

Limeco Hybrid Power Plant, Dietlikon

2021



Limeco's new power-to-gas plant makes a positive contribution to climate change. It will produce renewable gas from waste and wastewater and feed it into the grid from winter 2021-22. From the parking ceiling upwards, the plant building is a pure timber construction.

The project

The plant, which is being built in collaboration with eight Swiss utilities and Swisspower, is scheduled to be operational in winter 2021-22. It will use the resources of the existing waste incineration and wastewater treatment plant to produce storable, CO₂-neutral energy in the form of gas. The hybrid power plant is a first in Switzerland and makes an important contribution to climate protection. Those responsible also opted for ecological timber construction in their choice of building materials.

The construction

The Limeco wood construction is characterized by its simplicity and performance. The walls are made of cross-laminated timber panels that remain visible. These deliberately resource-saving panels were made from beetle wood. The plant components, which weigh up to 12 tons, are supported by a ceiling made of horizontal glulam. The simple but sophisticated building is sheathed with an outer shell of horizontal timber formwork.

The challenge

The high point loads of the plant components would lead to different settlements in the glulam elements. To prevent this, beech wood panels were doubled up, which made it possible to harmonize the deformation of the elements.



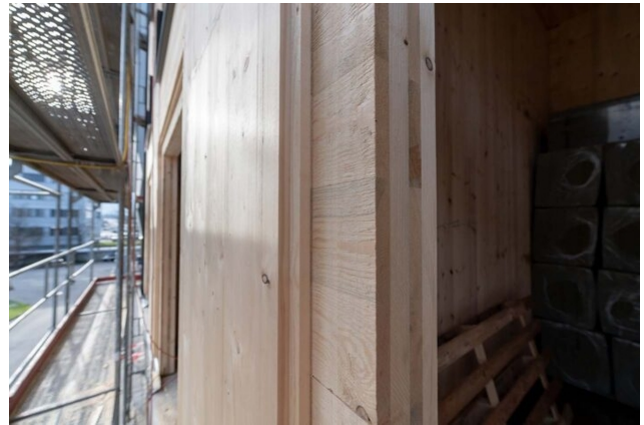
2nd floor (source: Limeco)



Upper floor



Shell



Exterior wall

Construction Data

- Building volume 1800 m³
- Glulam 75 m³
- CLT 130 m³
- Hollow box elements 150 m²

Construction costs

- BKP 214: CHF 400'000.-

Services of Timbatec

- SIA Phase 31 Preliminary design
- SIA Phase 32 Construction project
- SIA Phase 41 Tendering and comparison of offers
- SIA Phase 51 Implementation project
- SIA Phase 52 Execution
- SIA Phase 53 Commissioning

Client

Limeco
8953 Dietlikon

Timber constructionengineer
Timbatec Holzbauingenieure Schweiz AG
8005 Zurich

Timberconstruction
STRABAG Holzbau AG
8315 Lindau