn, "Social charges" in the amount of RUB 1,164 mn, "Travel expenses" in the amount of RUB 1,023 mn, and "Other expenses" in the amount of RUB 2,504 mn in accordance with Note 26 to RusHydro Group's IFRS consolidated financial statements as at and for the year ended on December 31, 2019.

The rescheduling of PPE commissioning drove down expenses in the lines "Taxes other than on income", "Third party services" and "Other materials".

Lease and other third party services expenses accounted for most of the decline in the line "Third party services" as a result of cost-cutting and business process optimisation initiatives.

The increase in the line "Other materials" was primarily driven by the growth of in-house work, higher share of external purchases and growth in fuel supplies to third party customers.

Lower expenses in the line "Infrastructure payments related to the sales of electricity and heat" are attributable to changes in the average transmission tariff (decline in actual prices set by regional authorities based on tariffs), decrease in DEK's transmission volumes and a significant shift from external to intra-Group expenses at JSC DGK and PJSC Yakutskenergo. At the same time, ESC RusHydro Subgroup companies saw their expenses rise as a result of higher electricity sales volumes.

The target/actual deviation in the line "Purchased energy (capacity)" is primarily due to the unwinding of intra-Group operations (revenue of PJSC DEK and PJSC Yakutskenergo), which served as the basis for target calculations.

The decrease in the line "Other expenses" is primarily attributable to the decrease in social charges and extraordinary expenses, losses on disposal of property, plant and equipment and other expenses against the set targets. "Other expenses" account for an insignificant part of actual operating expenses (around 2%).

Expenses in the lines "Fuel expenses", "Employee benefit expenses (including payroll taxes and pension benefit expenses)" and "Water usage expenses" were in line with the targets.

RusHydro Group's financial results

Income Statement for 2019, RUB mn

Items	2019P	2019A	Target/actual deviation	
			Absolute	Relative
Revenue	371,564[34]	366,642	-4,923	-1.3%
Government grants	39,065	39,983	918	2.3%
Other operating income	0	1,174	1,174	100%
Operating expenses	-358,447[17]	-336,575	21,871	-6.1%
Impairment of property, plant and	-60,600[35]	-53,532[36]	7,068	-11.7%

[34] In the Consolidate Income Statement form of RusHydro Group's Adjusted Consolidated Business Plan for 2019 approved by the Company's Board of Directors (Minutes No. 295 of September 23, 2019), revenue is equal to RUB 377,751 mn. For the purpose of data comparability in the report, targets were aligned with the IFRS 15 requirements. The costs of electricity purchased by the Group's companies in the WECM for production processes and other in-house needs are offset as an indemnity due to be paid to the buyer in the amount of RUB 6,187 mn. The same amount is excluded from the line "Operating expenses". Prior to adjustments, the approved target for this item was RUB 364,634 mn

[35] Targets include impairment testing results for assets commissioned in 2019, including (-) RUB 27,400 mn for Sakhalinskaya GRES-2 (including off-site infrastructure), (-) RUB 31,700 mn for Nizhne-Bureyskaya HPP, and (-) RUB 1,500 mn for other operations involving accrual of PPE impairment and reversal of previously accrued impairment.

Items	2019P	2019A	Target/actual deviation	
			Absolute	Relative
equipment, net				
Impairment of financial assets, net	-1,675	-4,491	-2,815	168.1%
Impairment of other assets	0	-2,045	-2,045	100%
Operating profit	**-10,093**	**11,156**	**21,248**	**-210.5%**
Finance income/(expenses), net	-7,155	-540	6,615	-92.5%
Share of results of associates and joint ventures	2,280	-2,757	-5,037	-220.9%
Profit before income tax	**-14,967**	**7,859**	**22,826**	**-152.5%**
Income tax expense	-10,326	-7,216	3,110	-30.1%
Profit for the year	**-25,293**	**643**	**25,936**	**-102.5%**

Analysis of the Income Statement shows that RusHydro Group's profit for 2019 exceeds target by RUB 25,936 mn.

The positive shift in RusHydro Group's financial results in 2019 is primarily due to the RUB 21,871 mn decrease in operating expenses and RUB 7,068 mn decline in impairment of property, plant and equipment. The actual operating profit is 0.7% below the adjusted target.

As at December 31, 2019, long-term loans and borrowings amounted to RUB 162,528 mn, while short-term loans and borrowings and the current portion of long-term loans and borrowings stood at RUB 39,435 mn.

By Resolution No. 287 dated April 22, 2019, the Company's Board of Directors approved the Regulations on the Dividend Policy. In order to enhance the transparency and predictability of dividend payouts, the updated version of the Regulations sets out 50% of RusHydro Group's IFRS net profit for the respective reporting period as the base rate for calculating dividends. Additionally, the minimum dividend payout (lower threshold) is set at the level of the average dividend paid for the previous three years.

Based on the Russian Government's Decree No. 774-r dated May 29, 2006 (as amended by Decree No. 944-r dated May 18, 2017) the Company distributed RUB 15,919 mn of its profit for 2018 as dividends, which is 50% of RusHydro Group's financial result as determined by the IFRS consolidated financial statements as at and for the year ended December 31, 2018.

3. INITIATIVES ENVISAGED BY RUSHYDRO GROUP'S PROGRAMS

3.1. RusHydro Group's Investment Program

The approved LTDP provides for financing of RusHydro Group's investment projects in 2018–2022 in the total amount of RUB 396,344.51 mn[37] (including RUB 228,384.06 mn in the Russian

[36] The actual data includes impairment testing results, including for the following assets: (-) RUB 24,111 mn for Sakhalinskaya GRES-2 (including off-site infrastructure), (-) RUB 30,735 mn for Nizhne-Bureyskaya HPP, and RUB 1,314 mn for other operations involving accrual of PPE impairment and reversal of previously accrued impairment.

[37] RusHydro Group's Consolidated Investment Program for 2018–2022 was approved by resolution of the Company's Board of Directors on April 3, 2018 (Minutes No. 267 of April 4, 2018) as part of the Consolidated Business Plan for 2018–2022 and comprises investment projects of PJSC RusHydro and its subsidiaries included in RusHydro Group's Consolidated Business Plan.

Far East), with RUB 94,269.12 mn allocated for 2019 (RUB 56,506.71 mn in the Russian Far East).

In line with adjustments made to RusHydro Group's Consolidated Investment Program for 2019 as regards rescheduling of certain investment projects and review of financing volumes (approved by the Company's Board of Directors, see Minutes No. 295 of September 23, 2019) and improvements suggested by government authorities with respect to draft investment programs of RusHydro Group's subsidiaries as part of the the approval procedure prescribed for electricity market participants by the Russian Government's Resolution No. 977 of December 1, 2009, the target financing volume for RusHydro Group's investment projects in 2019 stands at RUB 103,210.76 mn (including RUB 59,639.05 mn in the Russian Far East).

In the reporting year, 89.8% of target financing was provided (equivalent of RUB 92,663.32 mn), including 87.6% of financing earmarked for the Far East (RUB 52,245.70 mn), which is fully in line with RusHydro Group's Investment Program.

Financing allocated for RusHydro Group's TR&M program in 2019 amounted to RUB 37,760.51 mn[38], or 89.8% of the initial target.

Structure of RusHydro Group's investments in 2019[39]

Focus area	**Financing target for 2019,** RUB mn	**Actual Financing for 2019,** RUB mn	**Performance against the annual plan, %**
RusHydro Group's core companies	**100,142.19**	**90,514.60**	**90.4 %**
TR&M	41,082.74	37,431.34	91.1 %
Construction of new facilities	40,924.49	38,908.73	95.1%
Utility connection	11,689.47	8,478.40	72.5 %
Other	6,445.48	5,696.13	88.4 %
RusHydro Group's non-core companies	**3,068.56**	**2,148.72**	**70.0 %**
Total for Consolidated Investment Program	**103,210.76**	**92,663.32**	**89.8 %**
including in the Russian Far East	59,639.05	52,245.70	87.6 %

In the reporting year, the key drivers of discrepancies between actual and target financing under the Consolidated Investment Program were as follows:

☐ updates on the work schedules for rehabilitation and modernization, with the reasons including more time required for contractors to complete their assignments and reductions in project costs following approval of design documentation (-RUB 4.28 bn);

☐ updates on the work schedules for utility connection contracts based on customer requests (-RUB 3.21 bn);

[38] Including TR&M programs of RusHydro's other subsidiaries where actual financing came in at RUB 329.17 mn vs the target of RUB 959.28 mn

[39] In terms of financing.

☐ revision of actual spending with savings achieved upon the completion of such investment projects as Construction of GTP-CHPP at the Central Steam and Water Boiler Site in Vladivostok, Construction of Hot-Water Peaking Boiler Plant at Yakutskaya GRES, and Construction of Power Distribution System at the CHPP in Sovetskaya Gavan (-RUB 1.0 bn);

☐ review of the contractor guarantee payment timing based on the actual acceptance certificate dates at Sakhalinskaya GRES-2 commissioned in Q4 2019, with RUB 0.9 bn worth of financing postponed until 2020.

According to the 2019 schedule, RusHydro Group planned to commission 836,81 MW and 323.99 Gcal/h of new capacities. The actual figures for 2019 were 854.57 MW and 326.39 Gcal/h[40], including 787.22 MW contributed by newly constructed facilities, in particular, 120 MW by Sakhalinskaya GRES-2 (stage 1), 320 MW by Nizhne-Bureyskaya HPP, 346 MW by Zaramagskaya HPP-1 and 1.22 MW by Sakhaenergo.

1.1. RusHydro's Production Program

The approved LTDP sets out amounts to be spent[41] on production programs in 2018–2022[42] as follows:

- RUB 15,985.83 mn for the repairs program, including RUB 3,095.19 mn in 2019.
- RUB 6,180.87 mn for the maintenance program, including RUB 1,157.02 mn in 2019.
- RUB 3,352.52 mn for the R&D program, including RUB 673.16 mn in 2019.

Adjusted amounts to be spent on production programs in 2018–2022 are as follow[43]:

- RUB 16,453.03 mn for the repairs program, including RUB 3,203.94 mn in 2019.
- RUB 6,327.22 mn for the maintenance program, including RUB 1,180.83 mn in 2019.
- RUB 3,538.12 mn for the R&D program, including RUB 706.05 mn in 2019.

Progress against the programs in 2019

[40] As at January 1, 2020.
[41] The expenses were aligned with the Company's draft production program for 2018–2023 available at the time of the LTDP approval (with spending amounts calculated until 2022). The key metric was the amount to be spent (excluding VAT) rather than the financing volumes. The expenses were converted to account for indicative future prices in 2020–2022 using the base case industrial deflator index from PJSC RusHydro's Uniform Scenario Conditions.
[42] For more details on financing under the TR&M program, see the section on RusHydro Group's Investment Program.
[43] The repairs, maintenance and R&D programs for 2018–2023 were approved by resolution of the Company's Management Board (Minutes No. 1099/1pr of April 26, 2018, No. 1105pr of June 1, 2018, No. 1108pr of June 8, 2018, No. 1109pr of June 14, 2018, No. 1113pr of June 22, 2018, No. 1115pr of June 29, 2018, No. 1119pr of July 17, 2018, and No. 1122pr of July 26, 2018). The Management Board also resolved to use the amount to be spent as the key metric rather than the financing volumes. The expenses were converted to account for indicative future prices in 2020–2022 using the base case (optimistic) index from PJSC RusHydro's Uniform Scenario Conditions (see Order No. 12 of January 15, 2020).

Progress by programs[44]	Spending target for 2019, RUB mn	Actual spending for 2019, RUB mn	Performance against the annual plan, %
Repairs program	3,203.94	3,215.27	100.4%
Maintenance program	1,180.83	1,043.68	88.4%
R&D program	706.05	576.42	81.6%

The spending target under RusHydro's repairs program for 2019 was exceeded by 100.4%: actual spending amounted to RUB 3,215.27 mn vs the initial target of RUB 3,203.94 mn.

The spending target under RusHydro's maintenance program for 2019 was met by 88.4 %: actual spending amounted to RUB 1,043.68 mn vs the initial target of RUB 1,180.83 mn. The decrease in works completed under the maintenance program comes as a result of the Russian Government's instructions to cut operating expenses[45] and revision of the downtime schedule.

The spending target under RusHydro's R&D program for 2019 was met by 81.6 %: actual spending amounted to RUB 576.42 mn vs the initial target of RUB 706.05 mn. The decrease in works completed under the R&D program comes as a result of the Russian Government's instructions to cut operating expenses[22] and savings achieved in procurement.

2019 highlights:

- Rehabilitation of generator No. 3 at Volzhskaya HPP was completed.
- Rehabilitation of hydropower units No. 7 at Votkinskaya HPP and No. 5 Votkinskaya HPP was completed, with turbines and generators replaced.
- Modernization of turbines No. 3 and No. 6 at Kamskaya HPP was completed, with the turbine top cover replaced.
- Upgrade of hydropower unit No. 3 at Rybinskaya HPP was completed, with a turbine and a generator replaced.
- Replacement of turbine No. 2 at Novosibirskaya HPP and turbines No. 1 and No. 9 at Saratovskaya HPP was completed.
- Replacement of the 2AT auto-type transformer (phase A, phase B, phase C) at Votkinskaya HPP was completed.
- A new main control board was commissioned at Novosibirskaya HPP.
- At Cheboksarskaya HPP, the runner was replaced on-site for turbines No. 3 and No. 11, the stator and the iron piece of the rotor rim were replaced at generator No. 3, and the stator and tachometer generator were replaced at generator No. 11. On top of that,

[44] For more details on progress against the TR&M program in terms of financing, see the section on RusHydro Group's Investment Program.

[45] Instructions of the Russian Government No. DM-P13-9024 of December 8, 2014 calling for the reduction of operating expenses (costs) by at least 2–3% per year.

obsolete oil circuit breakers of the plant's 220 kV outdoor switchgear equipment were replaced with the latest gas-insulated ones.

- The generator excitation system was replaced at hydropower unit No. 1 of Zeyskaya HPP.
- A new modern switchgear was commissioned at Zagorskaya PSPP.

The Production Program in 2019 brought about an incremental capacity increase of 62.5 MW, including 30.0 MW contributed by Votkinskaya HPP, 12.0 MW by Saratovskaya HPP, 10.5 MW by Zhigulevskaya HPP, and 10.0 MW by Novosibirskaya HPP.

1.2. Production Program of RAO ES East

The LTDP sets the amount to be spent under the Repairs Production Program of RAO ES East in 2018–2022 at RUB 69,854.11 mn[46], including RUB 12,674.58 mn to be spent in 2019.

In 2019, spending targets under the Repairs Production Program of RAO ES East were adjusted based on the actual performance in 2018, with new spending targets for 2018–2022 approved at RUB 84,205.72 mn, including RUB 16,194.84 mn earmarked for 2019[47].

Progress against the Program in 2019

Progress by focus areas[48]	**Spending target for 2019,** RUB mn	**Actual spending for 2019,** RUB mn	**Achievement, %**
Repairs Program	16 194,84	15 440,55	95,3%

The spending target under the repairs program of RAO ES East for 2019 was met by 95.3 %: actual spending amounted to RUB 15,440.55 mn vs the initial target of RUB 16,194.84 mn.

The target/actual discrepancy under the program is due to the trading and purchasing savings achieved.

Highlights of RAO ES East's Production Program in 2019:

TR&M:

[46] Duly reviewed and approved by the governance bodies of RusHydro's subsidiaries. The key metric assumed for calculation purposes is the amount to be spent (excluding VAT) rather than the financing volumes.

[47] Adjustments to the repairs production programs included in the subsidiaries' business plans for 2019 were duly reviewed and approved by the governance bodies of RusHydro's subsidiaries. See resolutions of the Board of Directors (Minutes): No. 10 of September 18, 2019 for JSC DRSK, No. 6 of September 23, 2019 for PJSC Kamchatskenergo, No. 13 of September 23, 2019 for JSC Sakhaenergo, and No. 17 of September 12, 2019 for PJSC Yakutskenergo. For the remaining subsidiaries, repairs production programs included in the business plans for 2019–2023 were approved by the following resolutions of the Board of Directors: No. 25-18 of December 3, 2018 for PJSC Magadanenergo, No. 19 of December 7, 2018 for JSC Teploenergoservis, No. 23-18 of December 7, 2018 for JSC Chukotenergo, No. 9 of November 23, 2018 for JSC UESK, No. 12 of December 4, 2018 for PJSC Sakhalinenergo, No. 15/2018 of December 20, 2018 for PJSC Mobile Energy, and No. 6 of September 12, 2019 for JSC DGK.

[48] For more details on progress against the the Production Program program as regards financing of the Rehabilitation and Modernization Program, see the section on RusHydro Group's Investment Program.

- Rehabilitation of power units No. 2 and No. 3 and rehabilitation of hot water boiler[49] No. 2 at Neryungrinskaya GRES (JSC DGK).
- Modernization of air heaters at boiler No. 3 of Khabarovskaya CHPP-3 (JSC DGK).
- Gasification of Anadyr CHPP (JSC Chukotenergo), with boiler No. 1 to be converted to combined combustion of coal and natural gas (partly completed).
- Gasification of hot-water peaking boiler plant at Khabarovskaya CHPP-3 (JSC DGK), with the PTVM-180 boiler No. 1 to be converted to natural gas combustion (partly completed).
- Rehabilitation of substations and transmission lines to ensure stable power supply for existing consumers and new customers.
- Rehabilitation of heat supply networks in the run-up to the heating season.

As part of the repairs program, the reporting year saw 29 turbo generators (vs target of 28), 29 boilers (vs target of 29), 62 generators (vs target of 63) and 62 transformers[50] (vs target of 55) undergo major and heavy repairs, including overhaul of boilers at power unit No. 3 of Primorskaya GRES, boiler No. 7 of Khabarovskaya CHPP-1, boiler No. 1 of Anadyr CHPP, turbo generator No. 3 at the Cascade of Viluysky HPPs, and gas turbine units No. 2 and No. 7 of Yakutskaya GRES.

In June 2019, unscheduled overhaul of gas turbine unit No. 1 (LM6000 PF GE gas turbine) at Yakutskaya GRES-2 was completed.

The reporting year saw 5,105 km of power grids and 53.9 km of heat supply networks repaired.

As part of the repairs program, a number of initiatives were implemented to improve equipment efficiency and reliability at JSC DGK plants, including Primorskaya GRES, Neryungrinskaya GRES, Khabarovskaya CHPP-1 and Khabarovskaya CHPP-3, with investments totaling RUB 367.467 mn.

Efforts to reduce the wear and tear of production assets

Electric networks: RAO ES East operates 21,953 transformer substations with voltage of 0.4 to 220 kV and over 105,020 km of transmission power lines. As at December 31, 2019, equipment health indices[51] for the company's assets were as follows: 73.7% for transmission lines with voltage of 110 kV and higher and 68.5% for transformer substations with voltage of 110 kV and higher.

[49] KVTK-100-150.
[50] Only 35–220 kV transformers are included.
[51] Calculated based on the Russian Government's Resolution No. 1401 *On Comprehensive Assessment of Power Facilities' Engineering and Economic Health, Including Determination of Power Grid Facilities' Physical Wear and Energy Efficiency, and Procedure to Monitor their Health Indicators* dated December 19, 2016 and Order of the Russian Ministry of Energy No. 676 *On Approval of Engineering Health Assessment Guidelines for Process Equipment and Transmission Lines of Power Plants and Electric Power Grids* dated July 26, 2017.

Generating facilities: RAO ES East operates 109 turbo generators and 150 boilers. As at December 31, 2019, equipment health indices[34] for the company's assets were as follows: 82.1% for turbo generators and 62.2% for boilers.

1.3. RusHydro Group's Innovative Development Program

In accordance with RusHydro Group's Innovative Development Program for 2016–2020 with a Prospect up to 2025[52] ("RusHydro's IDP"), target financing for 2018–2020 stands at RUB 7,325.7 mn[53], including RUB 1,666.2 mn for PJSC RusHydro[54] and RUB 5,659.5 mn for JSC RAO ES East. RUB 2,429.8 mn is earmarked for 2019, including RUB 548.3 mn for PJSC RusHydro and RUB 1,881.5 mn for JSC RAO ES East.

The medium-term action plan under RusHydro's IDP for 2019–2023[55] approved by resolution of the Company's Board of Directors on May 17,2019 (Minutes No. 289 of May 20, 2019) made adjustments the financing volumes to be allocated for the innovative development of RusHydro in 2019–2020, with funding for 2018–2020 amounting to RUB 2,537.3 mn[56], including RUB 801.1 mn for 2019. Below is the breakdown of financing by target initiatives:

- RUB 762.7 mn for innovative projects and initiatives, including RUB 646.2 mn for R&D projects.
- RUB 38.4 mn for the development of cooperation with third party organizations and implementation of open innovation principles.

Actual financing under RusHydro's medium-term action plan in 2019 amounted to RUB 483.3 mn, or 60.3% of the annual target. Below is the breakdown of financing by target initiatives:

- RUB 441.0 mn (or 57.8% of the annual target) for innovative projects and initiatives, including RUB 395.9 mn (or 61.3% of the annual target) for R&D projects.
- RUB 42.1 mn (or 109.6% of the annual target) for the development of cooperation with third party organizations and implementation of open innovation principles.

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[52] Approved by the Company's Board of Directors on November 22, 2016 (Minutes No. 244 of November 23, 2016).

[53] Pursuant to RusHydro Group's Innovative Development Program for 2016–2020 with a Prospect up to 2025 approved by the Company's Board of Directors on November 22, 2016 (Minutes No. 244 of November 23, 2016).

[54] PJSC RusHydro (headquarters and branches), JSC NIIES, JSC Vedeneev VNIIG, JSC Hydroproject Institute, JSC Lenhydroproject and JSC Mosoblhydroproject.

[55] Pursuant to the Guidelines on Development and Adjustment of Innovative Development Programs for Joint-Stock Companies Partially Owned by the Government, State Corporations, State Companies and Federal State Unitary Enterprises approved by the Interdepartmental Commission for Technological Development under the Government Commission for Economic Modernization and Innovative Development of Russia (Minutes No. 34-D01 of October 25, 2019), the planning horizon for medium-term action plans to implement innovative development programs of electric power companies should be four to five years. The medium-term action plan under RusHydro's IDP was developed for a term of five years to align it with RusHydro Group's Consolidated Investment Program.

[56] The RUB 909.4 mn target for 2018 is provided as per the medium-term action plan under RusHydro's IDP for 2018–2022 approved by the Company's Board of Directors on May 31, 2018 (Minutes No. 271 of June 1, 2018). Information on the Innovative Development Program of RAO ES East is provided separately.

Key reasons behind the failure to meet the target in full:

- rescheduling of financing for certain works for 2020 due to longer procurement procedures;
- lower event costs and revision of financing schedules due to the requirements of tender procedures.

2019 highlights:

- Modernization of reinforced-concrete penstock encasements, including application of protective coatings.
- Development of a solid-state storage power plant (SSPP) offering gravity-type energy storage driven by solid loads, including development of prototypes of mechanic arms required for the plant's construction.
- Development of an automated warning system to detect ruptures and measure turbine flows at RusHydro's diversion and impoundment HPPs.
- Development of recommendations on assessing the human impact on tailraces with regard to the HPP equipment, hydraulic structures and energy efficiency.
- Development of a hardware and software system for monitoring and predicting the reliability of HPP/PSPP hydraulic structures in geologically challenging environments.
- Research into new technologies to repair and rehabilitate hydraulic structures and their elements as a way to extend their lifespan and reliability, development of implementation guidelines.
- Reliability analysis of gas turbine units and development of a database and guidelines to assess their health.

The medium-term action plan under the Innovative Development Program of RAO ES East for 2019–2023 approved by the Board of Directors of RAO ES East (Minutes No. 209 of September 24, 2019) made adjustments the financing volumes to be allocated for the innovative development of RAO ES East in 2019–2020, with funding for 2018–2020 amounting to RUB 7,126.0 mn[57], including RUB 2,673.3 mn for 2019. Below is the breakdown of financing by target initiatives:

- RUB 2,600.4 mn for innovative projects and initiatives, including RUB 244.4 mn for R&D projects.
- RUB 4.4 mn for the development of a management system for innovations and innovation infrastructure.
- RUB 68.5 mn for the development of cooperation with third party organizations.

[57] The RUB 2,330.3 mn target for 2018 is provided as per the medium-term action plan under the IDP of RAO ES East for 2018–2022 approved by the Company's Board of Directors on May 31, 2018 (Minutes No. 271 of June 1, 2018).

Actual financing for RAO ES East in 2019 amounted to RUB 2,267.8 mn, or 84.8% of the annual target. Below is the breakdown of financing by target initiatives:

- RUB 2,123.4 mn (or 81.7 % of the annual target) for innovative projects and initiatives, including RUB 222.97 mn (or 91.2 % of the annual target) for R&D projects.
- RUB 2.7 mn (or 61.4% of the annual target) for the development of a management system for innovations and innovation infrastructure.
- RUB 141.8 mn (or 207.0 % of the annual target) for the development of cooperation with third party organizations.

Key reasons behind the failure to meet the target in full:

- rescheduling of financing for certain works for 2020 due to longer procurement procedures;
- lower event costs and revision of financing schedules due to the requirements of tender procurement procedures.

RAO ES East's highlights in 2019:

- Development and implementation of a process to partially restore heat transfer surface elements of cogeneration heat exchange equipment (tubes) instead of replacing the entire tube bundle (Khabarovskaya CHPP-3, Khabarovsk Generation branch of DGK).
- Development of a technology to protect the surface of slurry pipelines designed for high coal ash slurry. Delivering a commercial prototype (Khabarovskaya CHPP-3, Khabarovsk Generation branch of DGK).

In line with the resolution of the Government Commission for Economic Modernization and Innovative Development of Russia (Minutes No. 2 of October 22, 2018), in 2019 RusHydro Group completed the development of its Innovative Development Program for 2020–2024 with a Prospect up to 2029 (the "Innovative Development Program of RusHydro Group, IDP or Program").

The Program builds on the findings of an analysis comparing the Group's technological capabilities and innovation KPI with those of its major peers (the "Comparison"). Based on the Comparison conducted in 2019, RusHydro reviewed its technical priorities and drafted an action plan to support further technological development of the Group.

The KPI system under the IDP covers all companies of RusHydro Group (reflecting the fusion of innovative development programs of PJSC RusHydro and JSC RAO ES East).

The IDP has obtained affirmative opinions from the Russian Ministry for the Development of the Russian Far East and Arctic and Ministry of Education and Science. Review of the updated version by the Interdepartmental Commission for Technological Development under the Government Commission for Economic Modernization and Innovative Development of Russia (the Interdepartmental Commission) is slated for Q2 2020. Once approved by the

Interdepartmental Commission, the updated Innovative Development Program of RusHydro Group will be submitted for review and approval by the Company's Board of Directors.

4. FAR EASTERN ASSETS PERFORMANCE

4.1. Tariff regulation

As part of efficiency enhancement at RusHydro Group's Far Eastern assets, the Company is working to implement a long-term tariff regulation methodology.

The Company contributes to the regulatory process aimed at implementation of such methods through intense cooperation with federal executive authorities (hereinafter, FEAs), NP Market Council, and other agencies.

Based on RusHydro's proposals, the relevant FEAs have developed and submitted the following draft regulations:

- The Russian Government's Resolution No. 64 dated January 30, 2019, *On Amendments to Certain Acts of the Government of the Russian Federation Concerning Regulation of Prices (Tariffs) for Electricity (Capacity) Supplied to Technologically Isolated Local Electric Power Systems and in Areas not Technologically Linked with the Unified Energy System of Russia and Technologically Isolated Local Electric Power Systems*; and
- The Russian Government's Resolution No. 837 dated June 29, 2019 *On Amendments to Pricing Basis in the Field of Regulated Prices (Tariffs) for Electric Power* (for the non-price zone of the wholesale electricity and capacity market).

These regulations support implementation of long-term tariff regulation in the non-price zone of the wholesale electricity and capacity market, in the isolated energy systems, and in energy systems that are not linked to the UES or isolated systems. This will ensure the possibility to revise the energy companies' index-linked cost base and bring the required gross revenue and generation tariffs to an economically justified level. In respect of TPPs located in the non-price zone, the new methodology for long-term indexation of required gross revenues will be applied starting July 1, 2020.

In order to secure the implementation of long-term regulation for technologically isolated local electric power systems and for areas that are not technologically linked with the Unified Energy System and technologically isolated local electric power systems, Russia's Federal Antimonopoly Service approved the respective guidelines (Order No. 686/19 dated May 29, 2019), which were applied to electricity tariffs for 2020.

Guidelines are also being developed for calculation of regulated electricity (capacity) prices (tariffs) for wholesale market suppliers that own or otherwise control thermal power plants operating in the non-price zones of the wholesale electricity and capacity market, where tariffs are established through long-term indexation of required gross revenue.

In addition, the Russian Government's Resolution No. 43 dated January 25, 2019 *On Selecting Projects to Upgrade Generating Facilities of Thermal Power Plants* was enacted, providing for introduction of an ROI framework similar to capacity supply agreements.

Another government resolution is being drafted that will establish the rules for calculation of electricity and capacity prices and the manner of payments on the electricity and capacity market.

4.2. Fuel cost optimization

During the reporting period, RAO ES East continued to streamline its fuel supply system by:

1) Preventing the fuel supply risk exposure for generating facilities located in the Far East (including the Kamchatka and Khabarovsk Territories).

Kamchatskenergo's energy facilities currently require about 425.4 mn m³ of natural gas annually. However, only 349.2 mn m³ was supplied in 2019, and a further decrease to 150.0 mn m³ is expected by 2030, so that the natural gas will have to be substituted by heating oil, which is a higher-cost alternative.

Given the reduced gas supplies to Kamchatka's CHPP-1 and CHPP-2 from Gazprom Mezhregiongaz Far East, Kamchatskenergo replaced them by increasing heating oil purchases by 49,600 tonnes vs. 2018, so the actual amount procured in the reporting year reached 116,100 tonnes.

Pursuant to Russian President's Instruction No. Pr-2486 dated December 25, 2018 concerning natural gas supplies to the Khabarovsk Territory after September 2025, the Russian Ministry of Energy held a meeting on June 19, 2019 with representatives from the Ministry of Economic Development, the Ministry for Development of the Russian Far East, and Gazprom, which resulted in a decision to appoint Gazprom as the gas supplier for the Khabarovsk Territory's consumers starting September 2025.

On November 19, 2019, Gazprom's Board of Directors issued its decision No. 3336 authorizing its CEO Alexei Miller to ensure that the required gas volumes are included in the production and distribution balance and that Gazprom's CAPEX program integrates, starting from 2020, measures to make the Sakhalin–Khabarovsk–Vladivostok gas trunkline available to consumers in the Khabarovsk Territory who are currently connected to the Okha–Komsomolsk trunkline.

2) Reducing the transportation cost component in the reporting period.

The Company continued supplying fuel to Yakutian utility companies using the Northern Sea Route and transhipping it through the ports located in the North-Western Federal District. During 2019, this route was used to ship about 30,000 tonnes of diesel fuel to Yakutia's northernmost areas and about 37,000 tonnes to heat generators in its Ust-Yansky District. This logistic scheme minimizes the fuel undersupply risk as compared to reliance on the Lena river, whose upper reach often becomes shallow, and brings cost efficiencies due to reduced transportation expenditures.

3) Demonopolizing the Far Eastern energy market, enhancing competition, and diversifying fuel supplies towards non-standard coal grades.

In 2019, the Company piloted the combustion of non-standard lignite produced by Russian Coal's Pereyaslovskiy mine mixed with standard coal from their Erkovetskiy mine in the ratio of

1 to 2 at Power Station 5 of Blagoveshchenskaya CHPP operated by DGK's Amur Generation subsidiary. The pilot combustion resulted in an approval for commercial operation. Another pilot combustion project was completed at Magadanenergo's Magadanskaya CHPP and involved non-standard hard coals produced by Russian Coal's Chernogorskoye and Beiskoye deposits in the ratio of 40/60. The pilot project resulted in an approval for commercial operation.

4) Negotiating long-term coal supply contracts (for at least three years) that include pricing provisions for each subsequent calendar year based on the market environment.

Coal supplies from Tuimaada-Ugol were secured for 2019–2021[58] to meet the needs of Chukotenergo's Chaunskaya CHPP.

5) New fuel supply contracts negotiated with RAO ES East provide for reduction of the coal prices in day-to-day deliveries and deviations from the contractual terms depending on the coal properties (humidity, ash content, calorific value). RUB 930.5 mn was saved on day-to-day coal supplies during 2019.

6) For spot market purchases based on best price offered, framework agreements signed in 2019 included 12 agreements for supplies of coal to meet excess requirements of DGK and 21 agreements for supplies of oil products (diesel fuel, heating oil).

4.3. Receivables management

The consumer receivables for electric and thermal energy to RusHydro's subsidiaries in the Far Eastern Federal District[59] (hereinafter RusHydro's Far Eastern subsidiaries) as at December 31, 2019 amounted to RUB 35,103 mn[60] (debt growth for 2019 was RUB 1,269 mn, or 3.8%).

Electric energy

As at December 31, 2019, consumer receivables for electricity to RusHydro's Far-Eastern subsidiaries amounted to RUB 15,518 mn (an increase in the debt during the reporting period of RUB 409 mn).

The highest growth was seen in the following groups: utility companies – RUB 415 mn; households on direct contracts – RUB 334 mn; grid companies (losses) – RUB 327 mn.

The decrease was across the following groups: transportation and communications facilities; enterprises financed from the federal budget; wholesalers-resellers.

The bulk of accounts receivable is held by the following groups of consumers: households – 27.6%, utility companies – 22.9%, management companies and housing cooperatives – 12.3%, industry – 10.8%, grid companies (losses) – 7.9%. The share of these groups in the total accounts receivable is 81.5%.

Heat energy

[58] Contract No. 1/2019 dated May 24, 2019.
[59] The control covers PJSC DEK, JSC DGK, PJSC Yakutskenergo, PJSC Kamchatskenergo, PJSC Sakhalinenergo, JSC Chukotenergo, JSC UESK, JSC Sakhaenergo, JSC Teploenergoservis, and PJSC Mobile Energy (Peredvizhnaya Energetika).
[60] According to the consolidated data of the sales units of RusHydro's Far Eastern subsidiaries.

As at December 31, 2019, consumer receivables for thermal energy to RusHydro's Far-Eastern subsidiaries amounted to RUB 19,585 mn (an increase in the debt during the reporting period of RUB 860 mn).

The main growth was across the following groups: households on direct contracts – RUB 967 mn; heat for offsetting losses RUB 556 mn (the growth came from the regulator's decisions on tariffs that saw expenses on offsetting losses to heat transmission companies be included in the tariff only starting H2 2019).

The share of these consumer groups in the structure of receivables was 61.0% of the total debt.

RusHydro's Far Eastern subsidiaries take all measures stipulated by the current legislation to ensure timely receipt of funds for current payments and repayment of receivables:

1. In 2019, 227,571 lawsuits were filed for electricity and heat, totalling RUB 11,454 mn. RUB 7,674 mn was collected through claims and writs of execution for electric and thermal energy (including previously filed lawsuits).

2. Working with federal, regional level authorities to assist in the payment of debts of subordinate budget organizations, as well as in the allocation of additional funds to housing and utility enterprises and heat supply organizations for settlements with resource providers.

In 2019, 120,657 consumers entered into direct contracts, leading to a decrease in the receivables from management companies and an increase in collection rates for consumers that used to make settlements through management companies.

3. RusHydro's Decree No. 225r dated May 16, 2019 laid down a model program for managing the receivables of subsidiaries that operate on retail electricity and heat markets. Pursuant to the program, RusHydro's subsidiaries have introduced and approved their own programs that assign those responsible for implementing the measures and the respective deadlines. In 2019, each Far Eastern subsidiary of RusHydro submitted reports on their implementation progress.

4. Control and monitoring of calculations made by suppliers of electric and heat energy for the needs of enterprises of the Ministry of Defense of Russia.

5. As part of the efforts to increase the revenues (sales of electricity at above-tariff prices) of JSC DGK, PJSC Yakutskenergo and JSC RAO ES East, bilateral electricity sales contracts were concluded with PJSC Inter RAO, Rusenergosbyt LLC and Rusenergoresource LLC in 2019, with the sales amounting to 1,394.6 mn kWh.

PJSC DEK and RusHydro, PJSC Yakutskenergo and RusHydro signed bilateral agreements in 2019. The volume of electric energy purchased amounted to 407.4 mn kWh.

4.3. Developing generating capacities in the Far Eastern Federal District

Order of the Russian Government No. 1544-r dated July 15, 2019 set out a list of projects put forward by RusHydro to build and modernize thermal power plants in the Far East: construction of Artyomovskaya CHPP-2 (420 MW, 483 Gcal/h), Khabarovskaya CHPP-4 (328 MW, 1,374 Gcal/h), the second stage of Yakutskaya GRES-2 (154 MW, 194 Gcal/h) and modernization of

Vladivostokskaya CHPP-2 (turbines No. 1, 2, 3 and boilers 1–8; the electric and heat capacity of the equipment will increase from 283 MW to 360 MW and from 506 Gcal/h to 570 Gcal/h respectively).

The implementation of these projects will not only provide replacements for the generating facilities that are being decommissioned due to highly deteriorated equipment, but also lay the ground for further social and economic development of the Far Eastern Federal District.

Key 2019 initiatives:

- Completed the first design stage – a study of financeability.
- Received a positive opinion in the independent public technology and price audit (TPA), whose results were approved at a joint meeting between the R&D board of NP Scientific and Technical Council of the Unified Energy System and the Section on Reliability and Safety of Large-scale Energy Systems of the Russian Academy of Sciences' Research Council on Major Problems in the Energy Sector (Minutes No. 3/19 dated May 6, 2019, Minutes No. 4/19 dated May 15, 2019).
- Had projects approved by the Government Commission on the Development of the Electric Power Industry (Minutes No. 2 dated May 29, 2019).

At the moment, design and survey works are still underway.

The Russian Ministry of Energy is developing a regulatory framework in respect of return calculation and ROI mechanisms for modernization and new facility construction projects in the Far East.

4.5. EV charging network development in the Far East

In the run-up to the 5th Eastern Economic Forum, on September 3, 2019, RusHydro launched the first network of electric vehicle fast charging stations in the Far East, with ten stations being opened in Vladivostok, Artyom and Ussuriysk. Two months later, as part of the Amur Economic Forum, another station was opened in the Amur Region's Blagoveshchensk. To further support the project, RusHydro and the administrations of the Primorsky Territory and the Amur Region signed agreements on joint development and implementation of a program to promote electric vehicles and ensure the adequate charging infrastructure, including that for public transport (electric buses).

For the convenience of EV owners, charging stations have been installed in the parking lots of supermarkets and shopping and entertainment centers, near the offices of RusHydro's single settlement centers, and at filling stations.

During the time that the charging stations were in operation, RusHydro observed high demand, with electric car owners doing several thousand charging sessions. There were many positive comments and suggestions for further expansion. To support the project and the network's users, RusHydro created a dedicated website (charge.rushydro.ru), as well as a WhatsApp group for processing customer queries.

The project is slated for scale-up in the following priority regions: Primorsky Territory, Amur Region, Khabarovsk Territory, Sakhalin Region, Kamchatka Territory, which will include the construction of charging stations to enable electric vehicle travel between the key cities of the Far East.

5. IMPROVING THE CORPORATE GOVERNANCE SYSTEM

In 2019, the Company continued implementing the standards set forth in the Corporate Governance Code (hereinafter referred to as the "CGC" or the "Code"), to improve overall corporate governance, by consistently amending the internal regulations and applying the standards in the day-to-day operations.

The following key actions were taken in reporting period:

- The Board of Directors of the Company approved a new version of the Regulations on Dividend Policy (Minutes No. 287 dated April 22, 2019) and the Regulation on the Assessment of the Activities of the Board of Directors and the Board of Director Committees of PJSC RusHydro (Minutes No. 283 dated February 21, 2019);

- On June 28, 2019, the Company's shareholders could for the first time vote at the Annual General Meeting of Shareholders using an electronic voting system, while also having an opportunity to benefit from a new forum on the meeting agenda;

- The revised Internal Control and Risk Management Policy of RusHydro Group was approved, which further enhanced of the role of the Board of Directors in the risk management. Guidelines on RusHydro Group's Risk Appetite were approved the Company's Board of Directors ;

- The Company's Charter and internal regulations were amended to include the following corporate governance enhancement clauses Company: Resolutions on critical matters set forth in recommendation 170 of the Code shall be passed by a majority vote involving all elected directors; shareholders shall have access the list of persons entitled to attend General Meetings of Shareholders as soon as such list becomes available to the Company; material corporate actions involving a potential conflict of interest shall be assessed by independent directors; shareholders holding in aggregate no less than two (2) percent of the Company voting shares shall be entitled to make proposals for the agenda of the Board of Directors.

- The quality and level of detail of information disclosed in the Company's Annual Report and on the Company's website were improved.

- In April 2019, a meeting of the Board of Directors held in person reviewed results of the corporate governance practice assessment and self-assessment of the Board of Directors' performance, marked positive changes in the assessments by independent experts and took note of the proposals put forward to improve the Board's performance (Minutes No. 287 dated April 22, 2019).

In September 2019, the RID affirmed the corporate governance ranking at 8 ("Advanced Corporate Governance Practice" according to the National Corporate Governance Rating (NCGR) scale). RusHydro is the first company in the energy industry to receive such a high rating.

In 2019, RusHydro secured its position among the top 10 leaders in the area of compliance with the corporate governance principles of the fifth annual "National Corporate Governance Index 2019" survey. The survey was carried out by the Centre for Corporate Development 'TopCompetence' with involvement of the Centre for Systemic Transformations of the Economics Department of Lomonosov Moscow State University and Moscow Exchange.

In January 2020, Internal Audit assessed the corporate governance practices in 2019 by determining whether they meet the criteria set forth in the Methodology for Assessment of RusHydro's Corporate Governance Framework endorsed by the Audit Committee under the Board of Directors of RusHydro (Minuted No. 123 dated October 22, 2018) and approved by PJSC RusHydro's Order No. 799 dated October 18, 2018. The Methodology is based on the Federal Agency for State Property Management's Methodology approved by Order No. 306 dated August 22, 2014.

RusHydro's overall corporate governance rating was 92% out of 100% (89% in 2018). According to the assessment results, the Company's corporate governance system is recognized as "Effective". This assessment indicates that the system is functioning properly in all essential aspects, but there are some modest weaknesses and a room for improvement.

In addition, the Company was fully committed to compliance with the Corporate Governance Code over the reporting period: Senior Independent Director was elected; performance of the Company's risk management and internal control system was assessed; corporate governance practices in the Company were discussed; report on the implementation of the Company's Information Policy Regulations was reviewed; etc.

As a result of corporate governance improvement efforts and implementation of the standards set forth in the Code, RusHydro came to observe 95% of the principles in 2019, compared to 92% in 2018.

RusHydro (including indirectly, through subsidiaries) has stakes in authorized capital of companies engaged in electricity and heat generation and distribution, energy facilities design, construction, repair, maintenance, rehabilitation and modernization, and other activities.

In 2019, in addition to streamlining the Group's structure, RusHydro took measures aimed at improving the corporate governance system of its subsidiaries. The Company implemented standard charters in the subsidiaries to align them with the current law, to harmonise approaches to approving transactions, and to reduce the corporate procedures' timelines.

6. IMPROVING THE STAFFING SYSTEM

The following measures were taken in 2019 to enhance the staffing system:

- The Plan for the Introduction of Professional Standards into the Company's Operations that had been approved for a period of 2016–2019, was realised in full. Based on the measures taken, as at the end of 2019, 93% of the Company's employees meet the

qualification requirements of the occupational standards underwritten by the Company. 53 hydro- and heating power sector's occupational qualifications developed by RusHydro Group experts to be used in the work of the Qualifications Assessment Centre, were approved by the Energy Sector Occupational Qualifications Council. In 2019, 80 employees of RusHydro's branches and subsidiaries took 29 exams in 10 occupational qualifications. 63% of the examinees passed the exams. The Energy Sector Occupational Qualifications Council accredited two RusHydro Qualifications Assessment Centre's additional examination sites based on RusHydro Group's training centres: Sakhalinenergo Training Centre and Magadanenergo Training Centre.

- 12 standard professional development and retraining programs for operational personnel based on the industry's professional standards were designed by the Corporate Hydropower University.

- The 2nd corporate competitions for operations staff at cross-connection thermal power plants of RusHydro Group were organised. The competitions were held from 5 to 9 August 2019 at Sakhalinenergo Training Centre (city of Yuzhno-Sakhalinsk). 40 employees (5 teams composed of 8 people in each) of the following Company's subsidiaries took part in the competitions: JSC DGK, PJSC Kamchatskenergo, PJSC Magadanenergo, PJSC Sakhalinenergo, JSC Chukotenergo.

- In October 2019, RusHydro's branches—Volzhskaya HPP and Volga Training Centre of the Corporate Hydropower University (including RZA training complex)—hosted a corporate WorldSkills competition testing professional skills in the competence of Repair and Maintenance of Relaying and Automation Equipment. The competition attracted employees of the Company's branches and subsidiaries, and third party entities of the power sector, as well as students of industry-specific universities (Nizhniy Novgorod State Technical University, Moscow Power Engineering Institute, Moscow Power Engineering Institute branch in Volzhsky). The students took part in the competition out of hors-concours and as part of a trial demonstration exam.

The 1st Corporate Engineering Case Championship of Innovation and Work Improvement Proposals "Ratsenergy" was organised. The championship was held from January to March 2019 in four stages. Engineering cases for the championship were developed in two areas: Electric Networks and Heat Power Engineering. 37 teams of the Company's subsidiaries took part in the championship: PJSC Yakutskenergo, JSC DGK and JSC DRSK.

For the development of strategic partnership with specialist educational organizations of higher professional education the following events were organized:

- The X-th Energy for Development contest of students' projects. 141 students and undergraduates from 26 higher educational institutions of Russia took part in the Energy for Development contest.

- The Power Energy qualifiers of the "Case-in" International Engineering Championship were held on the base of Sayano-Shushensky branch of the Siberian Federal University and Volga branch of the Moscow Power Engineering Institute. 55 students took part in the qualifiers. The winning teams advanced to the Finals.

- The Spring Student Energy School was organized and held on the base of RusHydro's partner university, South-Russian State Polytechnic University named after M.I. Platov, and attended by 25 4-th year undergraduate and 1-st year graduate students, specializing in Relay Protection and Electric Power System Automation, Electric Power Plants, Electric Power Systems and Networks.

- In collaboration with the Siberian Federal University (SFU) and Sayano-Shushensky branch of the SFU, the VI All-Russian Scientific and Practical Conference of Young Scientists, Professionals, Postgraduate and Graduate Students "Hydropower Plants in the 21st Century" was organized and held.

- Students of the Institute of Hydropower and Renewable Energy Sources (part of Moscow Power Engineering Institute) participated in interactive sessions on socially significant and technological subjects within the Youth Day of the Russian Energy Week.

In 2019, the Company signed a cooperation agreement with the Federal State-funded Budgetary Educational Institution of Higher Education "Financial University under the Government of the Russian Federation".

7. IMPROVING THE COUNTER-TERRORISM, ECONOMIC AND INFORMATION SECURITY SYSTEM

The following set of measures was taken in 2019 to improve the Company's security system:

1. In order to improve the counter-terrorism security system of RusHydro Group's facilities, the next scheduled stage of modernization of the security systems of the Company's facilities was delivered in line with the requirements of the Russian Government's Decrees No. 458 dated May 5, 2012 and No. 993 dated September 19, 2015.

2. In cooperation with federal Government authorities and law enforcement agencies, pursuant to the requirements of the Federal Law No. 256-FZ dated 21 July 2011 "On Security of Fuel and Energy Complex Facilities", comprehensive surveys of all RusHydro power facilities of high and medium hazard categories were carried out. Their counter-terrorism security and protection system was tried and tested.

3. In order to improve the counter-terrorism security system of RusHydro Group's facilities, to enhance the quality and effectiveness of interaction with the Federal Security Service of Russia, the Ministry of Internal Affairs of Russia, the Operational Headquarters of the National Counter-Terrorism Committee, the Federal National Guard Troops Service (the Rosgvardia), the Ministry of the Russian Federation for Civil Defense, Emergencies and Elimination of Consequences of Natural Disasters (EMERCOM) of Russia, and FSUE Departmental Security Service of the Ministry of Energy of Russia carried out:

- In accordance with the Plan of the National Antiterrorism Committee of the RF, integrated special tactical training exercises at Nizhne-Bureyskaya HPP and table-top training exercises at RusHydro's branches: Kamskaya HPP and North Ossetia branch. In addition, two research counter-terrorism training drills at RusHydro branches: Sayano-Shushenskaya HPP and Dagestan branch, and 124 counter-terrorism training drills under RusHydro plan were carried out;

- – Two training programs for RusHydro Group's security divisions managers and staff.

4. Based on the analysis of the routine activities of RusHydro Group's security divisions, five proposals were drafted and sent to the Federal State Authorities to improve legislation in the area of fuel and energy facilities' security. Most of the proposals were considered in the draft Federal Law "On Amending the Federal Law "On Safety and Security of the Fuel and Energy Complex Facilities", in draft amendments to laws and regulations of the Government of the RF and included in the recommendations of the round table session "Fuel and Energy Complex Security Issues. Legislative Aspect", held by the State Duma Committee on Energy on July 8, 2019.

In accordance with the provisions of the Energy Security Doctrine of the Russian Federation, the Economic Security Strategy of the Russian Federation for the period of up to 2030 and for the purpose of identifying, preventing and eliminating risks and threats to RusHydro Group's economic interests, a set of relevant measures was undertaken.

The key efforts aimed at information security in the reporting period were mainly focused on compliance with the Federal Law in the area of critical information infrastructure security, and on development and improvement of information protection systems:

1. The classification of facilities of RusHydro's critical information infrastructure (CII) was completed, the results were provided to the FSTEC of Russia[61] on 27 December 2019. The FSTEC of Russia accepted the classification results and entered RusHydro's CII facilities in the Russian CII significant facilities register.

2. A structural division of the Company - Corporate Centre for Computer Attacks Identification, Prevention and Suppression (hereinafter referred to as "CCAIS") was established on the basis of RusHydro IT Service. CCAIS technical infrastructure was set up, measures to arrange communication with the National Coordination Centre for Computer Incidents were initiated.

3. A subsystem of communication channels cryptographic protection using domestic algorithms was established for the Company's Executive Office and branches.

4. A subsystem of protected remote access to the Company's information resources from the Internet was established.

8. IMPROVING THE ENVIRONMENTAL MANAGEMENT SYSTEM

RusHydro Group's environmental protection and environmental management activities are aligned with RusHydro Group's approved Environmental Policy[62], which determines a list of key tasks aimed at improving the environmental management system:

- Increasing the installed capacity of low-carbon generation in RusHydro Group's energy balance;

[61] The Federal Service for Technology and Export Control.
[62] Approved by the decision of the Company's Board of Directors (Minutes No. 275 dated August 9, 2018).

- Reducing direct and specific greenhouse gas emissions at RusHydro Group's facilities;
- Conserving the biological diversity;
- Taking measures aimed at finding and using the best available technical solutions and technologies to reduce the negative impact on the environment and to minimize the environmental risks of RusHydro Group's activities;
- Reducing the oil content in switch-over units at RusHydro Group's facilities;
- Introducing corporate standards in the area of RusHydro Group's environmental activities.

In 2019, the Company approved RusHydro Group's Implementation Program for the Environmental Policy, developed for the period of 2019–2021[63].

In order to ensure environmental safety of RusHydro Group's facilities in the reporting year, the following measures were taken: replacement of oil-filled electrical equipment with vacuum or SF6 gas equipment, which contains no oil, or with equipment with lower oil content; rehabilitation, modernization and repair of power generation facilities; rehabilitation and repair of hydraulic structures to maintain proper condition of water protection zones; setting up automated systems for monitoring pollutant emissions into the air; carrying out environmental monitoring; performing a set of measures to recover damage caused to aquatic biological resources; taking measures for biodiversity conservation.

Moreover, in the reporting year the Company undertook the following activities aimed at reducing the negative impact on the environment: construction of sites for the accumulation, production and consumption of waste; reconstruction of sewage systems and wastewater treatment plants; collection of floating debris from water areas and its transfer to waste disposal facilities; landscaping and gardening; repair of ash and slag waste storage facilities.

9. ROLL-OUT OF INTELLIGENT SYSTEMS AND DIGITAL TECHNOLOGY

In the course of rolling-out intelligent systems and digital technology, RusHydro Group is committed to realising projects aimed at adjustment and improvement of internal technological and operational processes facilitating the use of modern, cost-effective and fast-operating technology, improving key business parameters. In 2019, the Company realised projects in the following areas:

- Enhancing existing technological and supporting (operational) processes: RusHydro's joint active power regulation systems are upgraded to receive JSC SO UES dispatch schedules and their automatic performance (brought into commercial operation at 11 HPPs); remote control function is implemented at new-generation power plant distribution substations (in three branches); the pilot project of remote control of Votkinskaya HPP equipment from JSC SO UES' dispatching control rooms is started.
- Enhancing the traditional service level in the area of reliability of power supply to consumers, observability of main and auxiliary equipment, investment efficiency and

[63] Approved by the Company Management Board's Minutes No. 1204 pr. dated September 26, 2019.

labour productivity: The Company developed the Concept of establishing an information system to support Situation Analysis Centre (SAC) operation, the first stage of establishing the information system to support SAC operation was started.

In compliance with the Russian Government's Directives No. 10068p-P13[64] dated December 6, 2018, the Board of Directors of the Company approved "The 2019–2021 Action Plan for RusHydro's increased reliance on domestically developed software" (hereinafter, the "Plan"), under which the following measures were undertaken in the reporting year: RusHydro's existing information and technology infrastructure was analysed, RusHydro's IT Technical Policy[65] was updated, user support system on local software NAUMEN was upgraded, the transition of the procurement management system (which is in pilot operation) to local platform is underway, establishing of RusHydro Group's Single Treasury on the local platform is started, information security systems on the local platforms are upgraded.

The 2019 Plan set a performance indicator "Percentage of procurement of software included in the unified register of the Russian software, as well as the software-related works and services, in the total procurement volume of finished software, as well as the software-related works and services (in money terms)" with a target value of at least 65%. The target of 65% was achieved in 2019.

10. RUSHYDRO GROUP'S RISK MANAGEMENT

In 2019, RusHydro Group implemented a set of key initiatives listed below to improve its internal control and risk management system.

1. The Company's auditors conducted an independent assessment of RusHydro Group's internal control and risk management system. The follow-up report was reviewed and approved by the Company's Board of Directors in June 2019[66].

2. In the reporting year, the Company developed and approved:

- RusHydro Group's Risk Appetite Methodology.
- RusHydro Group's Internal Control and Risk Management Policy which determines goals, objectives and principles of the corporate internal control and risk management system, allocation of RusHydro Group entities' responsibilities and authorities.

1. The Audit Committee under the Company Board of Directors developed and reviewed RusHydro Group's "Risk Classifier" (typical risk base).
2. The Company delivered a pilot project for automating the risk management process and implementing the automated risk management system (ARMS) as a tool of supporting the decision-making and forming RusHydro Group's risk base. The first ARMS module (FX and Interest Risk Management) was tested in 2019.

[64] Including "The Guidelines for increased reliance of State-owned companies on domestic software, including office software" approved by the Russian Ministry of Communications' Order No. 486 dated September 20, 2018.
[65] RusHydro's Technical Policy was approved by the Resolution of the Company's Board of Directors (Minutes No. 303 dated February 12, 2020).
[66] Minutes No. 291 of the Resolution of the Company's Board of Directors dated June 21, 2019.

3. The Company delivered risk management actions in accordance with RusHydro Group's Strategic Risk Mitigation Plan[67], the progress report on the action plan for 2019 was approved by the Company's Management Board[68].

All key group companies approve risk management plans with an annual review of reports at meetings of the respective companies' boards of directors.

11. ACTIVITIES UNDER RUSHYDRO GROUP'S LONG-TERM DEVELOPMENT PROGRAM AS PER DIRECTIVES OF THE GOVERNMENT OF THE RUSSIAN FEDERATION

On increasing labor productivity (No. 7389p-P13 dated October 31, 2014)

In pursuance of directives of the Russian Government No. 7389p-P13 dated October 31, 2014, the Long-Term Development Program[69] was complemented with the key performance indicator Labor Productivity[70] calculated in line with the Rosstat methodology[71].

Progress against the Labor Productivity KPI target

Metric	2019 target	2019 actual
Labor productivity, RUB '000/man-hour	5.62[72]	6.42

On decrease in operating expenses (costs) (No. 2303p-P13 dated April 16, 2015)

In pursuance of directives of the Russian Government No. 2303p-P13 dated April 16, 2015, the Long-Term Development Program[73] was complemented with the key performance indicator Decrease in Operating Expenses (Costs) calculated in line with the Rosstat methodology.

Metric	2019 target	2019 actual
Decrease in operating expenses (costs)	2%	2.02%

On demand for labor resources, including engineering and technical professionals (No. 7439p-P13 dated November 5, 2014)

Key parameters of the demand for labor resources of RusHydro Group[74] are determined with due account to the time employees reach retirement age, as well as the possibility of internal

[67] RusHydro Group's Strategic Risk Mitigation Plan for 2018–2019 approved by the Company's Management Board (Minutes No. 1133pr. dated October 9, 2018).
[68] Minutes No. 1133pr. of the Company's Management Board dated October 9, 2018.
[69] The Long-Term Development Program for 2018–2022 was approved by the Board of Directors, Minutes No. 271 dated June 1, 2018 as amended by resolutions of the Board of Directors (Minutes No. 279 of October 26, 2018, No. 294 of August 29, 2019, and No. 297 of October 21, 2019).
[70] The list of legal entities used in the KPI calculation: PJSC RusHydro, PJSC DEK, PJSC Yakutskenergo, PJSC Kamchatskenergo, JSC UESK, PJSC Magadanenergo, PJSC Sakhalinenergo, JSC DGK, JSC DRSK, PJSC Mobile Energy, JSC Chukotenergo, JSC Sakhaenergo, JSC Teploenergoservis, JSC ESC RusHydro, PJSC Krasnoyarskenergosbyt, PJSC RESK, JSC Chuvashskaya Electricity Sales Company, JSC Geoterm (including JSC Pauzhetskaya GeoPP), PJSC Kolymaenergo, PJSC KamGEK, PJSC Boguchanskaya HPP.
[71] Rosstat's Order No. 576 dated September 23, 2014.
[72] As per adjusted 2019 KPI for the Management Board approved by resolution of the Board of Directors dated September 20, 2019 (Minutes No. 295 of September 23, 2019).
[73] The Long-Term Development Program for 2018–2022 was approved by the Board of Directors, Minutes No. 271 dated June 1, 2018 as amended by resolutions of the Board of Directors (Minutes No. 279 of October 26, 2018, No. 294 of August 29, 2019, and No. 297 of October 21, 2019).

relocation of workers with appropriate recommendations based on the employee rating, talent pool, and candidate database. The demand for engineering and technical professionals also includes worker job vacancies that require a level of professional training no lower than a bachelor's degree from a technical educational establishment. This approach is brought forth by the process of operating, repairing, and maintaining core equipment at HPP/PSPPs.

Progress against the key parameters of RusHydro Group's demand for labor resources, including engineering and technical professionals, for 2019

Metric	2019 target	2019 actual
Total number of planned vacancies:	525	1,277
including engineering and technical professionals	366	732

On scheduled step-by-step substitution of imported products with those of Russian origin having similar specifications and usability and used in investment projects and day-to-day operations (No. 1346p-P13 dated March 5, 2015)

As part of the Comprehensive Modernization Program for RusHydro's generating facilities, RusHydro is increasing supplies from domestic machinery producers given that, among other things, certain types of equipment and components will be produced in Russia.

In the reporting year, in line with the import substitution roadmap, the following measures were put in place:

- Technical Policy of RusHydro Group[75] was amended to include the requirements for increased reliance on domestic solutions starting from the design phase;
- Uniform Regulations on RusHydro Group's Procurement Policy was amended in line with the Russian Government's Resolution No. 878 dated July 10, 2019 and the Russian Government's Directives No. 6574p-P13 dated July 18, 2019..

In 2019, RusHydro reduced the share of imported equipment for its operations so that foreign goods, works and services are gradually phased out and replaced by local goods, works and services with similar specifications and usability:

Share of imported equipment

Metric	2019 target	2019 actual
Share of imported equipment, %	20	20

As part of its import substitution efforts, the Company engages in the following activities:

- Interaction with the Industrial Development Fund of the Russian Ministry of Industry and Trade with a view to implementing activities to diversify the defense industry for the

[74] PJSC RusHydro, PJSC DEK, PJSC Yakutskenergo, PJSC Kamchatskenergo, JSC UESK, PJSC Magadanenergo, PJSC Sakhalinenergo, JSC DGK, JSC DRSK, PJSC Mobile Energy, JSC Chukotenergo, JSC Sakhaenergo, JSC Teploenergoservis, JSC ESC RusHydro, PJSC Krasnoyarskenergosbyt, PJSC RESK, JSC Chuvashskaya Electricity Sales Company, JSC Geoterm, PJSC Kolymaenergo, PJSC KamGEK, PJSC Boguchanskaya HPP.

[75] RusHydro Group's Technical Policy was approved by resolution of the Company's Board of Directors (Minutes No. 303 dated February 12, 2020).

betterment of the energy sector using the state industrial information system: a list was compiled detailing the demand for equipment and software planned for procurement in 2020–2024; initial population and testing of the state industrial information system was executed;

- Interaction with the Russian Energy Agency of the Russian Ministry of Energy with a view to coordinating import substitution initiatives with the defense industry: proposals were sent for manufacturing civil purpose products to the pilot list of defense industry enterprises.

Subsidiaries of RAO ES East are actively working together with Russian suppliers and producers of equipment and spare parts (Power Machines, Ural Turbine Works, Energomash-Uralelectrotyazhmash, Prosoft Systems, Unitel Engineering, Togliatti Transformator, SVEL – Power Transformers, Cheboksary Electrical Apparatus Plant, Moselectroshield, Electroshield Group – TM Samara, etc.).

Completed and ongoing projects, such as CHPP Vostochnaya, Blagoveshchenskaya CHPP (second stage), Sakhalinskaya GRES-2 (first stage), Yakutskaya GRES-2 (first stage), and CHPP in Sovetskaya Gavan mainly rely on equipment made in Russia.

In all its production operations, rehabilitation and upgrades at energy companies, RusHydro Group prioritizes Russian manufacturers as equipment suppliers.

According to a consolidated review of procurement by RAO ES East[76], the share of purchased domestic equipment in 2019 is 94.4%[77].

On the Company's increased reliance on domestically developed software (No. 10068p-P13 dated December 6, 2018)

In pursuance of directives of the Russian Government No. 10068p-P13 dated December 6, 2018 On Increased Reliance on Domestically Developed Software, the Long-Term Development Program was amended in the Intelligent Systems and Digital Technology Roll-out section as approved by resolution of the Company's Board of Directors (Minutes No. 294 of August 29, 2019).

On aligning the Long-Term Development Program with goals set forth by Decree of the Russian President No. 204 dated May 7, 2018 On National Goals and Strategic Objectives of the Russian Federation through to 2024

In order to align the Long-Term Development Program with the Russian President's Decree No. 204 dated May 7, 2018 On National Goals and Strategic Objectives of the Russian Federation through to 2024, the Program was amended by resolution of the Company's Board of Directors (Minutes No. 279 of October 26, 2018) to reflect measures being taken by RusHydro Group to improve efficiency of investments in fixed assets in line with clause 5.3.3 on attracting investments in the modernization of thermal and electricity power generation facilities (in pursuance of the Russian President's list of instructions No. Pr-2530 dated December 12, 2017) of the Action Plan to Accelerate Investments in Fixed Assets and Increase Their Share in

[76] Based on review of procurement contracts worth over RUB 250,000.
[77] Of the total procurement value of RUB 5,517.0 mn.

the Gross Domestic Product to 25%, approved by Chairman of the Russian Government, No. 1315p-P13 dated February 13, 2019.

The Company's Board of Directors resolved (Minutes No. 285 of March 29, 2019) to classify the instruction set forth by directives of the Russian Government No. 276p-P13 dated January 17, 2019 as successfully executed.

12. ACHIEVEMENT OF KEY PERFORMANCE INDICATORS OF RUSHYDRO GROUP'S LONG-TERM DEVELOPMENT PROGRAM FOR 2019

	Metric[78]	2019 target	2019 actual	Evaluation
1.	Prevention of accidents exceeding the limit number of accidents: - number of production-related accidents - number of major accidents.	0 ≤ 5-year average[79] 0	0 ≤ 5-year average[80] 0	Achieved
2.	Return on equity (ROE)	18.24%	23.03%	Achieved
3.	Earnings before interest, tax, depreciation and amortization (EBITDA), RUB mn	166,880	171,907	Achieved
4.	Share of procurement from small and medium enterprises, including through contracts allocated for SME bidders only[81]	18% 15%	71% 49%	Achieved
5.	Adherence to the capacity commissioning schedules, funding and spending plan[82]	85%	88%	Achieved
6.	Labour productivity (RUB '000/man-hours)	5.62[83]	6.42	Achieved
7.	Decrease in operating expenses (costs)	2%	2.02%	Achieved
8.	Integrated innovative KPI	85%	96%	Achieved
9.	Total shareholder return (TSR)	100%	0	Not achieved
10.	Free cash flow (FCF), RUB mn	-51,302[84]	-36,384	Achieved
11.	Earnings per share (EPS)	0.25	0.31	Achieved

[78] If the KPI of the Management Board members or KPI of the Long-Term Incentive Plan are amended or updated and approved by the Company's Board of Directors, progress against the KPI of the Long-Term Development Program is assessed using the updated KPI of the Management Board members and KPI of the Long-Term Incentive Plan.
[79] 17.6.
[80] 10.
[81] For PJSC RusHydro.
[82] The capacity commissioning schedule and the funding and spending plan are determined based on planned data on facilities the Company is investing in and on new construction facilities of subsidiaries duly approved as part of the Business Plan by the Company's Board of Directors.
[83] As per adjusted 2019 KPI for the Management Board approved by resolution of the Board of Directors dated September 20, 2019 (Minutes No. 295 of September 23, 2019). The pre-adjustment value is 5.72.
[84] As per adjusted consolidated Business Plan of RusHydro Group for 2019 and target KPI of the Long-Term Incentive Plan approved by resolution of the Board of Directors dated September 20, 2019 (Minutes No. 295 of September 23, 2019). The pre-adjustment value is RUB (-)55,710 mn.

9.1. METHODOLOGY FOR CALCULATION AND EVALUATION OF KEY PERFORMANCE INDICATORS OF RUSHYDRO GROUP'S LONG-TERM DEVELOPMENT PROGRAM[85]

1. General information

1.1. This Methodology for calculation and evaluation of Key Performance Indicators of RusHydro Group's Long-Term Development Program (the "Methodology") was developed:

- to describe the calculation and evaluation of meeting the indicators of RusHydro Group's Long-Term Development Program approved by the Board of Directors of PJSC RusHydro (the "Company");

- to formalize the procedure of calculation and evaluation of meeting the indicators of RusHydro Group's Long-term Development Program approved by the Company's Board of Directors.

1.2. The evaluation of meeting the indicators in accordance with this Methodology shall be the responsibility of the respective business unit of the Company as specified in internal documents.

1.3. The procedure for reporting the achievement of certain indicators, timelines and formats of evaluation of meeting the indicators shall be set forth in the Company's internal documents.

1.4. The list of Long-term Development Program's KPI shall include the indicators of the Company's Management Board and indicators listed among KPIs under the Company's Long-Term Incentive Plan.

1.5. The list and specific weights of annual indicators of members of the Company's Management Board shall be subject to annual approval by resolution of the Board of Directors; the list and specific weights of indicators under the Company's Long-Term Incentive Plan are defined in the Regulations on the Company's Long-Term Incentive Plan approved by the Board of Directors on November 11, 2016 (minutes No. 243 of November 14, 2016).

1.6. As part of the annual reporting on the implementation of the Long-Term Development Program and external audit of implementing indicators 2.1–2.7 of the Long-Term Development Program (KPI of Management Board members), annual reports are drawn and annual interim results specified for indicators 2.8–2.10 (KPI of the Company's Long-Term Incentive Plan).

1.7. The remuneration of the Management Board, including the sole executive body, for achieving the indicators shall be paid in accordance with the Regulations on Payment of Remuneration and Compensation to Members of RusHydro's Management Board and Regulations on RusHydro's Long-Term Incentive Plan approved by the Board of Directors on November 11, 2016 (minutes No. 243 of November 14, 2016).

2. Procedure for calculation and evaluation of key performance indicators of RusHydro Group's Long-term Development Program

[85] Approved by PJSC RusHydro's Board of Directors on 31 May 2018 (Minutes No. 271) as amended by the resolutions of PJSC RusHydro's Board of Directors on 25 October 2018 (Minutes No. 279), on 28 August 2019 (Minutes No. 294) and on 18 October 2019 (Minutes No. 297).

2.1. KPI 'Meeting the Accident Prevention Target'

2.1.1. Calculation

List of legal entities included in the calculation (generating facilities):

PJSC RusHydro (18 generating branches), PJSC DEK, PJSC Yakutskenergo, PJSC Kamchatskenergo, JSC UESK, PJSC Magadanenergo, PJSC Sakhalinenergo, JSC DGK, JSC DRSK, PJSC Mobile Energy, JSC Chukotenergo, JSC Sakhaenergo, JSC Teploenergoservis, JSC Geoterm, PJSC Kolymaenergo, JSC Pauzhetskaya GeoPP, PJSC KamGEK, and PJSC Boguchanskaya HPP.

To calculate the actual value, the following sources of information are used: production-related accident reports (Form N-1) prepared in accordance with Resolution of the Russian Ministry of Labor No. 73 On Approval of Document Forms for Investigation and Reporting of Production-Related Accidents and Specifics of Production-Related Accident Investigations in Certain Industries and Organizations dated October 24, 2002, investigation reports on accident causes in the electric power industry prepared in accordance with Order of the Russian Ministry of Energy No. 90 On Approval of Accident Investigation Report Forms for the Electric Power Industry and Form Filling Procedure dated March 2, 2010, investigation reports on technical causes of accidents at hazardous production facilities or hydraulic structures prepared in accordance with Rostechnadzor's Order No. 480 On Approval of the Procedure for Investigating Technical Causes of Accidents, Incidents and Cases of Loss of Industrial Explosives at Facilities Supervised by the Federal Environmental, Industrial and Nuclear Energy Supervision Service (Rostechnadzor) dated August 19, 2011, investigation reports on causes of heat supply accidents prepared in accordance with Rostechnadzor's Order No. 157 On Approval of Investigation Report Forms and Procedure for Reporting of Causes of Heat Supply Accidents dated April 25, 2016.

The indicator consists of several parameters:

- Number of production-related accidents;
- Number of major accidents.

The number of production-related accidents is calculated as a sum total of all production-related accidents investigated, documented and reported in accordance with:

- Articles 227, 228, 228.1, 229, 229.1, 229.2, 229.3, 230, 230.1 of the Russian Labor Code;
- Resolution of the Russian Ministry of Labor No. 73 On Approval of Document Forms for Investigation and Reporting of Production-Related Accidents and Specifics of Production-Related Accident Investigations in Certain Industries and Organizations dated October 24, 2002.

The number of production-related accidents includes production-related accidents where the chief executive officer[86], other executives[87] and heads of structural units[88] of a company are specified in the investigation report (Clause 10 of Form N-1) as individuals responsible for labor safety violations (Clauses 2.1, 2.2 and 2.4 of the Rules for Personnel Management in the Electric Power Industry of the Russian Federation approved by Order of the Russian Ministry of Energy No. 49 dated February 19, 2000).

The number of major accidents is a sum total of all accidents in the electric power industry, heat supply emergencies, accidents at hazardous production facilities or hydraulic structures investigated, documented and reported by Rostechnadzor's commissions in accordance with:

- Clause 4 of the Rules for Investigation of Accident Causes in the Electric Power Industry adopted by the Russian Government's Resolution No. 846 dated October 28, 2009;
- Clause 3 of the Rules for Investigation of Heat Supply Accident Causes adopted by the Russian Government's Resolution No. 1114 dated October 17, 2015;
- Rostechnadzor's Order No. 480 dated August 19, 2011 On Approval of the Procedure for Investigating Technical Causes of Accidents, Incidents and Cases of Loss of Industrial Explosives at Facilities Supervised by the Federal Environmental, Industrial and Nuclear Energy Supervision Service (Rostechnadzor) dated August 19, 2011;
- Rostechnadzor's Order No. 157 On Approval of Investigation Report Forms and Procedure for Reporting of Causes of Heat Supply Accidents dated April 25, 2016;
- Order of the Russian Ministry of Energy No. 90 On Approval of Accident Investigation Report Forms for the Electric Power Industry and Form Filling Procedure dated March 2, 2010,

and meeting the following criteria:

- damage to hydraulic structures disrupting their safe operation and causing the water level in the reservoir (river) to fall or water in the tail pond to rise beyond the threshold limits;
- collapse of load-bearing elements of buildings and structures at an electric power generating facility, including as a result of an explosion or fire, if such collapse leads to electricity (capacity) consumption being limited by100 MW and more for a period of 25 days and more;

[86] Chief executive officer is a person directly managing the company regardless of its ownership form (hereinafter the chief executive officer) and authorized to act on behalf of the company without a power of attorney and represent the company before any government body, including judicial authorities.
The company owner directly managing the company is classified as the chief executive officer.
[87] Executives of the company are persons duly appointed as deputy chief executive officers and having certain administrative functions and responsibilities (chief engineer, vice president, technical director, deputy director, etc.).
[88] Head of a structural unit is a person who signed an employment agreement (contract) with the chief executive officer or was appointed by such chief executive officer to manage a structural unit (manager, foreman, supervisor, etc.) and his/her deputies.

- destruction of, or damage to, the equipment of heat supply facilities, leading to the outage of heat sources or heat networks for a period of 3 days and more;

- destruction of, or damage to, buildings containing heat supply facilities, resulting in the interruption of heat supply to consumers;

- damage to turbines with a rated capacity of 100 MW and more, including destruction of the turbine flow path, change of shape and geometric dimensions or displacement of the turbine casing against the base, if such damage results in the turbine undergoing emergency repairs for 25 days and more;

- damage to generators with an installed capacity of 100 MW and more, including destruction of its stator, rotor or stator winding insulation, if such damage results in the generator undergoing emergency repairs for 25 days and more;

- damage to power transformers (auto-type transformers) with a capacity of 100 MVA and more, including destruction, change of shape and geometric dimensions or displacement of its housing, if such damage results in the transformer undergoing emergency repairs for 25 days and more;

- damage to power boilers with a steam capacity of 100 tonnes per hour and more or damage to hot water boilers with a capacity of 50 Gcal per hour and more, including destruction, change of shape or geometric dimensions of the boiler or displacement of units (elements) of the boiler or the metal frame, if such damage results in the boiler undergoing emergency repairs for 25 days and more;

- shutdown of generating equipment or a power grid facility, leading to a decrease in reliability of the Unified Energy System or technologically isolated local electric power systems and resulting in temporary suspensions of power supply totaling 100 MW and more or power supply reductions by 25 percent and more of the total consumption in an operational area of the dispatching center;

- disconnection of power grid facilities of the highest voltage category (110 kV and more), generating equipment with a capacity of 100 MW and more at two and more electric power facilities, causing the interruption of power supply to consumers with the total consumption of 100 MW and more for a period of 30 minutes and more;

- disruptions in the operation of emergency shutdown or mode-switching controls, including those caused by personnel error, resulting in the interruption of electric power supply to consumers with the total consumption of 100 MW and more.

Accidents are included in the the number of major accidents if relevant clauses of investigation reports prepared by Rostechnadzor's commission indicate erroneous or wrong actions (or omissions) on the part of executives, except for accidents, the causes of which are, according to an official opinion of Rostechnadzor's commission, as follows:

- shortcomings in the design, structure, workmanship, construction or installation of equipment;

- fault of third parties (related organizations) involved in the technological process;

- any illegal or negligent act of third parties;
- any force majeure event that cannot be predicted (a crash of an aircraft and its parts, natural disasters not accounted for in the design of a hydraulic structure or power equipment, etc.) and that exempts RusHydro Group from liability.

2.1.2. Evaluation

The Meeting the Accident Prevention Target KPI is considered to be fulfilled (its value is 0) when the KPI target is achieved and, simultaneously, all the following conditions are met:

- the number of production-related accidents does not exceed the annual average for the last five years preceding the period in question;
- the number of major accidents does not exceed its target value (0)..

In all other cases, the Meeting the Accident Prevention Target KPI is considered unfulfilled.

2.2. KPI 'Return on Equity (ROE)'

2.2.1. Calculation

The list of legal entities for the calculation of:

- the target value is taken from PJSC RusHydro's effective Regulations on the Business Planning Framework subject to RusHydro Group's Consolidated Business Plan;
- the actual value is taken from RusHydro Group's audited consolidated financial statements prepared in accordance with the International Financial Reporting Standards (IFRS), Note Principal Subsidiaries

For the target value calculation, RusHydro Group uses data from its Consolidated Business Plan:

ROE = [(Profit for the period + Non-monetary expenses – Non-monetary income + Fuel expenses)

*/ Average annual equity] * 100%*, where

Profit for the period is the *Profit for the Period* line in the RusHydro Group's Consolidated Income Statement.

The average annual equity is obtained by the following formula:

$$\text{Average annual equity} = \frac{\text{TOTAL EQUITY}_0 + \text{TOTAL EQUITY}_1}{2}$$, where

TOTAL EQUITY$_0$ is the sum of *Equity Attributable to Shareholders of PJSC RusHydro* and *Non-controlling Interest* as at the beginning of the period as indicated in the RusHydro Group's Consolidated Balance Sheet;

TOTAL EQUITY$_1$ is the sum of *Equity Attributable to Shareholders of PJSC RusHydro* and *Non-controlling Interest* as at the end of the period as indicated in the RusHydro Group's Consolidated Balance Sheet.

Non-monetary expenses/income is the *Other Non-Monetary Items of Operating Income and Expenses* line (Explanatory Note to the RusHydro Group's Consolidated Business Plan, chapters "Finance Income and Expenses", "Business Analysis by Segment", and "Financial Results") and consists of:

Non-monetary expenses, including:

- Impairment of property, plant and equipment;
- Impairment of long-term promissory notes;
- Impairment of financial assets held for sale;
- Loss on revaluation of net assets of a subsidiary acquired for resale;
- Loss on disposal of property, plant and equipment;
- Net income and expenses from provisions;
- Expense on discounting;
- Provision for impairment of inventories;
- Foreign exchange loss;
- Other non-monetary expenses.

Non-monetary income, including:

- Income associated with the pension plan reduction;
- Income on discounting;
- Foreign exchange gain;
- Income from revaluation of financial investments;
- Other non-monetary income.

Fuel expenses are target expenses attributed to the *Fuel Expenses* line (Explanatory Note to the RusHydro Group's Consolidated Business Plan, Chapter "RusHydro Group Expenses").

The indicator is calculated to one decimal place and rounded mathematically to the nearest whole number.

For the actual value calculation, RusHydro Group uses data from its consolidated financial statements prepared in accordance with the IFRS (Consolidated Statement of Financial Position, Consolidated Income Statement, and Note *Segment Information.*

ROE = [(Profit for the period (year) + Non-monetary expenses – Non-monetary income + Fuel expenses)

/ Average annual equity] * 100%, where

Profit for the period is the Profit for the Period line in the Consolidated Income Statement;

The average annual equity is obtained by the following formula:

$\text{Average annual equity} = \frac{\text{TOTAL EQUITY}_0+\text{TOTAL EQUITY}_1}{2}$, where

TOTAL EQUITY$_0$ is the sum of Equity Attributable to Shareholders of PJSC RusHydro and Non-controlling Interest as at the beginning of the period as indicated in the Consolidated Statement of Financial Position;

TOTAL EQUITY$_1$ is the sum of Equity Attributable to Shareholders of PJSC RusHydro and Non-controlling Interest as at the end of the period as indicated in the Consolidated Statement of Financial Position;

Non-monetary expenses/income is the Other Non-monetary Items of Operating Income and Expenses line (Notes Segment Information and Finance Income, Costs to RusHydro Group's consolidated financial statements prepared in accordance with the IFRS for the reporting period) and consists of:

Non-monetary expenses, including:

- Impairment of property, plant and equipment;
- Impairment of long-term promissory notes;
- Impairment of financial assets held for sale;
- Loss on revaluation of net assets of a subsidiary acquired for resale;
- Loss on disposal of property, plant and equipment;
- Net income and expenses from provisions;
- Expense on discounting;
- Provision for impairment of inventories;
- Foreign exchange loss;
- Other non-monetary expenses.

Non-monetary income, including:

- Income associated with the pension plan reduction;
- Income on discounting;
- Foreign exchange gain;
- Income from revaluation of financial investments;
- Other non-monetary income.

Fuel expenses are actual expenses attributed to the Fuel Expenses line (Note Operating Expenses to RusHydro Group's consolidated financial statements prepared in accordance with the IFRS for the reporting period).

The indicator is calculated to one decimal place and rounded mathematically.

2.2.2. Evaluation

The KPI is considered to meet the established target if its actual value is at least 95% of the target for the reporting period. Otherwise, the indicator is not considered to meet the established target.

2.3. KPI 'Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA)'

The list of legal entities for the calculation of:

- the target value is taken from PJSC RusHydro's effective Regulations on the Business Planning Framework subject to RusHydro Group's Consolidated Business Plan;
- the actual value is taken from RusHydro Group's audited consolidated financial statements prepared in accordance with the International Financial Reporting Standards (IFRS), Note Principal Subsidiaries.

2.3.1. Calculation

For the target value calculation, RusHydro Group uses data from its Consolidated Business Plan:

EBITDA = Profit before tax + Depreciation and Amortization + Non-monetary expenses – Non-monetary income + Interest payable + Fuel expenses.

Profit before tax is the Profit Before Income Tax line in the Consolidated Income Statement.

Depreciation and amortization is the Depreciation of Property, Plant and Equipment and Amortization of Intangible Assets (Table "Structure of Current Operating Expenses").

Non-monetary expenses/income are determined as set out in Clause 2.2.1 hereof.

Interest payable is the Interest Payable line (Explanatory Note to the RusHydro Group's Consolidated Business Plan, Chapter "RusHydro Group's Financial Results").

Fuel expenses are determined as set out in Clause 2.2.1 hereof. For the actual value calculation, RusHydro Group uses data from its consolidated financial statements prepared in accordance with the IFRS (Consolidated Statement of Financial Position, Consolidated Income Statement, Note Segment Information, and Note Finance Income, Costs):

EBITDA = Profit before tax + Depreciation and amortization + Non-monetary expenses – Non-monetary income + Interest payable + Fuel expenses.

Profit before tax is the Profit Before Income Tax line in the Consolidated Income Statement.

Depreciation and amortization is the Depreciation of Property, Plant and Equipment line (Note Segment Information).

Non-monetary expenses/income are determined as set out in Clause 2.2.1 hereof.

Interest payable is the Interest Expense line in Note Finance Income, Costs.

Fuel expenses are determined as set out in Clause 2.2.1 hereof.

No decimals are used in the calculation of the indicator. The value is rounded to the nearest integer mathematically.

2.3.2. Evaluation

The KPI is considered to meet the established target if its actual value is at least 95% of the target for the reporting period. Otherwise, the indicator is not considered to meet the established target.

2.4. KPI 'Share of Procurement from Small and Medium Businesses, Including Through SME-only Procurement Procedures'

List of legal entities included in the calculation:

PJSC RusHydro.

2.4.1. Calculation

The target value is a statutory value determined as set out in Section 1 of the Regulation on Special Aspects of Participation of Small and Medium Enterprises in Procurement of Goods, Works and Services for Certain Types of Legal Entities, Annual Volume of Such Procurement and Procedure for Calculation of the Said Volume adopted by the Russian Government's Resolution No. 1352 On Special Aspects of Participation of Small and Medium Enterprises in Procurement of Goods, Works and Services for Certain Types of Legal Entities dated December 11, 2014.

The actual value is calculated on the basis of the Register of Contracts concluded as a result of the Company's procurement activities. The actual value is defined as a share of procurements from small and medium businesses in the total annual volume of procurements under the contracts concluded by PJSC RusHydro in the reporting period. It is calculated by the following formulas:

$$SHsmeTOT = (Prc^{excl}SME + PrcSME + PrcSMEsub) / Prc^{tot} \times 100$$

$$SHsme = Prc^{excl}SME / Prc^{tot} \times 100$$

where:

SHsmeTOT is a share of contracts awarded to small and medium enterprises (hereinafter SMEs) in the total annual volume of contracts concluded as a result of procurement procedures, including SME-only procurement procedures. In this case, first-tier subcontracts are also taken into account. The first-tier subcontracts mean agreements for the supply of goods or services concluded directly between SMEs and other companies that have direct contracts with the Company, %;

SHsme is a share of contracts awarded to SMEs as a result of SME-only procurement procedures in accordance with Regulation No. 1352 in the total annual volume of contracts, %;

Prc^{excl}SME is a total price of contracts awarded to SMEs as a result of SME-only procurement procedures in accordance with Section 2 of Regulation No. 1352, RUB;

PrcSMEsub is a total price of first-tier subcontracts concluded directly between SMEs and other companies that have direct contracts with the Company, RUB;

PrcSME is a total price of contracts awarded to SMEs as a result of SME-only procurement procedures in accordance with Section 2 of Regulation No. 1352, RUB;

Prc^{tot} is a total price of contracts concluded as a result of SME-only procurement procedures in accordance with Section 2 of Regulation No. 1352, RUB.

Purchases made in the reporting period and specified in Clause 7 of Regulation No. 1352 are not accounted for in the calculation of this KPI.

2.4.2. Evaluation

The KPI is considered to meet the established target if its actual value is at least 95% of the target for the reporting period. Otherwise, the indicator is not considered to meet the established target.

2.5. KPI 'Adherence to the Capacity Commissioning Schedules, Funding and Spending Plan'

2.5.1. Calculation

The indicator is calculated for PJSC RusHydro and new facilities constructed by subsidiaries according to the Company's duly approved business plan.

The target value is taken from the Company's investment plans and subsidiaries' construction plans as duly approved and included in the Business Plan by the Company's Board of Directors.

The actual value is sourced from the Company's actual investment performance and subsidiaries' actual new builds as specified in the report on progress against the Company's Business Plan duly approved by the Company's Board of Directors.

Adherence to the capacity commissioning schedules, funding and spending plan is calculated by the following formula:

$$K^{comm\ fund\ spend} = 0.75 \cdot K^{comm\ cap} + 0{,}25 \cdot K^{vol\ fund\ spend}{}_{year},$$

where: $K^{comm\ fund\ spend}$ is adherence to the capacity commissioning schedules, funding and spending plan (for the year);

$K^{comm\ cap}$ is an aggregate (covering all types of commissioned capacity) indicator of adherence to commissioning schedules;

$K^{vol\ fund\ spend}{}_{year}$ is adherence to the annual funding and spending plan.

The aggregate indicator (covering all types of commissioned capacity) of adherence to capacity commissioning schedules for the reporting year is calculated by the following formula:

$$K^{comm\,cap} = 100 \cdot \frac{V^{actual\ \ cap}}{V^{target\ cap}}$$

, where:

$K^{comm\ cap}$ is adherence to commissioning schedules (covering all types of commissioned capacity[89]) in the reporting year;

$V^{target\ cap}$ is an annual capacity commissioning target (MW);

$V^{actual\ cap}$ is capacity actually commissioned in the reporting year (MW).

If no capacity commissioning plan is available for the reporting year, $K^{comm\ cap}$ is not calculated and the corresponding share is included in $K^{vol\ fund\ spend}{}_{year}$.

The indicator does not include the actually commissioned facilities if they were planned to be commissioned in the previous periods.

Adherence to the funding and spending plan is calculated by the following formula:

$K^{vol\ fund\ spend}{}_{year} = 0.5 \cdot K^{vol\ fund}{}_{year} + 0.5 \cdot K^{vol\ spend}{}_{year}$, where:

$K^{vol\ fund\ spend}{}_{year}$ is adherence to the annual funding and spending plan;

$K^{vol\ fund}{}_{year}$ is adherence to the annual funding plan;

$K^{vol\ \ spend}{}_{year}$ is adherence to the annual spending plan.

Adherence to the funding plan is calculated by the following formula:

$$K^{vol\ fund}_{\ \ year} = \left[\frac{Fund^{TR+M}_{target}}{Fund_{target}} * \left(1 - \frac{\left|\Delta Fund^{TR+M}_{report}\right|}{Fund^{target}}\right) + \frac{Fund^{NB}_{target}}{Fund_{target}} * \left(1 + \frac{\sum \Delta Fund^{NB}_{report}}{Fund_{target}}\right)\right] * 100\%$$, where:

$Fund_{target}$ is an annual funding target;

$Fund^{TR+M}_{target}$ is an annual funding target for the facilities financed by the Company;

$Fund^{NB}_{target}$ is a total annual funding target for new builds;

$\left|\Delta Fund^{TR+M}_{report}\right|$ is a module deviation between the target and actual funds allocated for the facilities financed by the Company[90] in the reporting year.

$\sum \Delta Fund^{NB}_{report}$ is a total deviation between the target and actual funds allocated for each new build in the reporting year. If the actual funds are less than 100% of the total target amount, the new build component in the formula is assumed to be zero in the reporting year.

Adherence to the annual spending plan is calculated by the following formula:

$$K^{vol\ spend}_{\ \ year} = \left[\frac{Spend^{TR+M}_{target}}{Spend_{target}} * \left(1 + \frac{\Delta Spend^{TR+M}_{report}}{Spend_{target}}\right) + \frac{Spend^{NB}_{target}}{Spend_{target}} * \left(1 + \frac{\sum \Delta Spend^{NB}_{report}}{Spend_{target}}\right)\right] * 100\%$$,where:

$Spend_{target}$ is an annual spending target;

[89] For the purpose of KPI calculation, capacity commissioning targets are approved and included in the Business Plan by the Company's Board of Directors. Capacity is deemed to have been commissioned in the reporting period if an operation permit is issued for a power installation by the regulator as per the template provided for in Rostechnadzor's Order No. 212 dated April 7, 2008, and an equipment acceptance certificate is issued by the acceptance commission following comprehensive tests.

[90] The volume of TR+M funding and spending for the calculation of KPI 'Adherence to the Capacity Commissioning Schedules, Funding and Spending Plan, %' is taken as the total value of the *TR+M* line in the Business Plan approved by the Company's Board of Directors.

$Spend_{target}^{TR+M}$ is an annual spending target for the facilities financed by the Company;

$Spend_{target}^{NB}$ is an total annual spending target for the new builds;

$\Delta Spend_{report}^{TR+M}$ is a deviation between the target and actual spendings on the facilities financed by the Company[54] in the reporting year.

$\sum \Delta Spend_{report}^{NB}$ is a total deviation between the target and actual spendings on each new build in the reporting year. If the actual spendings are less than 100% of the total target amount, the new build component in the formula is assumed to be zero in the reporting year.

The annual funding and spending targets for each facility are included in the Company's Business Plan duly approved by the Board of Directors.

Amendments to the annual funding and spending targets and capacity commissioning indicators for each financed facility are submitted to the Company's Board of Directors for approval as part of the amended Business Plan.

2.5.2. Evaluation

The KPI is considered to meet the established target if its actual value is at least 100% of the target for the reporting period. Otherwise, the indicator is not considered to meet the established target.

2.6. KPI 'Labor Productivity'

2.6.1. Calculation

List of legal entities included in the calculation:

PJSC RusHydro, PJSC DEK, PJSC Yakutskenergo, PJSC Kamchatskenergo, JSC UESK, PJSC Magadanenergo, PJSC Sakhalinenergo, JSC DGK, PJSC DRSK, PJSC Mobile Energy, JSC Chukotenergo, JSC Sakhaenergo, JSC Teploenergoservis, JSC ESC RusHydro, PJSC Krasnoyarskenergosbyt, PJSC RESK, JSC Chuvash Energy Retail Company, JSC Geoterm, PJSC Kolymaenergo, JSC Pauzhetskaya GeoPP, PJSC KamGEK, and PJSC Boguchanskaya HPP.

The target value is based on the Business Plans of the Company and its subsidiaries:

Revenue is the Total Net Revenue from Sales of Goods and Services line from the approved Business Plans of the Company and its subsidiaries for the relevant period;

Man-hours are calculated by the following formula:

$(N_{days} – N_{leave})* 8 * E_{target,}$

where:

N_{days} is a number of business days in the period according to the business calendar;

N_{leave} is a number of business days in the paid leaves;

E_{target} is a target number of employees as per approved Business Plans of the Company and its subsidiaries for the relevant period.

The actual value is based on Federal Statistical Observation Forms No. PT (GS) Labor Productivity in the Sector of Non-financial Corporations Partially Owned by the Government

(Rosstat's Order No. 576 On Approval of Statistical Tools for the Federal Agency for State Property Management to Perform Federal Statistical Observation of Labor Productivity in the Sector of Non-financial Corporations Partially Owned by the Government dated September 23, 2014).

This indicator is calculated as the ratio of the Company's and its subsidiaries' aggregate revenue (as per reports on the implementation of the Company's and its subsidiaries' business plans) to man-hours worked by employees on payroll and external part-timers (as per Federal Statistical Observation Form No. P4 Headcount, Payroll and HR Flows) and is calculated using the following formula:

LP = Revenue / Man-hours,

where:

LP is labor productivity, RUB '000/man-hour;

Revenue is the Revenue from Sales of Goods and Services line, RUB '000;

Man-hours are man-hours worked by employees on payroll and external part-timers.

The indicator is calculated to two decimal places and rounded mathematically.

2.6.2. Evaluation

The KPI is considered to meet the established target if its actual value is at least 95% of the target for the reporting period. Otherwise, the indicator is not considered to meet the established target.

2.7. KPI 'Decrease in Operating Expenses (Costs)'

2.7.1. Calculation

List of legal entities included in the calculation:

- RusHydro Group companies operating in the price zones: PJSC RusHydro, PJSC Boguchanskaya HPP, JSC ESC RusHydro, PJSC Krasnoyarskenergosbyt, PJSC Ryazan Retail Energy Company, and JSC Chuvash Energy Retail Company.

- RusHydro Group companies operating in the non-price zones, in technologically isolated local electric power systems and in areas not technologically linked with the Unified Energy System of Russia or with technologically isolated local electric power systems: JSC RAO ES East, PJSC Yakutskenergo, PJSC Kamchatskenergo, JSC UESK, PJSC Magadanenergo, PJSC Sakhalinenergo, JSC DGK, JSC DRSK, PJSC Mobile Energy, JSC Chukotenergo, JSC Sakhaenergo, JSC Teploenergoservis, JSC Geoterm, PJSC Kolymaenergo, PJSC KamGEK, and PJSC DEK.

The target value is calculated as per Directive of the Russian Government No. 2303p-P13 dated April 16, 2015.

The actual value is sourced from: Report on progress against the Business Plan of the Company and its subsidiaries.

The reduction of unit costs is calculated using the following formula:

$\mathrm{DOE}_{\mathrm{actual}} = (\mathrm{DOE}_{\mathrm{i}} * \beta_{\mathrm{i}} + \mathrm{DOE}_{\mathrm{j}} * \beta_{\mathrm{j}})$, where

$\mathrm{DOE}_{\mathrm{actual}}$ is a decrease in operating expenses (costs) in the reporting period, %;

i is each of RusHydro Group companies included in the calculation of the indicator and operating in the price zones;

j is each of RusHydro Group companies included in the calculation of the indicator and operating in the non-price zones, in technologically isolated local electric power systems and in areas not technologically linked with the Unified Energy System of Russia or with technologically isolated local electric power systems;

β_{i} is a share of RusHydro Group companies included in the calculation of the indicator and operating in the price zones in the total revenue;

β_{j} is a share of RusHydro Group companies included in the calculation of the indicator and operating in the non-price zones, in technologically isolated local electric power systems and in areas not technologically linked with the Unified Energy System of Russia or with technologically isolated local electric power systems in the total revenue.

$$\mathrm{DOE}_{\mathrm{i,j}} = \left(\frac{\frac{\sum \mathrm{OPEX}^{\mathrm{rep}}_{\mathrm{gen\ i,j}}}{\sum \mathrm{N}^{\mathrm{rep}}_{\mathrm{i,j}}}}{\frac{\sum \mathrm{OPEX}^{\mathrm{rep-1}}_{\mathrm{disc\ gen\ j}}}{\sum \mathrm{N}^{\mathrm{rep-1}}_{\mathrm{i,j}}}} * \alpha_{\mathrm{gen}} - \frac{\frac{\sum \mathrm{OPEX}^{\mathrm{rep}}_{\mathrm{grid\ i,j}}}{\sum \mathrm{EqU}^{\mathrm{rep}}_{\mathrm{i,j}}}}{\frac{\sum \mathrm{OPEX}^{\mathrm{rep-1}}_{\mathrm{disc\ grid\ i,j}}}{\sum \mathrm{EqU}^{\mathrm{rep-1}}_{\mathrm{i,j}}}} * \alpha_{\mathrm{grid}} - \frac{\frac{\sum \mathrm{OPEX}^{\mathrm{rep}}_{\mathrm{retail\ i,j}}}{\sum \mathrm{UC}^{\mathrm{rep}}_{\mathrm{i,j}}}}{\frac{\sum \mathrm{OPEX}^{\mathrm{rep-1}}_{\mathrm{disc\ retail\ i,j}}}{\sum \mathrm{UC}^{\mathrm{rep-1}}_{\mathrm{i,j}}}} * \alpha_{\mathrm{retail}} \right) * 100\%,$$ where

$\mathrm{OPEX}^{\mathrm{rep}}_{\mathrm{gen\ i,j}}$, $\mathrm{OPEX}^{\mathrm{rep}}_{\mathrm{grid\ i,j}}$, $\mathrm{OPEX}^{\mathrm{rep}}_{\mathrm{retail\ i,j}}$ is actual operating expenses recognized for the purpose of calculation and incurred in the reporting period by RusHydro Group company i or j included in the calculation, RUB mn;

$\mathrm{OPEX}^{\mathrm{rep-1}}_{\mathrm{disc\ gen\ j}}$, $\mathrm{OPEX}^{\mathrm{rep-1}}_{\mathrm{disc\ grid\ i,j}}$, $\mathrm{OPEX}^{\mathrm{rep-1}}_{\mathrm{disc\ retail\ i,j}}$ is actual operating expenses incurred in the period preceding the reporting period (and discounted to the reporting year) by RusHydro Group company i or j included in the calculation, as attributable to regulated activities, RUB mn;

α_{gen}, α_{grid}, α_{retail} is a share of expenses incurred by RusHydro Group company i or j included in the calculation in the total actual OPEX recognized in the reporting period for the purpose of calculation, as attributable to regulated activities;

$\mathrm{N}^{\mathrm{rep}}_{\mathrm{i,j}}$ is an actual value of the normalized installed (electric and thermal) capacity of generating facilities (including capacity of facilities leased and/or operated under contracts) of RusHydro Group company i or j included in the calculation in the reporting period, MW.

For each generating facilities, the calculation is made as at the end of the reporting period, taking into account the new capacity commissioned under investment programs approved by the boards of directors of legal entities included in the KPI calculation;

$N_{i,j}^{rep-1}$ is an actual value of the normalized installed (electric and thermal) capacity of generating facilities (including capacity of facilities leased and/or operated under contracts) of RusHydro Group company i or j included in the calculation in the period preceding the reporting period, MW;

$EqU_{i,j}^{rep}$ is the actual number of equivalent units of equipment used in the reporting period at power grid facilities of RusHydro Group company i or j included in the calculation, pcs.[91];

$EqU_{i,j}^{rep-1}$ is the actual number of equivalent units of equipment used in the period preceding the reporting period at power grid facilities of RusHydro Group company i or j included in the calculation, pcs.[58];

$UC_{i,j}^{rep}$ is the actual number of utility connections of RusHydro Group company i or j included in the calculation as at the end of the reporting period, pcs.;

$UC_{i,j}^{rep-1}$ is the actual number of utility connections of RusHydro Group company i or j included in the calculation as at the end of the period preceding the reporting period, pcs.;

100 is a multiplier to calculate the percentage.

The actual operating expenses in the reporting period recognized for the purpose of the KPI calculation are obtained by the following formula:

$OPEX_{i,j}^{rep} = OPEX_{i,j}^{actual} - \Delta Pacx$, where

$OPEX_{i,j}^{actual}$ is the actual operating expenses in the reporting period, RUB mn;

$\Delta Pacx$ is operating expenses (costs) of the reporting year not used in the KPI calculation by decision of PJSC RusHydro's Board of Directors.

The actual operating expenses in the period preceding the reporting period are calculated by the following formula:

$OPEX_{disc\ i,j}^{rep-1} = OPEX_{i,j}^{rep-1} * CPI(GRR\ DOE^{59})$, where

$OPEX_{i,j}^{rep-1}$ is the actual operating expenses in the period preceding the reporting period, RUB mn;

CPI is a consumer price index as at the end of the year (conservative, in % to December) published on the website of the Russian Ministry of Economic Development (http://economy.gov.ru) as part of the preliminary social and economic development forecast

[91] Determined as per Order of the Federal Tariff Service of Russia No. 20-e/2 On Approval of Guidelines for Calculation of Regulated Tariffs and Prices for Electric (Thermal) Energy in the Retail (Consumer) Market dated August 6, 2004 and amended on April 14, 2014 and September 16, 2014.

for the reporting year (for the purpose hereof);

GRR DOE[92] is a growth rate of controllable expenses accounted for in the estimates of required gross revenue imposed by the regulator on a year-on-year basis for regulated activities in accordance with the Guidelines for Calculation of Regulated Electricity (Capacity) Prices (Tariffs) for Wholesale Market Suppliers That Own or Otherwise Control Thermal Power Plants Operating in Non-price Zones of Wholesale Electricity and Capacity Market Where Tariffs are Established Through Long-term Indexation of Required Gross Revenue as developed in accordance with the Russian Government's Resolution No. 837 On Amendments to Pricing Basis in the Field of Regulated Prices (Tariffs) for Electric Power dated June 26, 2019, as well as the Guidelines for Calculation of Regulated Prices (Tariffs) for Heat Supplies approved by Order of the Federal Tariff Service No. 760-e dated June 13, 2013.

List of items included in the calculation of KPI 'Decrease in Operating Expenses (Costs)'

Cost Estimate form of the Business Plan, including business and management costs

No.	Items
1	**Materials and supplies**
2	**Production-related work and services**
	except:
	– Power transmission services of grid companies
	– Commercial power metering
	– Cash collection
3	**Payroll costs**
4	**Compulsory social insurance**
5	**Private pension plans**
6	**Third-party work and services**
	except:
	– R&D write-off
	– Services rendered by state (regulated) bodies (agencies)
7	**Business travel and representation expenses**
8	**Lease broken down by areas (lessors)**
	except:
	– Power generating and grid assets lease
9	**Voluntary health insurance**
10	**Accident insurance**
11	**Other costs attributable to the cost of revenue**
	except:
	– Software and licenses

[92] Used for *j* – companies if GRR DOE is higher than CPI.

	– Remuneration of Board and Internal Audit Commission members
	– Estimated liabilities other than labor costs
	Other income and expenses form of the Business Plan
12	**Other taxes recognized as part of OPEX**
13	**Maintenance of mothballed facilities**
14	**Social**
15	**Program of housing conditions improvement**
16	**Social facilities**
17	**Payroll out of other expenses**
18	**Voluntary health insurance**
19	**Annual General Meeting of Shareholders**
20	**Contributions to non-profit foundations and partnerships**
21	**Non-capitalized construction costs (impoundment areas, etc.)**
22	**Miscellaneous**
	except:
	– State duties, reimbursements
	– Retiring and written-off assets and materials
	– Estimated liabilities, other prepaid expense
	– Borrowing and hedging

The calculated indicator is rounded to two decimal places. The rounding is mathematical.

2.7.2. Evaluation

The KPI is deemed to meet the established target if its actual value is at least 95% of the target for the reporting period. Otherwise, the indicator is not considered to meet the established target.

2.8. Integrated Innovative KPI

2.8.1. Calculation

List of legal entities included in the calculation:

PJSC RusHydro, JSC NIIES, JSC Vedeneyev VNIIG, JSC Hydroproject Institute, JSC Lenhydroproject, JSC Mosoblhydroproject, JSC RAO ES East, JSC DGK, JSC DRSK, PJSC Kamchatskenergo, PJSC Magadanenergo, PJSC Mobile Energy, PJSC Sakhalinenergo, JSC Sakhaenergo, JSC Chukotenergo, JSC UESK, and PJSC Yakutskenergo.

The indicator is calculated by measuring each of the Integrated Innovative KPI components:

- R&D expenses, % of revenue;
- increase in IP assets on the balance sheet in the reporting period;
- thermal efficiency in heat generation;
- HPP capacity management efficiency;
- quality of design (update) and implementation of the Innovative Development Program.

The target value is calculated using data from the duly approved Innovative Development Program of RusHydro effective in the reporting period[93].

The actual values of R&D expenses as a percentage of revenue, increase in IP assets on the balance sheet in the reporting period, and thermal efficiency in heat generation are taken from the duly approved annual progress report on the Group's Innovative Development Program.

The actual values for the calculation of HPP capacity management efficiency are determined as per the annual report on progress against PJSC RusHydro's Business Plan. To this end, the actual HPP installed capacity is taken as capacity as at the last day of the reporting year.

The actual values of the quality of design (update) / implementation of the Innovative Development Program are calculated in accordance with the Regulations on the Quality Assessment Procedure for the Development, Update and Annual Independent Assessment of Innovative Development Programs of Joint-Stock Companies Partially Owned by the Government, State-Owned Companies and Federal State Unitary Enterprises (appendix to Russian Government's Decree No. AD-P36-621 dated February 9, 2016).

2.8.1.1. *R&D expenses, % of revenue (P_1)*

The indicator is calculated using the following formula:

$R_{R\&D}$ = (R&D/S)*100%, where

R&D is annual R&D expenses of the companies used in the indicator calculation, including:

a) cost of acquiring exclusive intellectual property rights (under contracts for the alienation of exclusive rights under Article 1234 of the Russian Civil Code) or rights to use intellectual property (pursuant to license contracts under Article 1234 of the Russian Civil Code) with respect to the following intellectual properties:

- inventions, utility models or industrial designs (patent rights);
- software (copyright), databases (related rights), and integrated circuit topographies;
- microcircuits;
- manufacturing processes (know-how).

b) contributions to venture capital funds or private equity funds with a focus on small innovative and high-tech businesses;

c) investments in high-tech manufacturing projects in cooperation with Russian universities and government research institutions as part of Russian Government's Resolution No. 218 of April 9, 2010;

[93] Should any amendments be made by the Interdepartmental Working Group for the Implementation of Innovative Development Priorities with the Presidium of the Russian President's Council for Modernization of the Economy and Innovative Development of Russia to the target values or to guidelines for the calculation of integrated innovative KPI components or should the program be updated or should the program be approved for a new period, the integrated innovative KPI is calculated using the updated information.

d) procurement of research equipment for Russian educational institutions;

e) contributions to non-profit organizations supporting priority technology platforms as per the list approved by the Presidium of the Russian President's Council for Modernization of the Economy and Innovative Development of Russia and contributions to specialized entities managing regional innovation clusters as per the list set forth in Appendix 6 to Russian Government's Resolution No. 316 of April 15, 2014;

f) cost of continuing education (professional development and retraining of staff) and targeted training of students at universities and vocational schools.

S is annual revenue of the companies included in the calculation as per RAS financial statements less the cost of purchased electricity and heat, cost of power and heat transmission by grid companies, intragroup operations, including revenue of JSC DRSK and revenue from utility connection

2.8.1.2. Increase in IP assets on the balance sheet in the reporting period (P2).

The indicator is calculated using the following formula

$$N_{patents} = \left(\frac{P_i}{P_{i-1}} - 1\right) * 100\%$$

P_i is the actual number of IP assets on the balance sheet of the companies included in the calculation (with the copyright protection available) in the reporting year.

P_{i-1} is the actual number of IP assets on the balance sheet of the companies included in the calculation (with the copyright protection available) in the year preceding the reporting year.

Copyright protection means duly executed (with the copyright protection available) patents for inventions, patents for utility models, software registration certificates, database and integrated circuit topography (including know-how) registration certificates.

2.8.1.3. Thermal efficiency in heat generation (P3) (for JSC RAO ES East only)

The indicator is calculated using the following formula:

$$T_{eh} = \frac{(0.86\ W_{supply} + Q_{supply}) * 1{,}000}{7 * B}$$

%, where

W_{supply} is total electricity supply from the busbars to the companies included in the calculation in the reporting year, mn kWh;

Q_{supply} is total heat supply from the boiling stations to the companies included in the calculation in the reporting year, '000 Gcal;

0.86 is a conversion factor for kWh to Gcal;

7 is a ratio of calorific value of equivalent fuel, kcal/kg;

B is total consumption per unit of equivalent fuel for electricity and heat generation across the companies included in the calculation in the reporting year, tonnes of equivalent fuel.

2.8.1.4. HPP capacity management efficiency (P4), number of employees per 100 MW (for PJSC RusHydro only)

The indicator is calculated using the following formula:

W_{HPP} = Average headcount involved in core operations / HPP installed capacity *100

The target values of headcount and installed capacity are calculated based on PJSC RusHydro's Business Plan for the relevant period.

The HPP capacity management efficiency measured in the number of employees per 100 MW (P_4) is an inverse proportion: the lower the value, the higher the efficiency.

2.8.1.5. Quality of Innovative Development Program design (update) and implementation (P5), %

The target value of the indicator is set at 90%.

Specific weights are assigned to the components of the quality of Innovative Development Program design (update) and the quality of Innovative Development Program implementation as resolved by the Interdepartmental Working Group for the Implementation of Innovative Development Priorities with the Presidium of the Russian President's Council for Modernization of the Economy and Innovative Development of Russia.

If, at the time the indicator is calculated, any of the component values is not available, its weight is assigned to another component of the indicator.

The evaluation of whether and to what extent the indicator meets the established target is based on the results of the final assessment of the quality of Innovative Development Program design (update) and Innovative Development Program implementation for the reporting period as provided by the Interdepartmental Commission for Technological Development with the Presidium of the Council under the President of the Russian Federation for the modernization of the economy and innovative development of Russia and approved by the resolution of the Interdepartmental Working Group for the Implementation of Innovative Development Priorities with the Presidium of the Russian President's Council for Modernization of the Economy and Innovative Development of Russia.

2.8.2. Evaluation

The evaluation of whether and to what extent the integrated innovative KPI meets the established target is based on the values of its components as shown below:

$$P_{intagrated} = \sum_{i=1}^{5} \prod_{i}^{0} * weight_i, \ \%$$

where
$P_{integrated}$ is the Integrated Innovative KPI in the reporting year.
$\prod_{i}^{0}$ is an indicator value n(i) characterising the Company's innovation activity in the reporting year.

weight_i is a weight of the indicator in the reporting year.

Weights for the calculation of the Integrated Innovative KPI are shown in the table below:

No.	Component	Weight, %
1	R&D expenses, % of revenue	**15**
2	Increase in IP assets on the balance sheet in the reporting period, %	**15**
3	Thermal efficiency, % (JSC RAO ES East only)	**20**
4	HPP capacity management efficiency, number of employees per 100 MW (RusHydro)	**20**
5	Quality of Innovative Development Program design (update) and implementation, %	**30**

2.8.2.1. R&D expenses, % of revenue(Π_1^o).

The indicator is considered to fully meet the established target if its actual value is not below the target set in the Innovative Development Program for the reporting year. Otherwise, it is assessed by the extent to which the target has been met (the ratio of the indicator's actual value to its target value as provided in the Innovative Development Program and the relevant progress report).

2.8.2.2. Increase in IP assets on the balance sheet in the reporting period (Π_2^o).

The indicator is considered to fully meet the established target if its actual value is not below the target set in the Innovative Development Program for the reporting year. Otherwise, it is assessed by the extent to which the target has been met (the ratio of the indicator's actual value to its target value as provided in the Innovative Development Program and the relevant progress report).

2.8.2.3. Thermal efficiency (JSC RAO ES East only) (Π_3^o).

The indicator is considered to fully meet the established target if its actual value is not below the target set in the Innovative Development Program for the reporting year. Otherwise, it is assessed by the extent to which the target has been met (the ratio of the indicator's actual value to its target value as provided in the Innovative Development Program and the relevant progress report).

2.8.2.4. HPP capacity management efficiency, number of employees per 100 MW (for RusHydro only) (Π_4^o).

The HPP capacity management efficiency measured in the number of employees per 100 MW (P_4) is an inverse proportion: the lower the value, the higher the efficiency. The indicator is considered to fully meet the established target if its actual value is not above the target set in the Innovative Development Program for the reporting year. Otherwise, it is assessed by the

extent to which the target has been met (the ratio of the indicator's target value to its actual value as provided in the Innovative Development Program and the relevant progress report).

2.8.2.5. Quality of Innovative Development Program design (update) and implementation (Π_5^o).

Whether and to what extent the indicator meets the established target is evaluated as provided in paragraph 2.8.1.5.

2.8.2.6. Evaluation of the integrated innovative KPI:

- the indicator is considered to meet the established target if $Pintegrated_{actual} \geq 0.95\ Pintegrated_{plan}$, where

  $Pintegrated_{actual}$ is the actual value of the integrated innovative KPI in the reporting year.

  $Pintegrated_{plan}$ is the established (target) value of the integrated innovative KPI in the reporting year.

- the indicator is considered not to meet the established target if $Pintegrated_{actual} < 0.95 \cdot Pintegrated_{plan}$.

2.9. KPI 'Total Shareholder Return (TSR)'

2.9.1. Calculation

The target value is not calculated since it is sourced externally.

The indicator is calculated for one year using the data about the Company's shares quotation on the Moscow Exchange and RusHydro Group's consolidated financial statements prepared in accordance with the International Financial Reporting Standards (IFRS) using the following formula:

$\mathrm{TSR} = \frac{(\overline{\mathrm{P}}_1 - \overline{\mathrm{P}}_0) + \mathrm{DPS}}{\overline{\mathrm{P}}_0}$, where

$\overline{\mathrm{P}}_0$ is an average price per share in RUB on the Moscow Exchange over 22 trading days as at the end of the year preceding the reporting year;

$\overline{\mathrm{P}}_1$ is an average price per share in RUB on the Moscow Exchange over 22 trading days as at the end of the reporting year;

DPS (dividend per share) is a total amount of dividends or other disbursements (special dividends, redemption of shares, etc.) in RUB payable to shareholders per share during the reporting period.

No decimals are used in the calculation of the indicator. The rounding is mathematical.

2.9.2. Evaluation

The indicator is evaluated by comparing the Company's actual TSR against changes in the key

composite index of the Moscow Exchange (the Index). Changes in the Index are calculated as a percentage of changes in the average Index over 22 trading days as at the end of the year preceding the reporting year and the average Index for 22 trading days as at the end of the reporting year. The indicator is considered to fully meet the established target (the actual value is assumed to be 100%) if the estimated actual indicator grew faster than the Index in the reporting period.

Otherwise, the indicator is not considered to meet the established target (the actual value is assumed to be 0%).

2.10. KPI 'Free cash flow (FCF)'

2.10.1. Calculation

The list of legal entities for the calculation of:

- the target value is taken from PJSC RusHydro's effective Regulations on the Business Planning Framework subject to RusHydro Group's Consolidated Business Plan;
- the actual value is taken from RusHydro Group's audited consolidated financial statements prepared in accordance with the International Financial Reporting Standards (IFRS), Note Principal Subsidiaries.

For the target value calculation, RusHydro Group uses data from its Business Plan duly approved by the Company.

For the actual value calculation, RusHydro Group uses data from its audited consolidated financial statements prepared in accordance with the IFRS (Consolidated Statement of Cash Flows).

The indicator for RusHydro Group is calculated as a difference between the net cash flow from operations less interest paid on borrowings, financial lease and derivatives, and CAPEX. Free Cash Flow (FCF) is net consolidated cash flow from operations less obligatory financing expenses and investments required to maintain and/or expand the existing assets.

FCF is calculated on the basis of RusHydro Group's consolidated annual financial statements prepared in accordance with the IFRS, using the following formula:

FCF = CFO – CAPEX – Interest paid – Finance lease payments

where

CFO is the Net Cash Generated by Operating Activities line in the Consolidated Statement of Cash Flows for the reporting period;

CAPEX is total cash outflows recognized in the Cash Flow from Investing Activities section of the Consolidated Statement of Cash Flows for the reporting period;

Interest paid and Finance lease payments[94] are relevant amounts specified in the Cash Flow from Financing Activities section of the Consolidated Statement of Cash Flows for the reporting period.

2.10.2. Evaluation

The KPI is considered to meet the established target if its actual value is at least 95% of the target for the reporting period. Otherwise, the indicator is not considered to meet the established target.

2.11. Earnings per share (EPS), RUB/share

2.11.1. Calculation

List of legal entities to be used in the calculation:

- the target value is calculated based on RusHydro's effective Regulations on the Business Planning Framework subject to RusHydro Group's Consolidated Business Plan;
- the actual value is calculated based on RusHydro Group's audited consolidated financial statements prepared under the International Financial Reporting Standards (IFRS), note Principal subsidiaries.

The target value is calculated based on the input from RusHydro Group's Consolidated Business Plan and RusHydro Group's Business Plan:

$$\text{EPS} = \frac{\begin{array}{c}\text{Profit for the period} + \text{Non} - \text{cash expenses} - \\ -\text{Non} - \text{cash income} + \text{ Fuel costs}\end{array}}{(\text{Number of shares as at the beginning of the year} + \text{ Number of shares as at the end of the year}) * 0.5}$$

where:

Profit for the period is the line Profit for the period in RusHydro Group's Consolidated Income Statement, RUB mn.

Non-cash expenses/income – the item Other Non-cash Operating Expense/Income Items (Explanatory Note to RusHydro Group's Consolidated Business Plan, chapters Financial Income and Expenses, Analysis by Segment, Financial Results), RUB mn, includes:

Non-cash expenses include:

- Loss from impairment of fixed assets;
- Loss from impairment of long-term promissory notes;
- Impairment loss on available-for-sale financial assets;

[94] Line titles may differ from those published in the IFRS financial statements or the business plan, but their meaning and content correspond to those specified herein.

- Loss on revaluation of net assets of a subsidiary acquired exclusively with a view to resale;
- Loss from disposal of fixed assets;
- Balance of income and expenses related to provisioning;
- Discounting costs;
- Inventory impairment provision;
- Foreign exchange losses;
- Other non-cash expenses.

Non-cash income includes:

- Income associated with the pension plan reduction;
- Discounting income;
- Foreign exchange gains;
- Income from revaluation of financial investments;
- Other non-cash income.

Fuel costs is the estimated amount of expenses under the Fuel costs item (Explanatory Note to RusHydro Group's Consolidated Business Plan, Chapter RusHydro Group’s Expenses), RUB mn.

Number of shares as at the beginning of the year is the number of shares (in millions) as at the beginning of the year calculated by dividing the Authorized capital line (RusHydro's business plan / RusHydro’s pro forma balance sheet / Liabilities / III Capital and reserves) by par value of a share (RUB 1).

Number of shares as at the end of the year is the number of shares (in millions) as at the end of the year calculated by dividing the Authorized capital line (RusHydro's business plan / RusHydro’s pro forma balance sheet / Liabilities / III Capital and reserves) by par value of a share (RUB 1).

The calculated indicator is rounded to two decimal places. The rounding is mathematical.

For the actual value calculation, RusHydro Group uses the data from its IFRS consolidated financial statements. Consolidated Statement of Financial Position, Consolidated Profit and Loss Statement, note Information by Segment to RusHydro’s audited financial (accounting) statements.

$$\text{EPS} = \frac{\begin{array}{c}\text{Profit for the period} + \text{Non} - \text{cash expenses} - \\ -\text{Non} - \text{cash income} + \text{ Fuel costs}\end{array}}{(\text{Number of shares as at the beginning of the year} + \text{ Number of shares as at the end of the year}) * 0.5}$$

where:

Profit for the period (year) is the Profit for the year line in RusHydro Group's Consolidated Profit and Lost Statement template, RUB mn.

Number of shares as at the beginning of the year is the number of shares (in millions) as at the beginning of the year calculated by dividing the Authorized capital line (RusHydro's balance sheet / Liabilities / III Capital and reserves) by par value of a share (RUB 1).

Number of shares as at the end of the year is the number of shares (in millions) as at the end of the year calculated by dividing the Authorized capital line (RusHydro's balance sheet / Liabilities / III Capital and reserves) by par value of a share (RUB 1).

Non-cash expenses/income – the item Other non-cash items of operating income and expenses (Notes Segment information and Finance income, expenses to RusHydro Group's IFRS consolidated financial statements for the reporting period), RUB mn, includes:

Non-cash expenses include:

- Loss from impairment of fixed assets;
- Loss from impairment of long-term promissory notes;
- Impairment loss on available-for-sale financial assets;
- Loss on revaluation of net assets of a subsidiary acquired exclusively with a view to resale;
- Loss from disposal of fixed assets;
- Balance of income and expenses related to provisioning;
- Discounting costs;
- Inventory impairment provision;
- Foreign exchange losses;
- Other non-cash expenses.

Non-cash income includes:

- Income associated with the pension plan reduction;
- Discounting income;
- Foreign exchange gains;
- Income from revaluation of financial investments;
- Other non-cash income.

Fuel costs is the actual expenses under the item Fuel Costs (Note Operating Expensesto RusHydro Group's IFRS consolidated financial statements for the reporting period), RUB mn.

The calculated indicator is rounded to two decimal places. The rounding is mathematical..

2.11.2. Indicator evaluation

The KPI is deemed to meet the established target if its actual value is at least 95% of the target for the reporting period[95]. Otherwise, the indicator is not considered to meet the established target.

[95] If any additional shares are issued this year in favor of the Russian Federation, the target number of such shares shall be adjusted to factor in such additional shares placed as part of such issue.