

Restoration of disturbed lands

The preserved and restored habitats by RAO ES East Subgroup ^[304-3]

Controlled companies	PJSC DGK	PJSC Magadanenergo	PJSC Sakhalinenergo	PJSC Chukotenergo	JSC LUR	Total
01.01.2017						
Total disturbed land, ha	2,267.92	272.0	257.64	175.48	3,932.39	6,905.43
including:						
Processed disturbed land, ha	59.00	51.00	3.22	0.00	24.39	137.61
Stored topsoil, thousand m ³	287.48	0.00	0.00	0.00	578.78	866.26
For 2017						
Total disturbed land, ha	32.60	0.00	0.08	0.00	94.80	127.98
Total processed disturbed land, ha	0.00	0.00	0.08	0.00	0.00	0.08
Total re-soiled land, ha	0.00	0.00	0.08	0.00	0.00	0.08
31.12.2017						
Total disturbed land, ha	2,300.52	272.00	257.64	175.48	4,027.19	7,033.33
Total processed land, ha	75.10	51.00	3.22	0.00	24.39	153.71
Stored topsoil, thousand m ³	287.48	0.00	0.00	0.00	578.78	866.26
Location	Far Eastern Federal District					



RENEWABLE ENERGY SOURCES¹

The Group considers the use of traditional and alternative renewable energy sources (RES) as its priority and steadily increases the installed generation capacity through the construction of new hydroelectric power stations and the commissioning of new power generating capacities.

RusHydro was one of the first companies in Russia to develop projects based on renewable energy sources. One of the tasks of the Innovation Development Programme of RusHydro Group for 2016-2020, with the prospect of prolonging it through 2025, is to increase energy efficiency through the use of alternative renewable energy sources.

RusHydro Group is engaged in wind, solar, and geothermal energy. Most of these projects are located in isolated areas that are not part of the unified energy system.

Over the past five years, in Yakutia, the Group has launched 19 solar stations with a capacity of 1.6 MW and three wind power plants with a capacity of 2.2 MW. The total volume of investments in the projects amounted to 895.63 million rubles, the annual planned savings of diesel fuel - 1,580 tonnes per year.

Due to the peculiarities of each settlement, all projects under implementation are individual, including the northernmost solar power plant in the village of Batagay with a capacity of 1 MW. As part of the research and development activities, RusHydro Group developed its own models of wind-diesel and solar-diesel complexes, tested various equipment options, including power storage, for use in isolated power districts.

¹ Here, RES is all renewable energy sources, except hydropower.

RusHydro is actively engaged in the development of small hydropower, which is important for remote, hard-to-reach and energy-deficient regions and local water supply for small towns and settlements.

Small HPPs are environmentally friendly, as well as a number of additional effects, such as the possibility of the accumulation and the subsequent use of drinking water.

RES projects in Republic of Sakha (Yakutia)



SUN

Project	Capacity, kW
SPP-50 kW in Sebyan-Kuel village Kobyaysky ES	50
SPP-50 kW in Orto-Balagan village, Oymyakonsky ES	50

2017 results

Facilities put into operation



WIND

Project	Capacity, kW
WPP-900 kW in Tiksi village, Bulun region	900

2017 results

The design of the wind farm foundations is completed, the construction started

2018 plan

Delivery and installation of wind turbines, commissioning of the WPP facility

In 2017, during the Eastern Economic Forum, Japanese Agency for the Development of New Energy and Industrial Technology Development Organisation (NEDO), the Government of the Sakha (Yakutia) Republic and PJSC RusHydro signed a memorandum of understanding to build a 900 kW wind generation project in the village of Tiksi in order to develop energy infrastructure. It will work jointly with a 3 MW diesel power plant and an energy storage system managed by Automated Control System to optimise the operation of the wind-diesel complex.