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# The blades rest on the ground

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## Trends

Will there be wind power plants in the Krasnodar Territory?

*Andrey Ulchenko*



According to market participants, Kuban is promising in terms of investment in wind energy

Photo: Kristina Kormilitsyna, Kommersant

**While in Kuban they are talking about the construction of wind power plants (WPP), a similar facility with a capacity of 150 MW is already being built in Adygea. Two investors JSC Novavind (part of Rosatom) and the Spanish Elawan Energy are studying sites for wind farms in the Temryuk and Yeisk regions and collecting permits. The total investment of the**

two companies in the Kuban electric power industry is expected to amount to 28 billion rubles. As Novavind noted, the Krasnodar Territory has “typical problems when resolving issues related to registration of land plots, as well as the possibility, cost and timing of technological connection of generation facilities to electrical networks.”

## Two investors

JSC Novavind is ready to invest 20.5 billion rubles in wind power plants in Kuban. Sites located in the Temryuk and Yeisk regions are being considered as sites for the construction of wind farms. The estimated total capacity of the power plants will be 200 MW. “At selected sites, wind potential is measured and initial permitting documentation is collected. At the site in the Temryuk region, surveys are being carried out, land plots are being registered and other activities necessary to organize the construction of a wind farm are being carried out,” the company commented to ER. Novavind refused to tell where exactly the wind farms will be located, citing commercial secrets.

According to SPARK-Interfax (<http://www.spark-interfax.ru>) , Novavind JSC was registered in Moscow in September 2017. The company is part of the Rosatom state corporation and is 100% owned by Atomenergoprom JSC. The authorized capital of the organization is 1.1 billion rubles.

In November, the management of another energy holding, the Spanish Elawan Energy, visited Kuban. According to a source in the regional administration, company representatives approved the land plot for the construction of a wind farm. It is planned that the facility will be built in the village of Beregovoï,

Zaporozhye rural settlement, Temryuk district. According to preliminary data, up to 30 wind power plants with a total capacity of 90 MW will appear here, according to the website of the district administration. The investment amount will be more than 7.5 billion rubles. The wind farm is scheduled to be put into operation in 2020. The main investor of the project is Elawan Energy. The Spanish company is implementing four projects in Russia - in Kaluga, St. Petersburg, Togliatti and the Krasnodar Territory. It also operates wind farms with a total capacity of 1,200 MW in the USA, Brazil, Mexico, Spain, Belgium, Poland, Turkey and other countries.

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The co-investor of the project, as well as the technical consultant of the Spanish company, is CJSC Wind Generating Company (VGK). For two years, professional wind measurements were carried out at the site in the Temryuk region - the technical and economic feasibility of the construction of the wind farm was confirmed, the company's general director Alexey Rudakov told ER. "The last meeting between government officials and the investor was positive: the leadership of the regional administration expressed their readiness to continue supporting the project and full support in its implementation," he said.

According to Mr. Rudakov, a scheme for the distribution of electrical power has already been developed, agreed with the relevant departments, and permission has also been received from the Federal Air Transport Agency to locate a wind farm from the point of view of aviation safety.

According to SPARK-Interfax, VGK was registered in 2011 in Moscow, the company is owned by private individuals, their names are not indicated. The authorized capital is 3 million rubles, the average number of employees of the company is two people. Sales revenue in 2017 amounted to 500 thousand rubles, loss - 1.7 million rubles. Accounts payable in 2017 increased from RUB 1.9 million. up to 4.7 million rubles.

## **Energy shortage to help**

According to market participants, Kuban is promising in terms of investment in wind energy. "Taking into account the fact that there is no electricity generation on the Taman Peninsula, and transit lines to Crimea do not solve the issues of power supply to the Temryuk region, of course, this electricity generation will have both an economic and social effect. For example, the electricity generated during the year from our wind farm will be enough to cover the annual energy consumption of a city like Temryuk with a population of 40 thousand," said Alexey Rudakov. JSC Novawind also agrees with this. "In our opinion, the Krasnodar region has a high level of wind potential and is also energy-scarce, which creates the preconditions for the active development of wind generation," the company reported.

However, already at the initial stage, Novavind was faced with problems inherent in Russian regions: “Krasnodar Territory is a region with extensive experience in implementing major investment projects, however, Kuban also has typical problems when resolving issues related to registration of land plots, as well as opportunities, costs and deadlines for the implementation of technological connection of generation facilities to electrical networks. All these issues are routinely resolved by our company’s specialists with the assistance of regional authorities within the framework of the current legislation of the Russian Federation and the Krasnodar Territory,” the company explained to ER.

## **Adygea bypasses Kuban**

Meanwhile, the Novowind company is already implementing an investment project for the construction of a wind farm in the neighboring Republic of Adygea. JSC VetroOGK (part of JSC Novavind) in July 2018 received permission to build a facility with a total capacity of 150 MW. The completion of construction was scheduled for December, but a natural disaster interfered with the plans of the power engineers. At the end of October, an emergency situation was declared on the territory of Adygea, caused by abnormal amounts of precipitation, which led to the flooding of a number of areas.



Reducing the cost of producing electricity based on renewable sources is a global trend

Photo: Oleg Kharseev, Kommersant

The Kommersant newspaper reported that on October 31, the company's general director, Alexander Korchagin, notified participants in the wholesale energy market that due to the disaster, VetroOGK could delay the commissioning of a wind farm in Adygea. The damage caused by the disaster has not yet been calculated. "Several dozen bridge structures have fallen into disrepair, which has limited the delivery of construction materials to the site. Work on the foundations was stopped due to flooding of the foundations of the grillages. The water element destroyed more than 10 km of the road. We have created a commission to assess the consequences with the participation of representatives of regional authorities and are assessing the consequences of the damage caused by the natural disaster," the company told ER.

## Green competition

The return on investment in generation from renewable energy sources (RES) is ensured by the end consumer, say ER experts. By concluding a capacity supply agreement (CSA), the investor assumes obligations for the construction and commissioning of new generating facilities, and he, in turn, is guaranteed cost recovery through the increased cost of capacity. The state support program for renewable energy generation is valid in Russia until 2024.

“Every year, renewable energy projects are selected on a competitive basis in the country. The right to implement them is received by the participant who proposed, in particular, the lowest amount of planned capital costs per 1 kW of installed capacity of the facility. Based on this and a number of other criteria, the Trading System Administrator (ATS) of the NP “Market Council” (energy market regulator) selects the most effective proposals for which DPMs are concluded with the investor. Over the course of 15 years, the investor is reimbursed for costs through increased payments. Since 2017, the rate of return has been set at 12%,” Alexey Kalachev, an expert analyst at Finam JSC, told ER. Meanwhile, market participants interviewed by ER note that participation in the competition is not the only way to return investments in the construction of wind farms; in particular, cooperation with those companies that already have CSAs is possible.

Intense competition during the competitive selection for the construction of wind power plants and solar power plants (SPP) for 2019–2023, the Kommersant newspaper wrote, led to a record reduction in the marginal CAPEX (capital expenditure).

The lowest CAPEX for wind power plants in the Russian Federation was \$930–1000 per 1 kW against the average world price of \$1212 per 1 kW (Lazard data), for solar power plants in the Russian Federation \$1 thousand per 1 kW at an average world price of \$1375 per 1 kW. Thus, RES generation may soon be equal to the cost of construction of traditional power plants - \$1.8 thousand per 1 kW of coal-fired thermal power plants and \$800 per 1 kW of gas thermal power plant. At the same time, the capacity utilization factor of wind farms is 27–30%, and the average capacity utilization factor in the country is about 46%.

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“The decrease in the declared CAPEX in Russian renewable energy projects this year is due to the conditions of the competition for the inclusion of a new facility in the electric power industry development scheme and the high competition of participants, which allows them to be suspected of dumping,” said Mr. Kalachev. At the same time, the expert believes that there are objective reasons for the decrease in CAPEX in wind energy. More than 80% of the costs of constructing a wind farm fall on the generating equipment itself. The cost of installations is gradually decreasing. This is facilitated by both the general development of technology and special conditions. “In particular, for Russian renewable energy projects, requirements have been



established for the degree of localization of equipment production (production of equipment and components in Russia): for the current year, the degree of localization of the equipment used must be at least 55%, from next year - at least 65%. The fall in the ruble exchange rate this year allows us to save money by using domestic equipment," notes Alexey Kalachev.

The Novavind company notes that reducing the cost of electricity production based on renewable energy sources is a global trend. "As for the cost of this or that type of renewable energy source, then, according to ATS, the highest capital costs are shown by hydrogeneration (meaning small hydroelectric power plants). Capital costs for generating facilities operating on the basis of solar and wind energy are comparable, but since the capacity factor for wind is almost twice as high as for solar, the single-rate price for electricity from wind generation facilities is the lowest," the company reported.

## **State support will continue**

Since the development of renewable energy generation places an additional burden on the end consumer, and the CAPEX of wind farms and solar power plants is continuously decreasing, a discussion has developed in Russia whether it is worth supporting green energy after 2024, and if so, for what period and how. At the end of May, the Market Council predicted indicative indicators for renewable energy sources in Russia. We are talking, in particular, about achieving "grid parity" (when the normalized cost of electricity obtained using renewable energy sources is equal to the price of electricity from the network produced by traditional stations). According to the regulator's

estimates, achieving parity for solar power plants can be achieved in 2037–2042 (depending on the reduction in the cost of technology), for wind power plants in 2023–2029, for small hydropower plants in 2025–2032.

The media reported that in early November, Russian Energy Minister Alexander Novak said that the department he heads is now discussing in the government the possible extension of the program to support renewable energy generation until 2035, as well as its parameters. ER became aware of the terms of support being discussed. We are talking, in particular, about a gradual increase in localization - up to 100% for solar power plants and up to 90% for wind farms. The main equipment must comply with Government Decree 719 (defines the principles for recognizing Russian equipment). There was also a proposal to tie support for renewable energy sources to exports: to allow investors to purchase equipment only from those domestic factories that fulfill the export quota - first 10% of the equipment produced, then 30–40%.

“There are already discussions about the need to change the incentive model, but I don’t think that it will be possible to completely abandon subsidies for the development of renewable energy sources at the expense of the rest of the energy system in the near future. I believe that closer to 2024 a new program will be developed, lobbied for and adopted for the next term. If new enterprises are created in the country to produce equipment for wind farms, they will have to be provided with orders. And they are being created - just recently, Severstal, Rusnano and the Spanish Windar Renovables entered into an agreement to create a joint venture, VRS Towers, for the

production of steel towers for wind power plants. The production of blades for wind generators is being organized in the Ulyanovsk region, Novavind plans to launch the production of generators at the Atomenergomash site," commented Mr. Kalachev.

***By the way***

*In the Russian wind energy market, almost the entire quota for the construction of wind farms this year was chosen by the Finnish Fortum in partnership with Rusnano. The Finns received 98.8 MW of the 100 MW quota for 2019, 226.8 MW of the 229.94 MW for 2021 and 497.7 MW of the 500 MW for 2023. Another 30 MW went to VetroOGK (which plans to build a wind farm in Kuban) - 10 MW with commissioning in 2019 and 20 MW in 2021. Source: Kommersant*