Hydropower facilities as a tool for effective management of water resources

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More than 600 generation facilities in 31 regions of the Russian Federation

**KEY OPERATING PERFORMANCE INDICATORS OF RUSHYDRO GROUP FOR 2022**

(According to the annual report)

- **Power generation**: 135.7 Bln kWh
- **Heat release**: 29.8 Million Gcal
- **Total number of employees**: 65.8 K
- **HPP & PSPP**: 69
- **TPP**: 32
- **renewable energy facilities (except for HPP)**: 32
- **Sales companies**: 3
- **Electrical networks**: 109.9 ths km
- **Heating networks**: 6.5 ths km
- **Installed capacity**: GW 38.4
- **Revenue**: 468.5 Bln RUB
- **EBITDA**: 91.6 Bln RUB

**Regions**

- **The European part of Russia**
  - Hydroelectric power plants
- **Siberia**
  - Hydroelectric power plants
  - Thermal electric power plants
  - Solar and Wind power plants
- **Far East**
  - Hydroelectric power plants
  - Heat power plants
  - Solar and Wind power plants
  - Geothermal stations

**Networks**

- **Hydropower**
- **Heat power plants**
- **Solar and Wind power plants**
- **Geothermal stations**

**Electrical networks**

- **Siberia**
  - Hydroelectric power plants
  - Solar and Wind power plants
  - Geothermal stations

**Heating networks**

- **Siberia**
  - Hydroelectric power plants
  - Solar and Wind power plants
  - Geothermal stations
RUSHYDRO’S CONTRIBUTION TO ACHIEVING THE SUSTAINABLE DEVELOPMENT GOALS

Sustainable Development Goals developed in 2015 by the UN General Assembly

Achieving the SDGs within the framework of the operational activities of the RusHydro Group

1. Life on land
2. Zero hunger
3. Good health and well-being
4. Quality education
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, innovation and infrastructure
10. Reduced inequalities
11. Sustainable cities and communities
12. Responsible consumption and production
13. Life below water
14. Life on land
15. Peace and justice, strong institutions
16. Partnerships for the goals
17. Promote inclusive and sustainable industrialization

More than 65,000 employees are employed at the Group’s enterprises. The average salary – 89,541 rubles, exceeds the salary in 31 regions of presence. Collective agreements apply to 93.6% of employee

Modernization of the energy complex of the Far East is carried out with the use of modern technologies and renewable energy sources (HPP, GeoES, SES, WPP)

There were built and put into operation 1,527.5 km of Power lines on the territory of the Far East. There were concluded 23,4 thousand technological connection contracts/

The strategy of RusHydro sets the goal of “Sustainable low-carbon development of electricity production” and sets targets for reducing CO2 emissions by 9% with a perspective until 2035

There is maintaining health and promotion of a healthy lifestyle. The number of RusHydro Group employees was 78%, who have been fully vaccinated at the end of 2021

There is a continuous improvement of the level of professional knowledge of employees. It is carried out on the basis of its own Corporate University of Hydropower in cooperation with leading Universities of the Russian Federation

There are 35 hydroelectric power plants in the RusHydro Group, whose reservoirs are accumulators of strategic fresh water reserves and meet the needs of drinking industrial and agricultural water supply

The value of the installed capacity of the RusHydro Group’s renewable energy generation facilities is 31 GW. Every 4 out of 5 kWh are generated by generation facilities based on renewable energy sources (HPP, NPP, SES, WPP)

The strategy of RusHydro sets the goal of “Sustainable low-carbon development of electricity production” and sets targets for reducing CO2 emissions by 9% with a perspective until 2035
The system for assessing the compliance of operated hydropower facilities with the criteria of sustainable development

Structure of assessment criteria

Total: 367 criteria

Assessment criteria are structured in three areas of ESG (Environmental, Social, Governance)

The main criteria contained in international standards, requirements of rating agencies, methods and assessment systems, including those of the International Hydropower Association (IHA) were taken into account*

Supplemented with industry-specific requirements of Russian statutory and regulatory enactments

The System for assessing was tested at 6 hydropower facilities that differ in their parameters.

139 criteria

- Rational use of water resources:
- Erosion and sedimentation:
- Waste:
- Biodiversity:
- Air quality and physical impact:
- Climate change and energy efficiency.

171 criteria

- Compliance with the rights of workers;
- Personnel Safety and Health;
- Infrastructure safety, reliability and integrity management;
- Interaction and consultation with stakeholders;
- Risks and additional benefits for local communities and indigenous peoples;
- Cultural heritage.

57 criteria

- Corporate governance;
- Financial sustainability;
- Management strategy & systems.

* Consolidation and formation of a preliminary list of criteria, including more than 500 items. Combining similar criteria from different sources and eliminating criteria that do not apply to operating hydropower facilities.
An example of a profile obtained from the results of an assessment of HPP / PSPP for compliance with sustainable development criteria.

Testing the system of assessing the compliance of operational hydropower facilities with sustainable development criteria.

Conclusions based on the results of the testing:

- The methodology for assessing the hydropower facilities SD can improve the quality of the country’s hydro resources management and become the best industry practice in the Russian Federation, thereby contributing to the achievement of the SDG-6;
- The criteria of the evaluation sheets showed high applicability for assessing the compliance of operated HPPs with SD criteria and made it possible to improve it.