

RENEWABLE ENERGY SOURCES

Renewable energy sources (RES) are types of energy that are continuously renewable in the Earth's biosphere: solar energy, water energy (tidal and river energy), wind, biomass, biogas, and geothermal energy.



The global energy market is undergoing an important transformation phase. The successful development of RES technologies and their growing competitiveness contribute to the active use of a low-carbon model to support the vital activities of humankind.

The changing structure of energy production is forcing the oil and gas business to change as well. When diversifying their businesses, oil and gas companies rely on their unique experience in onshore and offshore drilling, oil and gas processing, transportation and installation operations, and trading operations. Oil and gas companies are expanding the scope of renewable energy by developing their own expertise, purchasing core assets, and engaging in cooperation with leading suppliers of technological equipment and project developers. In keeping up with this trend, Zarubezhneft is also looking at participating in RES projects.

Over the long history of its successful projects, the Company has accumulated vast experience in communicating with the leadership of developing countries that are currently seeking to develop RES on their territories.

Knowing the potential of renewable energy sources in the future and its growing competitiveness in relation to fossil fuels, in March 2019, the Zarubezhneft Board of Directors considered the development of renewable energy projects (Minutes No. 165 dated March 27, 2019) and, already in June of the same year, established a new Renewable Energy Source Development Department (RESDD).

The main task of the Company's new structural unit is the phased development of its own expertise as a related business, which will be an additional factor in enhancing the stability of its own structures.

During the preparatory stage of developing RES, the Company conducted an assessment of more than 40 RES projects (SPP, WPP, and SHPP¹) in various countries, such as Vietnam, India, Turkey, Nicaragua, Russia, Bosnia and Herzegovina, Egypt, and Spain, among others, and identified the main focuses and provisions for the future development of RES in ZARUBEZHNEFT GROUP:

- ▶ During the first stage (2021–2024), the Company positions itself as a 'Financial Investor' and is ready, together with a financially reliable qualified investor, to enter the RES markets mainly in the regions where it currently operates. During the first stage, the Company plans to establish terms of reference and develop the appropriate expertise for the transition to the second stage of development.
- ▶ During the second stage (until 2030), the Company will be a 'Strategic Investor' and handle the operational management of the renewable energy projects portfolio that it creates.

The Company has conducted a lot of preparatory work on the detailed study and implementation of projects for the use of wind energy and solar energy for its own needs:

- ▶ Zarubezhneft carried out a full range of work in cooperation with Brod Refinery to select a contractor and support the design, construction, and commissioning of a rooftop solar power plant with capacity of 964 kW on the territory of the Brod Refinery; the SPP was put into operation in December 2020

¹ SPP – solar power plants, WPP – wind power plants, and SHPP – small hydroelectric power plants.

- ▶ The Company decided to build a solar power plant to supply power to the Pashkinsk field
- ▶ The Group is considering the possibility of building renewable energy facilities to supply power to the facilities of Orenburgnefteotdacha (Kirsanovskoye field), JC RUSVIETPETRO and ZARUBEZHNEFT-Dobycha Kharyaga
- ▶ Zarubezhneft continues to mull the possibility of using renewable energy sources for its own needs at production facilities in the Russian Federation, Vietnam, Bosnia and Herzegovina, and Uzbekistan

In 2020, the Company drafted and approved the Basic Provisions of the Functional Strategy of RES, which will serve as the foundation for updating the corporate development strategy of Zarubezhneft in 2021 as regards RES.

A base of renewable energy technologies and partners has been formed as part of the search for new renewable energy projects. The Company signed Memorandum of Understanding No. 54-435/20 with Gubkin Russian State University of Oil and Gas in September 2020 in order to organize joint work on the development of the Competence Center.

These projects will improve the Company's energy efficiency and mitigate its environmental impact by cutting CO2 emissions by an estimated more than 10,000 tons each year.

An analysis of the effectiveness of existing processes developed the following main criteria for choosing partners for promising cooperation:

- ▶ Experience in working with RES
- ▶ Financial position
- ▶ Work experience in the country of the project's implementation
- ▶ Availability of unique expertise
- ▶ Experience working with ZN
- ▶ Form of incorporation

Development prospects

In order to further develop RES at ZARUBEZHNEFT GROUP, work will continue in 2021 to assess the feasibility of using wind and solar power for the internal needs of the Group's subsidiaries. Orenburgnefteotdacha plans to implement a SPP project for its Pashkinskoye and Kirsanovskoye fields and study options for the construction of a SPP with capacity of up to 1.5 MW as part of ongoing state support for renewable energy projects with priority siting at the Brod Refinery or other sections in Bosnia and Herzegovina.

Work will continue to further develop the Alternative Energy Center of Competence based at the Corporate Center, and the main provisions of the strategy for the use of electric transport at ZARUBEZHNEFT GROUP will also be drafted as part of the formation of the Group's corporate development strategy with:

- ▶ An analysis of existing and promising markets for the supply of electric vehicles for the internal needs of Zarubezhneft
- ▶ An assessment of technological and economic efficiency
- ▶ The drafting of the main provisions of the standard for the purchase and use of electric vehicles

The Company will also continue work to search for and assess the feasibility of participating in major network RES projects in the countries where it operates and in second priority countries, which include selected countries for the expansion of the core business — Algeria, Egypt, Iraq, Kazakhstan, and India.