

Lagobianco Pumped Storage Power Plant - Lago Botul Satellite Lake

Client

Repower AG, Poschiavo

Planning and Design

IUB Engineering AG in consortium with IM
 Maggia Engineering AG

Construction period

2011–2014 (finalisation of detailed design)

Construction costs

Approx. CHF 11.2 million

Scope of services

- Study of alternatives and preliminary design
- Design for construction and permit

Description

Repower is planning the 1000 MW Lagobianco pumped storage power plant between Lago Bianco and Lago di Poschiavo. Water will reach the underground powerhouse in Camp Martin via a 18 km pressure tunnel and 2.5 km pressure shaft, where 6 ternary machine units process 95 m³/s and 74 m³/s in turbine and pump mode respectively. The tailrace water flows back into Lago di Poschiavo via 2 tailrace pressure tunnels.

An ecological refuge is created with the satellite lake as a compensation measure. The existing Botul Bay will be separated from Lago di Poschiavo by a dam created using excavation material and will thus be spared the operation-related fluctuations in water levels. Lago Botul has a stable water level, shallow water areas, close to nature shore areas and via a bypass channel guarantees a longitudinal connection between Lago di Poschiavo and Botul Bay.

Lago Botul and the redesign of the Poschiavino delta are directly related to the material management of the Lagobianco Pumped Storage Power Plant project.

Main technical data

- Volume of lake: approx. 165,000 m³
- Lake surface: approx. 5.5 hectares
- Average lake depth: approx. 3.1 m
- Permanent fills in delta area: approx. 535,000 m³ (960,000t)
- Permanent dam fills: approx. 115,000 m³ (200,000t)
- Dam height: approx. 16 m
- Damming height: approx. 7.5 m

