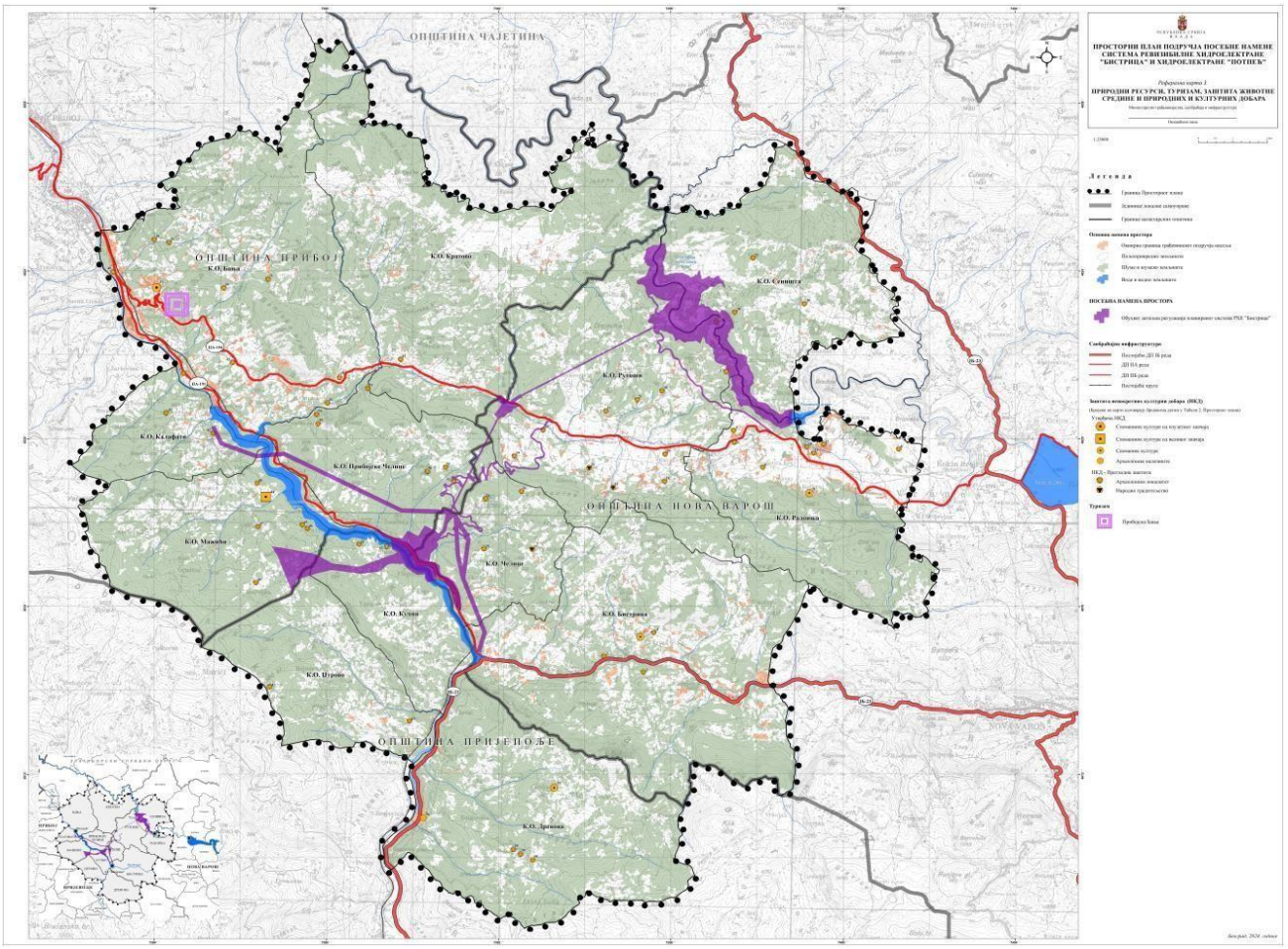
BISTRICA
PUMPED STORAGE HYDRO POWER PLANT



The pumped storage hydro power plant (PSHPP) Bistrica is a hydro power facility with pump-turbine operation of the unit. The concept of the technical solution for the PSHPP is based on using cheaper electricity from the state power system and converting it into high-value peak energy, i.e., transforming the electricity stored overnight into daytime energy. The PSHPP will consist of the following facilities:

[Dam and Klak reservoir area]

- The dam and the Klak reservoir
- Diversion tunnel
- Spillway with a chute spillway and stilling basin
- Upper intake and Klak gatehouse
- Pipeline for discharging guaranteed environmental flow
- Headrace tunnel from the Klak reservoir to the siphon

[Siphon area in the Rutoška Valley]

- Siphon across the Rutoška Valley
- Regulation of the Rutoška River
- Siphon outlet

[Powerhouse area and area of the existing Potpeć reservoir]

- Headrace tunnel from the siphon to the upper surge tank
- Upper surge tank
- Steel pipeline (overhead and underground)
- Underground powerhouse with electrical cavernous
- Bottom surge tanks
- Outlet siphon tunnels
- 400 kV switchyard
- Switchyard plateau of the transformer station plateau
- Control and administrative building of PSHPP Bistrica
- Potpeć lower intake
- Access galleries and tunnels to the powerhouse
- Switchyard control and plant building

[New overhead transmission line]

400 kV overhead transmission line (connection to the Trans-Balkan corridor)

[Other accompanying works]

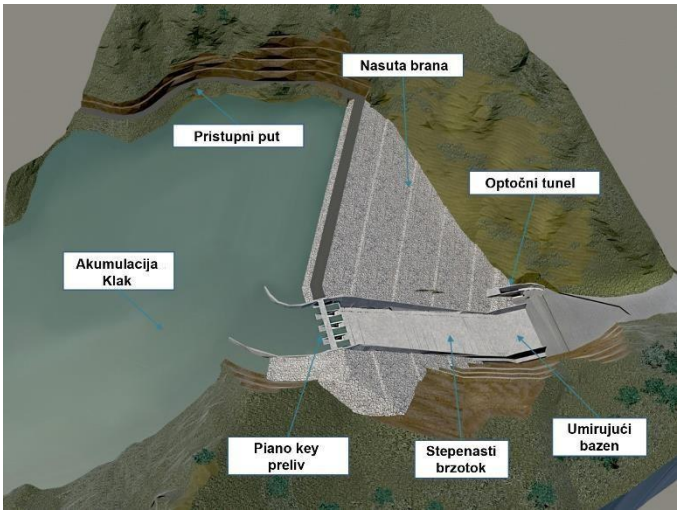
- Access road from the powerhouse to the siphon
- Relocation of the 220 kV overhead transmission line
- Relocation of the Priboj water supply system
- Access road from the siphon to the Klak dam
- Relocation of the route of state road number 191

The project area covers parts of the territories of three municipalities: Nova Varoš, Priboj, and Prijepolje. With its energy characteristics and location in the Uvac river basin, PSHPP Bistrica provides more favorable conditions for better exploitation of the existing hydro power plant complex (HPP Uvac, HPP Kokin Brod, and HPP Bistrica).

The necessity of the project

The analysis of the required balance reserves for the target years and the Serbian Power System (SPS), done in accordance with European regulations, demonstrated the exceptional importance – and even necessity – of PSHPP Bistrica in providing stable operation of SPS at the target levels of Renewable Energy Sources (RES) from 2030 onwards. In this regard, the construction of PSHPP Bistrica would enable additional integration of approximately 1,500 MW from variable Renewable Energy Sources.

Possible environmental and social impacts



The construction of a hydropower system with accompanying facilities inevitably causes environmental disruption; for this reason, in the process of deciding on the justification of such construction, environmental factors must be taken into account alongside technical and economic factors.

Besides the general positive effects, the construction of dams and reservoirs can also have potentially negative consequences for the environment and wildlife. Moreover, the construction of reservoirs can also affect the socio-economic characteristics of the area. Some land areas, such as fields and pastures, will be flooded (those requiring expropriation), and some roads, infrastructure facilities, and individual residential buildings will have to be relocated.

These impacts will be analyzed in the Environmental and Social Impact Assessment (ESIA) and the Displacement Action Plan (DAP), and appropriate mitigation measures will be taken.

Start and duration of construction

Activities on the project implementation are expected to begin in 2027, and the engineering documents have established a project implementation timeline of about eight years.

Contact

Investor:	Representative for ESIA and DAP: Dušan Krstić
Joint Stock Company Elektroprivreda Srbije, Belgrade	Energoprojekt Hidroinženjering a.d. Belgrade
Headquarters: Balkanska 13, 11000 Belgrade	Headquarters: Bulevar Mihajla Pupina 12, 11070 Novi Beograd
Phone: +381 11 3958 268	Phone: +381 11 310 11 50
E-mail: tijana.starcevic@eps.rs dejan.vuksanovic@eps.rs	Email: dkrstic@ephydro.com