

The data that electricity consumption in Serbia will increase by 16.3 percent by 2030, which corresponds to an annual growth of 0.76 percent, presented by the Energy Committee of the Serbian Academy of Sciences in the document “Development of Electricity of the Republic of Serbia until 2050”, reopened the question of how to provide the missing quantities of electricity, and not from imports, especially now that the whole world is in short supply. Since we are witnessing daily advocacy and lobbying for the construction of solar panels and wind farms that did not prove to be safe in these cold days, but the Electric Power Industry of Serbia (EPS), Electric Networks of Serbia (EMS) and all citizens of Serbia pulled extra money out of pocket to buy expensive electricity, the problem could be solved by building a reversible hydropower plant (RHE) Bistrica.

Although this idea is not new, not much has been said about it in recent months, at least not as much about wind and sun. This issue is all the more important if it is known that among the challenges that Serbian energy will face in the future will be the high costs of building energy storage facilities, due to greater reliance on variable renewable energy sources. The necessary storage capacity could be provided in part by relying on reversible hydropower plants, ie a domestic source, thus achieving significant savings. They could cover the needs of weekly and seasonal storage, they explain from Electric Power Industry of Serbia.

The importance of RHE Bistrica is reflected in the capacity for energy storage, which enables balancing of the system, producing electricity when it is most needed. That is why President Aleksandar Vučić emphasized that there is no greater energy interest for Serbia than this RHE.

Its construction (capacity four times 175 megawatts) and use of lakes Uvac, Kokin Brod and Klak basin, envisages a storage capacity of 55 gigawatt-hours, and it is possible to expand to 310. According to the latest estimates, the investment is worth 632 million euros. With the realization of the project, there will be a possibility to get a warehouse with a net capacity of 520 gigawatt-hours from RHE Bajina Bašta and RHE Bistrica.

The construction would greatly optimize the work of EPS capacity. The analysis also states that with the increase in the share of variable renewable energy sources, the trend of oscillations of electricity prices the day before will continue, which opens the possibility for profitable exploitation of RHE Bistrica. All this was the reason why EPS announced a tender for the development of a preliminary design and feasibility study for the construction of a reversible hydroelectric power plant Bistrica in December 2021, which initiated the realization of a 40-year-old project. RHE should have four units with a nominal power of 157.1 megawatts and a maximum pump power of 167.9 megawatts.

EPS emphasizes that reversible hydroelectric power plants are flexible. They work on the principle of pumping water from the lower reservoir or river into the upper reservoir when the demand for electricity is lower, and by producing energy using water from the upper reservoir when the demand increases. RHE produces peak energy to cover maximum daily

consumption, which is the most expensive energy on the market. They can then be used as storage facilities by using energy to pump water from the lower to the upper reservoir. The analysis of the Serbian electric power industry so far emphasizes the importance of the RHE Bistrica project for the stability of the system, especially having in mind the currently extremely high costs of building battery storage capacities. Such flexible production capacity in the conditions of integration of unmanageable renewable energy sources from wind and solar in the entire region of Southeast Europe brings better strategic positioning of the Serbian electric power industry in the region and beyond. The connection of RHE "Bistrica" to the transmission system of Serbia is closely connected with the construction of the priority transmission electricity corridor of wider European importance, the Trans-Balkan electricity transmission corridor.

According to the degree of completion of analyzes and currently existing technical documentation, RHE Bistrica is the preferred option compared to the construction of RHE Djerdap 3. RHE Bistrica, in addition to its own reservoir, has the opportunity to use additional water potential from the reservoirs of Uvac, Zlatar and Radoinj lakes and thus improve the use of the Drina-Lim power plant cascade, which is a much greater advantage over RHE Djerdap 3, Biznis reports.