

Tsablari-1 Hydro Power Plant

Tsablaristskali River



The proposed project involves the construction of a 7.7 Megawatt (MW) run-of-river Hydro Power Plant (HPP) on the Tsablaristskali River, near Sairme village, in the Imereti region of western Georgia.

The HPP will be located near village Sairme on the Tsablaristskali River and is upstream of the Tsablari-2 in a cascade. The Tsablaristskali River is characterized by high flows in late spring and summer, with maximum flow in spring and again in autumn, and minimum water levels in early winter. The site offers seasonally variable average annual generation of about 43 GWh, at a plant factor of about 64 percent. The watershed is a heavily wooded temperate forest, with mean annual precipitation exceeding 900 mm.

Site accessibility is fairly good. A new access road, about 1.2 km long, will be constructed to reach the dam sites from the village Sairme. A 100-m-long, 35 kV transmission line will be built to reach an existing line near the powerhouse.

The Tsablari-1 development is expected to include two 5-m-high concrete diversion dams, a 5,200-m-long, 1.2-meter-diameter pressure pipeline parallel to the existing road, a surge tank, and a surface powerhouse. The hydroelectric units will consist of two Francis turbines with synchronous generators. The power plant may work in island mode as well as in synchronization with the national power grid, allowing both direct and grid-connected supplies to consumers.

According to preliminary assessments the plant offers a good opportunity to sell power during winter inside Georgia (it is expected to produce significant energy during October and November), supplementing expensive thermal power, and export part of the energy during the summer to take advantage of the seasonal differentials in power prices between Georgia and its neighboring countries.

Additional details on the project area are on the next page

PROJECT SUMMARY

Location: Imereti, Western Georgia
River: Tsablaristskali
Gross Head: 341 meters
Rated Flow: 2.7 m³/s
Number and Type of Units: 2 × Francis
Construction Time: 2.0 years
Potential Installed Capacity: 7.7 MW
Annual Power Output: 43.17 GWh
Anticipated Life-span: 50 years



Project Location Map

Project Area Social and Environmental Characteristics

Location: West Georgia, Imereti Region

Administrative District: Baghdati

Area: 815 km²

Population: 29,000

Population density: 35.9 people/km²

Administrative center: Baghdati

The Baghdati municipality is located in Western Georgia, Imereti Region.

The Bagdati district is surrounded by the Vani district in the west, the Terjola and Zestaphoni districts to the Northeast, the Kharagauli district to the east, Akhaltsikhe and Adigeni districts to the south.

The city of Baghdati is the administrative center of the district. The population is about 29,000 people, mostly Georgians. The distance from Tbilisi to Baghdati is about 220 km. The total area of district land equals 815 km² of which agricultural land covers 82.22 km². The Baghdati municipality consists of one town and 22 villages.

The economy heavily relies on agriculture. The main economic activities of the region are vineyard and vegetable cultivating and animal husbandry. There are vineyards, wineries, and construction material possessing industries in Baghdati municipality.

There are 27 public schools, one museum, one theatre, 23 libraries and one vocational school in the community. The area is rich in old churches, monasteries and other cultural relics.

Rehabilitation of water supply, sewage systems and roads is ongoing. The project is being implemented by Georgia's Ministry of Regional Development and Infrastructure and Municipal Development Fund.

The Tsablaristskali River is 29 km long and drains an area of 230 km². It rises in the northern slopes of the Meskheta Mountain Range at the elevation of 2,200 meters and flows into the Khanistskali River. The average flow rate near the mouth of the Khanistskali River is 6.16 m³/s; the flow is characterized by high flows in spring, autumn high waters, and low waters in summer and winter seasons.

A significant part of the Baghdati municipality area is covered by mountains and plateaus that are covered by coniferous and broadleaf forests. The region is rich in mineral waters. There are two health care resorts, Sairme and Zekari, in the municipality.