RusHydro Capital markets day

February 27, 2019
Moscow, Russia
RusHydro Group’s results in 2018

Strategic development priorities:
Modernization and new construction in the Far Eastern Federal District

Nikolay Shulginov
General Director – Chairman of the Management Board
**Key figures and facts**

<table>
<thead>
<tr>
<th>Key figures</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed electric capacity of RusHydro Group</td>
<td>39.4 GW</td>
</tr>
<tr>
<td>Total output of RusHydro Group in 2018</td>
<td>144.2 TWh</td>
</tr>
<tr>
<td>Number of employees</td>
<td>70.5 thousand</td>
</tr>
<tr>
<td>EBITDA margin of hydropower segment in 2015-2018</td>
<td>&gt;60%</td>
</tr>
<tr>
<td>Dividends paid in 2016-2018</td>
<td>~108 RUB bn</td>
</tr>
<tr>
<td>Average net debt/EBITDA</td>
<td>1.2x</td>
</tr>
<tr>
<td>Average net debt/EBITDA margin of hydropower segment</td>
<td>64%</td>
</tr>
</tbody>
</table>

- **Largest generating company in Russia**: and one of the largest publicly traded generating company with predominantly hydro assets in the world with installed capacity of 39.4 GW (1) (ca.16% of Russia’s total installed electric capacity)

- **Focus on the Russian market**: implementation of new construction projects, extension of life-time and improving efficiency of existing assets

- **Diversified holding company**: with hydro and thermal generation assets, alternative renewables, transmission and distribution, retail, R&D and repair assets

- **A developing and successful dividend story**: 8 consecutive years of solid dividend payments since 2010; dividend payout in the amount of 50% of net profit in 2016-2017

- **Green utility**: one of the world’s largest renewable energy players, a sustainable development leader in Russia

(1) Data as of December 31, 2018 (including Boguchanskaya HPP and commissioning of 3rd hydroelectric unit of Ust-Srednekanskaya HPP, Vostochnaya TPP, rehabilitation and modernization program)

(2) Expected 2018 IFRS result. Net debt is calculated as gross debt minus cash & cash equivalents (including bank deposits maturing in less than one year)
### RusHydro: yesterday and today

#### 2015

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed electric capacity, GW</td>
<td>38.7</td>
</tr>
<tr>
<td>Electricity generation, TWh</td>
<td>127.4</td>
</tr>
<tr>
<td>EBITDA, RUB bn/ EBITDA margin, %</td>
<td>73 20%</td>
</tr>
<tr>
<td>Dividend, RUB bn/ Dividend per share, kopecks</td>
<td>14.9 1.29</td>
</tr>
<tr>
<td>Total debt, RUB bn / Net debt/EBITDA</td>
<td>222 2.4x</td>
</tr>
</tbody>
</table>

#### 2018E

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed electric capacity, GW</td>
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<td>Electricity generation, TWh</td>
<td>144.2</td>
</tr>
<tr>
<td>EBITDA, RUB bn/ EBITDA margin, %</td>
<td>~108 27%</td>
</tr>
<tr>
<td>Dividend, RUB bn/ Dividend per share, kopecks</td>
<td>46.1 3.72</td>
</tr>
<tr>
<td>Total debt, RUB bn / Net debt/EBITDA</td>
<td>227.2 1.2x</td>
</tr>
</tbody>
</table>

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(1) Data as of 12.31.2018 including Boguchanskaya HPP and commissioning of 3rd hydroelectric unit of Ust-Srednekanskaya HPP, Vostochnaya TPP, rehabilitation and modernization program
(2) Expected 2018 IFRS result. Net debt is calculated as gross debt minus cash & cash equivalents (including bank deposits maturing in less than one year)
(3) For 2013 - 2015
(4) For 2016 - 2018
(5) As of December 31, 2018
### Key highlights and events of 2018

#### Operations
- A new historical record attained in 2018 – **144.2 bn TWh**

#### Investment program
- Commissioning of Vostochnaya CHP (**139.5 MW / 432 Gcal/h**)
- Commissioning of Unit#3 of Ust-Srednekanskaya HPP ГЭС (**142.5 MW**)
- Commissioning of unique **WPP (0.9 MW)** in town of Tiksi above the Polar Circle

#### Financial policy
- Successful entry into Eurobonds market: RUB 20 bn placed in February, RUB 15 bn placed in November as well as dim sum bonds worth CNH 1.5 bn in November (~RUB 15 bn)
- Cancellation of RusHydro’s guarantee under Boguchanskaya HPP loan worth **RUB 26 bn**
- Reduction of RusHydro Group net debt/EBITDA to **1.2x**

#### Dividends
- 50% of net profit under IFRS paid out as dividends for 2017 in the amount of **RUB 11.2 bn** or 2.63 kopecks per share

#### Divestment of non-core assets
- 4.915% stake of InterRAO sold for RUB 17.2 bn
- 475 assets divested during 2016-2018 for RUB 32.5 bn
- Number of controlled organizations during 2016-2018 reduced by 23%

#### Sustainable development
- The BoD approved new environmental policy, aimed at increasing environmental safety of current and newly built facilities and minimizing their negative effect on the environment through reduction of GHG emissions in absolute and specific terms
- The GHG reduction target till 2025 is set at 6.1% (against 2015)
Implementation of key investment projects and commissioning of electric capacity in 2018-2019

2018

Commissioning of Vostochnaya CHP (139.5 MW, 432 Gcal/h), successful testing 3rd hydroelectric unit of Ust-Srednekanskaya HPP (142.5 MW), authorization for commissioning received, first phase of gasification of Anadyrskaya CHP competed.

- Installed capacity increased by 55 MW following rehabilitation and modernization program.
- Completion of 110, 35 KW high-voltage power lines on 220 KW electric power substation Maya allowing to unite Central and Western energy districts of Yakutia with the United Energy System of the East.
- Number of grid connection agreements increased by 1% to 22.5 thousand. Technical capability to connect consumers (including in territories of Advanced Social and Economic Development) to max capacity of 884.3 MW.
- Commissioning of 1,492 km of grids and 1,101 mVA of transformer capacity.

2019

- Commissioning of Nizhne-Bureyskaya HPP (320 MW), Zaramagskaya HPP-1 (346 MW), CHP in city of Sovetskaya Gavan (126 MW, 200 Gcal), Sakhalinskaya GRES-2 (120 MW) and small HPPS under DPM for renewables contract.
- Increase of RusHydro’s installed capacity by 49 MW following rehabilitation and modernization program.
- Implementation of priority projects aimed at developing the energy infrastructure in the Far Eastern Federal District.

2018-2019

Year

<table>
<thead>
<tr>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>35.7 GW</td>
<td>36.1 GW</td>
<td>39.1 GW</td>
<td>38.9 GW</td>
<td>40.4 GW</td>
</tr>
</tbody>
</table>

- **35.7 GW**: Sakhalinskaya GRES-2, Ust-Srednekanskaya HPP
- **38.9 GW**: Vostochnaya CHP
- **39.1 GW**: Nizhne-Bureyskaya HPP, Zaramagskaya HPP-1, CHP in city of Sovetskaya Gavan, Sakhalinskaya GRES-2, 3 small HPPS
- **40.4 GW**: Modernization

*Note: The table above represents the changes in installed capacity from 2015 to 2019.*
Long-term program for replacement of obsolete capacity – most efficient projects

Long-term program for replacement of obsolete capacity and development of the Far East’s power system is intended for completion by 2027

- Decommissioning of generation equipment: **1.6 GW**
- Commissioning of capacity under the modernization of TPPs program: **1.3 GW**
- According to the decree of the President of Russian Federation Vladimir Putin dated **29.12.2018 Пр-2560** instruction has been given to address the issue of including RusHydro’s projects into the first phase of TPP modernization program.

**Step I**

On January 30, the government decree dated January 25, 2019 number 43 On modernization of thermal power plants has been published.

**Step II**

By April 30, 2019 the government committee on development of the power sector has to submit a list of thermal power plants located in the non-price zone scheduled for modernization or reconstruction.

**Step III**

By July 1, 2019 the following changes to the legislation have to be submitted to the Government of the Russian Federation:

- Introduction of markup to capacity price;
- Method for determination of markup and means of its payment by consumers in the first and second price zones;
- Tariff calculation methodology for generating facilities from the approved list, with guaranteed return on invested capital.

**Step IV**

Approval by the Government of the Russian Federation of technical parameters of the generating facilities from the approved list for modernization or reconstruction located in non-price zone.

The following conditions are necessary for effective implementation of the program:

- Inclusion of projects in the first phase of the government’s program on modernization of thermal power plants;
- The return on invested capital has to be **not less than 14%** given the projects are financed by all consumers of the wholesale market;
- Replacement of Chaunskaya TPP is possible by allocation of additional funding for construction of TPP in the city of Pevek **without increasing RusHydro’s authorized share capital.**
Management’s recommendations for changes to the current dividend policy

- PJSC RusHydro takes into consideration the Board of Directors’ decision regarding dividend. The decree of the Government of the Russian Federation dated 18.04.2016 number 705-p sets the dividend payout ratio at 50% of the company’s IFRS net income.

- To improve predictability and consistency of forecasting dividend payments RusHydro may consider setting a minimal level dividend payout to the average amount of dividends paid over the last three years according to the formula:

\[
Div_{\text{min}} = \frac{(Div_{-3\text{year}} + Div_{-2\text{year}} + Div_{-1\text{year}})}{3}
\]

- Based on the current conditions, the optimal period for adopting the changes to dividend policy is three years.

<table>
<thead>
<tr>
<th>Company’s dividend history</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dividends paid, RUB dn</strong></td>
</tr>
<tr>
<td>2012</td>
</tr>
<tr>
<td>2013</td>
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<tr>
<td>2014</td>
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<td>2015</td>
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<td>2016</td>
</tr>
<tr>
<td>2017</td>
</tr>
<tr>
<td>2018</td>
</tr>
<tr>
<td>2019</td>
</tr>
</tbody>
</table>

(25% of IFRS net income) (50% of RAS net income) (50% of IFRS net income) (50% of IFRS net income) (50% of IFRS net income)
RusHydro Group’s operating results for 2018
RusHydro Group’s expected operating for 2019
Hydrological situation at the end of 2018

Boris Bogush
Management Board member,
First Deputy General Director - Chief Engineer
Operating results

- In 2018 RusHydro Group attained yet another record of production
- In 2019 given observed hydrological situation and long-run average inflows RusHydro group estimated production will reach 126-130 bn kW/h including 13.6 bn kW/h

<table>
<thead>
<tr>
<th>Electricity production, bn kWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPPs, RES</td>
</tr>
<tr>
<td>138.8</td>
</tr>
<tr>
<td>140.3</td>
</tr>
<tr>
<td>144.2</td>
</tr>
<tr>
<td>2016</td>
</tr>
<tr>
<td>2017</td>
</tr>
<tr>
<td>2018</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Electricity production in 2017/18 by quarters, bn kWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPPs, RES</td>
</tr>
<tr>
<td>32.3</td>
</tr>
<tr>
<td>34.7</td>
</tr>
<tr>
<td>38.9</td>
</tr>
<tr>
<td>38.9</td>
</tr>
<tr>
<td>34.8</td>
</tr>
<tr>
<td>36.4</td>
</tr>
<tr>
<td>35.2</td>
</tr>
<tr>
<td>34.3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome of efficient regime management, mn kW/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sayano-Shushenskaya HPP</td>
</tr>
<tr>
<td>2016</td>
</tr>
<tr>
<td>3,104.6</td>
</tr>
<tr>
<td>Sayano-Shushenskaya HPP</td>
</tr>
<tr>
<td>2016</td>
</tr>
<tr>
<td>25,484.2</td>
</tr>
<tr>
<td>Zhigulevskaya HPP</td>
</tr>
<tr>
<td>1990</td>
</tr>
<tr>
<td>12,525.4</td>
</tr>
<tr>
<td>HPPs of Sulaksky cascade</td>
</tr>
<tr>
<td>2013</td>
</tr>
<tr>
<td>597.2</td>
</tr>
</tbody>
</table>

Rational utilization of hydro resources due to:

- Optimization, jointly with the system operator and Federal Grid of schedule of repair of grid and generation equipment of Sayano-Shushenskaya HPP allowed approx. 250 mn kW/h of additional output by eliminating to minimize sterile spills in August, 2018.
- Flexible redistribution of automated regulation of frequency and active capacity reserves, allocated to HPPs of Volga-Kama cascade — additional output of 200 mn kW/h (reduction of sterile spills by 3.5 km³);
- Flexible adjustment jointly with the system operator and Rosvodresoursy (of HPPs regime during elevated inflows to reservoirs — 43 applications submitted, of which 34 accepted fully or partially;
- Work of all turbines of Zhigulevskaya HPP during spring flood with all turbines due to completion of modernization program. Capacity increase of 177.5 MW enabled additional output of 80 mn kW/h.

Electricity production in 2017/18 by quarters, bn kWh

- **New record of monthly output for the entire period of operations set**
  - Sayano-Shushenskaya HPP: 2017-2018, 3,492.5 mn kW/h
  - Zhigulevskaya HPP: 2013-2018, 670.2 mn kW/h

- **New record of annual output for the entire period of operations set**
  - Sayano-Shushenskaya HPP: 2017-2018, 26,017.9 bn kW/h

- **Third highest result for the entire period of operations, or record high in the history of modern Russia**
  - Zhigulevskaya HPP: 2017-2018, 12,525.4 bn kW/h
Inflows to reservoirs of Volga and Kama close to the long-run average. Spring flood in Volga basin extended in time. Overall flows during the April-June period was 153 km³ against the long-run average of 161 km³. Total output by RusHydro’s of Volga-Kama cascade for the flood period was 19% higher than the long-run average.

Inflows to reservoir of Sayano-Shushenskaya HPP close to long-run average. Most critical hydrological conditions were observed during the third decade of July-August (inflows in the third decade of July 148% of the long-run average, in August – 108% of the long-run average).

Inflows to Novosibirskaya HPP was 11% above the long-run average and slightly higher than during the same period of the previous year. Output by Novosibirskaya HPP also slightly higher than in the previous year.

Despite lower inflows to Zeiskoye reservoir higher than normal debits through the dam were provided in order to enable planned navigation of cargo ships.

Inflow to Bureyskoye reservoir, 5% lower than the long-run average, was volatile during summer. Due to full utilization of useful volume of the reservoir in summer, overlay of elevated debits of Bureyskaya HPP and Nizhne-Bureyskaya HPP and peak of Amur River flood was avoided. Safe regime of restoration and repair works on the spillway dam was provided.

Inflows to Kolymskoye reservoir were significantly (by 35%) higher than the long-run average. Increased inflow to the reservoir enabled filling up of Ust’-Srednekanskoye reservoir to the intermediary summer retaining level, allowing launch of the turbine #3 of Ust’-Srednekanskaya HPP with the regular runner.

Current usable volumes of water in the main reservoirs of RusHydro Group are close to the long-run average, guaranteeing required level of output during the autumn-winter periods of 2018-2019.
Measures aimed at increased efficiency of Sayano-Shushenskaya HPP regime

A number flood peaks took place at Sayano-Shushenskoye reservoir during the third decade of July-August 2018. Inflows in the third decade of July 148% of the long-run average, in August – 108% of the long-run average. Continuation of “as usual” regime would have led to intensive filling up of the reservoir and exhaustion of its free capacity.

**Targets for the flood period regimes**
- Safe operations of the hydropower facilities;
- Efficient utilization of the hydro resources.

**Implementation**
- Due to efficient interaction with the System Operator and Federal Grid timing for repair of the grid and generation equipment was changed.
- The System Operator established logistical and regime conditions in the Siberian United Power System, allowing for maximum utilization of up to 5000 MW of the HPP’s for a sustained period.

**Results**
- Required conditions of the hydropower facilities safety observed (filling up regime, filtration, radial displacement of the dam’s crest);
- Sterile spills during the floods have been avoided;
- Sayano-Shushenskaya HPP generated 3.49 kW/h in August, 2018 (absolute monthly output record).
Measures aimed at increased efficiency of HPPs of Sulaksky cascade

In August 2018 rain-driven floods on Sulaksky cascade overlaid with high water levels in Irganayskoye and Chirkeyskoye reservoirs, involved in seasonal regulation of the cascade.

**Targets for the flood period regimes**
- Efficient utilization of water resources avoiding sterile spills at Chirkeyskaya HPP.

**Implementation**
- Regime was developed jointly with the System Operator, providing for retaining of free capacity of the cascade reservoirs, in case additional capacity will be required for capturing waves of the flood.
- The System Operator established logistical and regime conditions in the United Power System of the South, enabling jointly developed regimes of the Sulak cascade HPPs.

**Results**
- Reservoirs were filled up to the normal retaining level; Rain-driven floods passed without sterile spills at Chirkeyskoye and Miatlinskoye reservoir.
- HPPs of the cascade produced 670.2 mn kW/h, in August of 2018, the record output since beginning of operations. In particular, Irganaiskaya HPP and Miatlinskaya HPP have registered record high output in August by (respectively 197 mn kW/h and 84 mn kW/h).
Hydrological situation in 2019

Draw-down of main reservoirs is expected to reach pre-flood levels, or close.

Water volumes in reservoirs of the main HPPs as of the end of second decade of February

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volg-Kama cascade</td>
<td>145%</td>
<td>96%</td>
</tr>
<tr>
<td>Sayano-Shushenskoye reservoir</td>
<td>94%</td>
<td>96%</td>
</tr>
<tr>
<td>Novosibirskoye reservoir</td>
<td>108%</td>
<td>92%</td>
</tr>
<tr>
<td>Zeyskoye reservoir</td>
<td>101%</td>
<td>88%</td>
</tr>
<tr>
<td>Bureyskoye reservoir</td>
<td>52%</td>
<td>61%</td>
</tr>
<tr>
<td>Kolymskoye reservoir</td>
<td>104%</td>
<td>94%</td>
</tr>
<tr>
<td>Viluyskoye reservoir</td>
<td>96%</td>
<td>95%</td>
</tr>
<tr>
<td>Chirkeyskoye reservoir</td>
<td>88%</td>
<td>115%</td>
</tr>
</tbody>
</table>

In January, inflows to most reservoirs on Kama and Volga were close to long-run average, or close to norm for this time of the year. Inflows to Gorkovskoye reservoir was 25% below long-run average and to Kuybyshevskoye – 70% higher than the long-run average. Total inflow to reservoir on Volga and Kama in January was 8.3 km³ (the long-run average is 7.1 km³).

Inflow to Chirkeyskaya HPP on Sulak river was 130% of the long-run average.

Inflow to Sayano-Shushenskoye reservoir in January 2019 was close to the long-run average, inflows to Novosibirskoye, Kolymskoye, Zeyskoye reservoirs were 20-40% above the long-run average.

Overall inflows to reservoirs of Volga and Kama in the first quarter of 2019 is expected close to the long-run average, with the exception of Kuybyshevskoye reservoir, where in inflow is expected to be 1.4-1.7 times higher, than the long-run average. Overall inflows to reservoirs of Volga and Kama in the first quarter is expected at the level of 21.9-27.9 km³ (the long-run average being 21.3 km³).

Inflows to most reservoirs in Siberia and the Far East expected at the level close to the long-run average, as well as on Sulak river are expected close to the long-run average or 10-20% above it. Inflows to Sayano-Shushenskoye and Kolymskoye reservoirs are expected to be higher than long-run average by 1.3-1.7 times.
Liquidation of landslide impact on Bureyskoye reservoir

On **11.12.2018** a mass of rock slid into Bureyskoye reservoir.

On **24.12.2018** first unofficial information on the landslide arrived.

On **25.12.2018** survey identified that the water level in the upper part of the reservoir due to the barrier formed by the landslide was 253.38 meters AMSL. The level difference in the region of barrier was 2.32 meters.

28.12.2018 session of interdepartmental working group devoted to regimes of Zeyskoye, Bureyskoye and Nizhne-Bureyskoye and reservoirs. Debits through Bureyskaya HPP was reduced.

22.01.2019 drilling and blasting operations begin. The first blast performed (10 tonnes of explosives).

01.02.2019 hydraulic connection across the barrier partially restored.

From **01.02.2019** to **11.02.2019** blasting and work of heavy earth-moving equipment continued aimed at expanding the canal continued.

12.02.2019 operation completed.

Restoration of the hydraulic connection between the two parts of Bureyskoye reservoir elevated risks of flooding of flooding of communities in Khabarovsky region (Chekunda settlement, Elga Station, station Ust-Urgal), as we as risk of flooding of Baikal-Amir Railroad. The winter regime of Bureyskaya HPP with elevated output restored.
Preliminary consolidated financial results of RusHydro Group for 2018

Interim results of implementation of operating efficiency improvement and cost reduction plan

RusHydro Group’s investment program for 2019 - 2023

Sergey Kirov
Management Board member,
First Deputy General Director
Preliminary IFRS consolidated financial results for 2018

**Positive factors:**
- Favorable operating results of HPPs in the first price zone;
- Increase in electricity production by RAO ES East Subgroup;
- Revenue increase on the back of tariffs and sales volume growth;
- Implementation of cost cutting program.

**Negative factors:**
- Fuel expenses growth of RAO ES East Subgroup.

### Revenue, RUB bn
- **2016:** 344.2
- **2017:** 348.1
- **2018F:** 359.3

### Expenses, RUB bn
- **2016:** 287.7
- **2017:** 300.0
- **2018F:** 315.9

### EBITDA, RUB bn
- **2016:** 97.8
- **2017:** 104.0
- **2018F:** 108.0

### EBITDA margin
- **2016:** 27.1%
- **2017:** 27.3%
- **2018F:** 27.0%

### EBITDA share by segments
- **2016:** PJSC RusHydro 73.0%, RAO ES East Subgroup 3.2%, ESC RusHydro Subgroup + Other 23.8%
- **2017:** PJSC RusHydro 73.6%, RAO ES East Subgroup 3.9%, ESC RusHydro Subgroup + Other 22.6%
- **2018F:** PJSC RusHydro 75.4%, RAO ES East Subgroup 2.9%, ESC RusHydro Subgroup + Other 21.7%
RusHydro’s operations on the wholesale electricity and capacity market

### Revenue by sector, RUB bn excl. VAT

- **2014:**
  - Average capacity price, RUB/MWh: 89.3
  - Production growth of HPPs.
  - Spot market power price increase in the first price zone.
  - Efficient usage of water resources.
  - Optimization of schedule of HPP operations within commercial dispatching.
  - Increase of HPP scheduled maintenance intervals from 180 to 270 days.

- **2015:**
  - Average capacity price, RUB/MWh: 92.0
  - Spot market power price increase in the first price zone.
  - Efficient usage of water resources.
  - Optimization of schedule of HPP operations within commercial dispatching.
  - Increase of HPP scheduled maintenance intervals from 180 to 270 days.

- **2016:**
  - Average capacity price, RUB/MWh: 22.4
  - Production growth of HPPs.

- **2017:**
  - Average capacity price, RUB/MWh: 22.7

- **2018:**
  - Average capacity price, RUB/MWh: 23.3
Interim results of operating efficiency and cost reduction for 2017 – 2018 (1)

**Optimization measures**

**OPERATING EXPENSES**

1. Optimization of SG&A expenses
   - Target for 2017-2021: 4.4
   - Preliminary result for 2017-2018: 3.1 (70.4%)

2. Optimization of specific repair and maintenance expenses
   - Preliminary result for 2017-2018: 2.2 (89.7%)

3. Optimization of specific fuel expenses
   - Preliminary result for 2017-2018: 1.9 (46.7%)

4. Optimization of transportation expenses
   - Preliminary result for 2017-2018: 0.6 (100%)

5. Optimization and development of centralized supply system (2)
   - Preliminary result for 2017-2018: 4.5 (129.3%)

**TOTAL**

- Target for 2017-2021: 15.1
- Preliminary result for 2017-2018: 12.4 (82%)

**INVESTMENT**

1. Increase replacement age of hydropower units in good working order
   - Preliminary result for 2017-2018: 12.3

2. Reduction of expenses by unification of contracts with suppliers and contractors
   - Preliminary result for 2017-2018: 11.7

**TOTAL**

- Preliminary result for 2017-2018: 23.9

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(1) Based on the independent audit of the Group and its subsidiaries’ expenses
(2) Total economic effect from purchase of goods and services in the period 2017 – 2018 was over RUB 30 bn
RusHydro’s investment program for the period of 2019 – 2023, RUB bn (incl. VAT)

The Group’s investment program for the period of 2019 - 2023 includes **commissioning over 1.4 GW of new electric capacity, 565 Gcal/h of heat capacity** as well as construction and modernization of **over 130 km of heat and 7.6 thousand km of power lines**

### Commissioning of capacity 2019 – 2023

<table>
<thead>
<tr>
<th>Electric capacity</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ 346 MW</td>
<td>23.5</td>
<td>30.5</td>
<td>30.5</td>
<td>20.4</td>
<td>20.7</td>
</tr>
<tr>
<td>Zaramagskaya HPP</td>
<td>4.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(DPM)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 320 MW</td>
<td>22.3</td>
<td>26.9</td>
<td>26.4</td>
<td>25.1</td>
<td></td>
</tr>
<tr>
<td>Nizhne-Bureyskaya</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 259.5 MW</td>
<td>120</td>
<td>27.7</td>
<td>26.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ust-Srednekanskaya</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPP (1)</td>
<td>47.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 163.7 MW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modernization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 126 MW</td>
<td>26.1</td>
<td>27.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHP in city of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sovetskaya Gavan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 120 MW</td>
<td>9.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sakhalinskaya GRES-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 70.5 MW</td>
<td>2.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small HPPs (DPM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for renewables)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 38.2 MW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Heat capacity

<table>
<thead>
<tr>
<th>Heat capacity</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ 300 Gcal/h</td>
<td>26.1</td>
<td>27.7</td>
<td>26.9</td>
<td>26.4</td>
<td>25.1</td>
</tr>
<tr>
<td>– Peaking boiler plant at Yakutskaya GRES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 200 Gcal/h</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– CHP in city of Sovetskaya Gavan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 65 Gcal/h</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Investment program for 2019 – 2023, RUB bn (incl. VAT)

- **Other** (2)
- **Far East subsidiaries**
- **New construction (HPP/PSHPP)**
- **Priority thermal projects in the Far East**
- **Rehabilitation and modernization of HPPs**

(1) Hydropower unit #4 and runners
(2) Investment programs of retail subsidiaries, other subsidiaries and R&D
Optimizing preparation of IFRS reporting

**Accounting of PPE at historic costs**

- **Better comparability.** Accounting at initial cost better corresponds to practice, adopted in the Russian electric utilities industry.
- **Increased predictability of financial results.** The accounting model, based on assets revaluation is sensitive to short-term assumptions and can lead to high volatility of financial results.
- **20% Reduction of RusHydro Group** fixed assets and net assets value against assets revaluation model.
- **Reduction of annual depreciation of fixed assets** with respective profit increase.

  *Status: completed, reflected in 2018 IFRS accounts*

**Single service center**

- **Feasibility study** for transition to accounting via a Single service center
- **Increased transparency of accounting** on the Group level and level of each subsidiary
- **Reduced** accounting and audit cost

  *Status: preparation of the feasibility study*

**Tax monitoring**

- **Risk-oriented approach.** More reliable internal control system, verified by the tax authorities-less often taxation audits and less costs.
- **Official recognition of the company as reliable and responsible taxpayer.**
- **Reduced fines based** on rulings by tax authorities.

  *Status: preparatory phase*
Key factors of RusHydro Group value growth

Long-term tariff regulation in United Energy System of the East

George Rizhinashvili
Management Board member,
First Deputy General Director
No mandatory buy-back of shares from VTB Bank by RusHydro ("put")

Dividends paid to VTB will be netted against quarterly interest payments

Potential additional income for RusHydro in case of further sale of the stake at a price above RUB 55 bn

Option of early settlement before expiration of the 5-year term

Review of the forward rate along inline with CBR key rate

Requirement of Gov’t approval of sale of VTB Bank stake to strategic investor

The fair value of forward capitalized at initial recognition is not a subject to change

**Overview of forward contract with VTB**

1. **RusHydro** → **VTB**
   - RUB 55 bn
   - 55 bn shares
   - 5-year non-deliverable forward contract

2. **RusHydro** → **VTB**
   - Cash
   - Shares
   - Strategic investor (s)

* Direction of the settlement depends on the sale price and is calculated as the difference between forward and sale prices

**Significant volume of RusHydro’s potential liabilities will be covered by third party investors via sale of RusHydro’s shares and dividend paid to VTB**

**The transaction creates strong long-term incentives for the management to maximize company value in the interest if all shareholders**

**Funds raised via the forward contract transaction were used for repayment of external debt of RAO ES East Subgroup companies, allowing to significantly reduce consolidated debt of RusHydro Group.**

---

**7.59%**
- Current effective forward rate

**-0.09 p.p.**
- Reduction of average rate of RusHydro Group debt portfolio due to the forward contract (1)

**1.82 RUB bn**
- Effect from reduced payments to the Bank due to reduction of the CBR’s key rate 2017

**>RUB 5.8bn**
- Expected effect from reduced payments to the Bank due to reduction of the CBR’s key rate for 5 years

---

(1) As of 14.12.2018
Key factors of RusHydro Group value growth plan (1)

On October 27, 2017, the Board of Directors approved the value growth plan of RusHydro Group through 2021 and commissioned the Management Board to prepare necessary applications to the Government of the Russian Federation for organization of measures in support of the Plan, as well as draft regulations aimed at introduction of long-term tariffs and return on investment principles.

- Increase in company transparency and improved corporate governance quality;
- Ensuring sustainably high and predictable dividend;
- Increased liquidity of local shares and depositary receipts, weight increase of RusHydro’s shares in key indices;
- Diversification of shareholder base;
- Increased profile for international financial audiences;
- Compliance with sustainable development criteria.

Changing tariff system in the Far East Federal District with the view to establish long-term tariff regulation for operating facilities, providing economically justified tariffs, enabling return on invested capital, as well as amending regulation in order to include lost income in the tariffs.

(1) Factors estimate as at 2017.
(2) Measures, aimed at improved energy efficiency and optimization of subsidiaries’ activity.
Change of tariff formation in the Far East power system remains a strategic priority

A draft Decree of the Government of the Russian Federation is prepared, providing for change in system of tariff formation with the view to introduce long-term tariffs for operating power plants, accounting for actual fuel costs borne by electric utilities companies.

<table>
<thead>
<tr>
<th>Long-term regulation period</th>
<th>≥ 5 years</th>
</tr>
</thead>
</table>
| Parameter of long-term regulation reflect: | ✓ Base level of operating expenses
| | ✓ Efficiency index of operating expenses ( «X» factor )
| | ✓ Energy efficiency indices

Currently regulatory impact of the project is being analyzed and opinion of Ministry of Justice is being prepared. In order to revise tariffs as of July 2019 it is desirable to accelerate submission of the draft to the Government of the Russian Federation.
Financial policy and debt portfolio of RusHydro Group

Corporate Governance

Divestment of non-core assets

Andrei Kazachenkov
Management Board member,
First Deputy General Director
RusHydro – a high credit quality company

✓ Accepted leverage limit set by the management is net debt/EBITDA of 2.0x (expected ratio as of 31.12.2018 – 1,2x(1))
✓ Balanced and diversified debt structure (loans from banks, development institutions, domestic bonds and Eurobonds) 98% of the debt portfolio RUB-denominated(2), 91% of debt bears fixed interest rate)
✓ Divestment of non-core assets as an additional source of funding – over RUB 32 bn for 2016 – 2018.
✓ Comprehensive insurance according to the industry’s best practices – insurance of property and third-party liability with limits up to 46.6 and 35.5 RUB bn, respectively as well as Business Interruption Insurance in regards to capacity sales (3)

✓ Active participation in international capital markets – in 2017 – 2018 the company had 3 successful Eurobond placements for RUB 55 bn and a debut placement of dim-sum bonds for CNH 1.5 bn
✓ Formation of a pool of quality institutional investors from Europe and Asia
✓ Subsidized funding from Fund of Far East Development to finance infrastructure projects in the Far East – RUB 5 bn for 5% p.a. maturing in 2026
✓ No material assets as collateral under loan agreements

The Group’s balanced credit policy along with solid financial results over the last three years allowed its credit portfolio reach a new level:
✓ For the first time in the company’s history RusHydro’s ratings have been confirmed by international rating agencies S&P/Moody’s/Fitch at investment grade level (BBB- / Baa3 / BBB-)
✓ RusHydro’s highest rating on a national scale is confirmed by ACRA («AAA(RU)»)

(1) Expected 2018 IFRS result. Net debt is calculated as gross debt minus cash & cash equivalents (including bank deposits maturing in less than one year)
(2) Including hedging renminbi Eurobonds
(3) Interruptions in operations of hydropower units over 100 MW
Debt portfolio structure and dynamics

As of 31.01.2019

- RusHydro Group’s total financial debt amount to RUB 226 bn
- Average borrowing rate in local currency - 8% p.a.\(^{(3)}\)
- Average maturity - 2.7 years\(^{(3)}\)
- Minimal foreign currency and interest rate risks

RusHydro Group’s total financial debt amount to RUB 226 bn

Average borrowing rate in local currency - 8% p.a.\(^{(3)}\)

Average maturity - 2.7 years\(^{(3)}\)

Minimal foreign currency and interest rate risks

Current year marks the commencement of RusHydro Single treasury project, a transition to centralized consolidated liquidity management in order to optimize leverage

Comfortable repayment schedule, RUB bn\(^{(4)}\)

<table>
<thead>
<tr>
<th>Year</th>
<th>Debt, RUB bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>32.8</td>
</tr>
<tr>
<td>2020</td>
<td>58.1</td>
</tr>
<tr>
<td>2021</td>
<td>36.0</td>
</tr>
<tr>
<td>2022</td>
<td>36.4</td>
</tr>
<tr>
<td>2023</td>
<td>4.5</td>
</tr>
<tr>
<td>2024</td>
<td>1.3</td>
</tr>
<tr>
<td>2025-2041</td>
<td>25.0</td>
</tr>
</tbody>
</table>

Debt dynamics, RUB bn\(^{(1)}\)

<table>
<thead>
<tr>
<th>Year</th>
<th>Debt, RUB bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>221.9</td>
</tr>
<tr>
<td>2016</td>
<td>223.5</td>
</tr>
<tr>
<td>2017</td>
<td>213.2</td>
</tr>
<tr>
<td>2020</td>
<td>194.6</td>
</tr>
<tr>
<td>2025-2041</td>
<td>124.8</td>
</tr>
</tbody>
</table>

Funding sources\(^{(3)}\)

- Loans and borrowings
- Eurobonds
- Domestic bonds
- Liability under forward contract with VTB Bank

- Actual data based on reported IFRS results
- LTM EBITDA – IFRS EBITDA result for the last 12 months.
- Excluding interest, forward expenses and lease payments
RusHydro – an active player on the international capital markets

- In September 2017, RusHydro has returned to international capital markets and in 2018 the company had three successful placements – two denominated in rubles and a debut placement denominated in renminbi.
- Successful placement of dim sum bonds serves as an **indicator of trust** by international investors in the company as a **reliable borrower**.
- **Increased demand** by investors from Asia-Pacific region further signifies their interest to participate in implementation of **RusHydro’s strategic projects aimed at developing Russian Far East’s power sector**.

### Eurobond issues:

<table>
<thead>
<tr>
<th>Placement date</th>
<th>September 2017</th>
<th>February 2018</th>
<th>November 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Placement date</strong></td>
<td>28/09/2017</td>
<td>15/02/2018</td>
<td>21/11/2018</td>
</tr>
<tr>
<td><strong>Amount</strong></td>
<td>RUB 20 bn</td>
<td>RUB 20 bn</td>
<td>CNH 1.5 bn</td>
</tr>
<tr>
<td><strong>Coupon rate</strong></td>
<td>8.125%</td>
<td>7.4%</td>
<td>6.125%</td>
</tr>
<tr>
<td><strong>Maturity</strong></td>
<td>5 years</td>
<td>3 years</td>
<td>3 years</td>
</tr>
<tr>
<td><strong>Listing</strong></td>
<td>Euronext Dublin</td>
<td>Euronext Dublin</td>
<td>Euronext Dublin</td>
</tr>
<tr>
<td><strong>Share of investors from Asia-Pacific region</strong></td>
<td>41%</td>
<td>56%</td>
<td>82%</td>
</tr>
</tbody>
</table>

- **Broad investor base on international capital markets has been formed**.
- **Successful entrance to the Asian markets** – new potential sources of financing identified to implement modernization program of thermal generation under DPM contract in the Far Eastern Federal District.
- **Sources of funding on the local bond market as well as bank loans remain as an option**.
Corporate governance and ratings

Corporate governance rating (the highest National Corporate Governance Rating among participants (1))

RusHydro ranks among the top 10 companies in corporate governance rating (2018)

RusHydro is among the leaders in the index Transparency and accountability (2018)

Independent rating: The Board of Directors has a strong set of skills and competencies as well as knowledge and leadership qualities

RusHydro ranks among the top 10 companies in corporate governance rating (2018)

For the first time RusHydro is a constituent of FTSE Russell index (corporate governance score 4.5 out of 5) (2018)

Bloomberg

RusHydro scores above average among utilities companies in Bloomberg ESG rating in 2019

ISS

ISS ranks RusHydro’s corporate governance risks (Governance QualityScore) on the score of 4 out 10 (reverse scale) (2019)

RusHydro is among the top 3 most transparent utilities companies (2018)

RusHydro received the highest score for annual report among Russian corporates (2018)

Rendering of Russian Corporate Governance Code, %

(Central Bank of Russia method)

<table>
<thead>
<tr>
<th>Year</th>
<th>Completed</th>
<th>Partially completed</th>
<th>Not completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>38%</td>
<td>13%</td>
<td>50%</td>
</tr>
<tr>
<td>2016</td>
<td>49%</td>
<td>29%</td>
<td>22%</td>
</tr>
<tr>
<td>2017</td>
<td>63%</td>
<td>8%</td>
<td>3%</td>
</tr>
<tr>
<td>2018</td>
<td>73%</td>
<td>4%</td>
<td>4%</td>
</tr>
</tbody>
</table>

(1) apart from RusHydro, the same rating was awarded to Alrosa, Sistema, Sberbank and Transcontainer.
Divestment of non-core assets has attained a new level

Results of activities

2018

18.7\(^{(1)}\) RUB bn.
Revenue from divestment of non-core assets
(116 assets sold)

by 15%

2016-2018

32 RUB bn.
Revenue from divestment of non-core assets
(475 assets sold)

by 23%

RusHydro Group’s structure has been optimized
(reduction of controlled organizations from 104 to 89)

Number of assets divested

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>82</td>
<td>63</td>
<td>210</td>
<td>149</td>
<td>116</td>
</tr>
</tbody>
</table>

Number of controlled organizations

<table>
<thead>
<tr>
<th>Date</th>
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<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.12.2014</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31.12.2015</td>
<td>116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31.12.2016</td>
<td>109</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31.12.2017</td>
<td>104</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31.12.2018</td>
<td>89</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Roadmap for upcoming periods

- In 2019 RusHydro divested its 40% share in VolgaHydro
- In 2019 over 100 non-core assets are planned for sale, four companies are on schedule for liquidation and three companies will be reorganized in Kamchatka Krai
- Majority of non-core assets will be divested in the course of two years

(1) Including PJSC Inter RAO shares, JSC NPF Elektroenergetiki, minority shares in other companies, residential properties and hard to sell assets located in remote parts of Russia.
Thomson Reuters Extel 2011:
No.1 IR Team in Russian Utilities

Thomson Reuters Extel 2012:
No.1 IR Team in Russian Utilities
Best CFO, mid-cap (Russia), #1
Best IRO, mid-cap (Russia), #2
Best overall IR, mid-cap (Russia), #3

Thomson Reuters Extel 2013:
- No.1 IR Team in Russian Utilities
- Best CFO, mid-cap (Russia), #1
- Best IRO, mid-cap (Russia), #2
- Best overall IR, mid-cap (Russia), #3

Thomson Reuters Extel 2014:
- No.1 IR Team in Russian Utilities
- Best IRO, Russian Utilities

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ir@rushydro.ru