

# Tailor-made photovoltaic solutions

## Reference examples

### Tièchestrasse, Zurich

#### Baugenossenschaft des eidgenössischen Personals (BEP), Zurich

The eight new apartment buildings (replacement constructions) have comparable energy needs. This starting point offered the ideal basis for a project deploying different targeted technologies for heat generation in combination with an innovative photovoltaic solution. This enables analysis and documentation of the effects on the overall energy efficiency, and optimal further use of the findings.

The technologies deployed are PVT hybrid collectors (combination of PV collectors and thermal absorber) and conventional PV modules with an electrical output of 120 kWp in total. The solar power gained from these units is primarily used to supply the heating plants. The remaining solar power is credited to the tenants directly in their electricity bills.

#### Combination of different technologies

For one of the buildings, borehole heat exchangers are regenerated using heating from the PVT collectors. This balances out the heat taken from and fed into the ground over the year.

In one of the apartment buildings, we supplemented PV collectors with a weather-driven control system. Drawing on meteorological data enables forward-looking and therefore more efficient operation.

In one of the properties, heat is produced using an innovative CO<sub>2</sub> borehole heat exchanger. This system is also suitable in areas with water conservation provisions.



#### Technical specifications

Scope of supply	Photovoltaic system 90 kWp/a under contract, 30 kWp/a for solar power supplied to tenants combined with a heating solution
Services	Planning, financing, construction and operation
PV output	120 kWp
PV annual yield	120,000 kWh
Heat generation	Geothermal heat pumps
Heat required	521,000 kWh/a, 100% carbon-free

ewz  
Energy solutions  
Tramstrasse 35  
8050 Zurich

energysolutions@ewz.ch  
ewz.ch/en/energysolutions  
058 319 47 12



### Waid city hospital, Zurich



#### Technical specifications

Scope of supply	Photovoltaic system and heating network solution
Services	Planning, financing, construction and operation
PV output	250 kWp (ewz.solarzüri)
PV annual yield	280,000 kWh
Heat generation	Wood chip heating in combination with heat pumps. Peak demand and redundancy with relation to fossil fuels.
Heat required	4,500,000 kWh/a 90% carbon-free

### Vacheron Constantin watch manufacturer (headquarters), Plan-les-Ouates (GE)



#### Technical specifications

Scope of supply	Photovoltaic system Special construction for flat roof
Services	Planning, construction, maintenance
PV output	245 kWp
PV annual yield	254,000 kWh
PV module	Solar Fabrik Premium L poly black 255 Wc
PV inverter	Fronius Agilo 100
PV substructure	Special substructure flush with the roof at height

### Shopping centre, Thun (BE)



#### Technical specifications

Scope of supply	Roof-top photovoltaic system
Services	Planning and construction
PV output	456.5 kWp
PV annual yield	48,386 kWh
PV module	Conergy
PV inverter	SolarMax
PV substructure	Aluminium substructure

