



**SOLARCHITECTURE**  
sun as a building material



# COOP TH12 Headquarters



## Address

Coop TH12, Thiersteinallee 12, 4000 Basel, Switzerland



## Location

47°32'36.32" N | 7°35'53.69" E



## Altitude

281 MAMSL

with the support of

SWISSOLAR 



**SUPSI**

**ETH** zürich

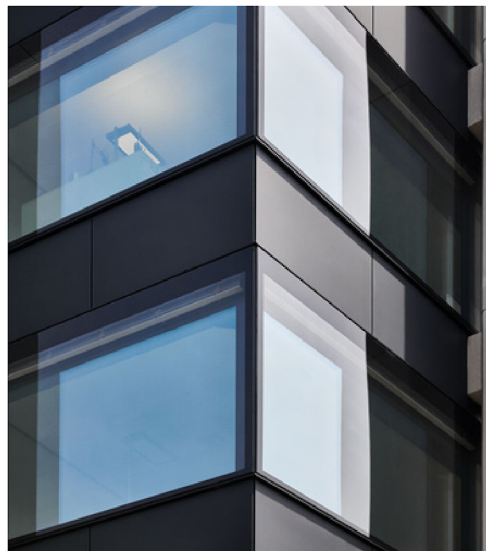


# The energy turnaround

The Coop Group's administrative building on Thiersteinallee, located in the city centre of Basel, was built in the 1970s by Gass+Boos Architekten and was completely renovated in 2020. The renovation did not interrupt the administrative services and was aimed primarily at making the best possible use of the outer shell of the building preserving the exterior concrete structure. The qualities of the existing building's interior, the column-free floor plan and well-proportioned usable areas, were retained and optimised in certain areas. By redesigning the office space, room for about a third more workplaces was created.



The facade elements between the columns in concrete were completely renewed. They now produce electricity as photovoltaic elements form the parapet cladding and emphasize the layered effect of the facade.

Well integrated into the 1,600 m<sup>2</sup> facade of this administrative building, the 158 kWp photovoltaic system generates 69,800 kWh/yr. This covers 6% of the 1.21 GWh/yr consumed by the building itself.



Photovoltaic elements form the parapet cladding - Photo: Aepli Metallbau AG

## Energy

		
Active solar surface	-	1,628 m <sup>2</sup>
Active solar surface ratio	-	< 50 %
Peak power	-	158 kWp
Building skin application	-	Cold facade
		
Storage	-	-

### Energy production

**69.830 kWh**

Source: Solaragentur,  
Schweizer Solarpreis 2021

### Self-consumption

 **100 %**

### Self-efficiency

 **6%**





## Building characteristics

### Building typology

Administrative

### Construction typology

Retrofit

### Year of construction

1978, retrofit 2020

### Energy reference surface

9.136 m<sup>2</sup>

### Energy Index

175.6 kWh/m<sup>2</sup>yr (heating and electricity)

### Energy labelling

-



In the neighbourhood - Photo: Aepli Metallbau AG

## BIPV module

### Product

Custom made

### Manufacturer

Megasol Energie AG

### Cell technology

Monocrystalline

### Front glass type/customization

Fullblack, frameless glass/glass modules

### Cell colour

Black

### Dimensions

1185 x 1000 x 14 mm

### Power

65 Wp

### Specific power

55 Wp/m<sup>2</sup>



# Building skin

Roof	Facade	Glass surface
<b>Application</b> None	<b>Application</b> PV cladding integrated in a cold facade	<b>Application</b> Windows and skylights
<b>Description</b> Concrete roof insulated with 15 cm of mineral wool	<b>Description</b> Concrete walls insulated with 18 cm of mineral wool.	<b>Description</b> Triple glazing with aluminum frame
<b>U value</b> 0.15 W/m <sup>2</sup> K	<b>U value</b> 0.20 W/m <sup>2</sup> K	<b>U value</b> 1.0 W/m <sup>2</sup> K
<b>Fastening system</b> -	<b>Fastening system</b> Megasol FAST 2 facade system	<b>g value</b> n/a
<b>Other</b> -	<b>Other</b> -	<b>Other</b> -



The retrofit was carried out while the building remained fully occupied and functional - Photo: Burckhardt+Partner AG / Mark Niedermann





## Costs

### Total cost of the building

n/a

### Price per m<sup>3</sup>

n/a

## Parties involved

### Owner

Coop Direktion  
Immobilien

### Architect

Burckhardt+Partner AG

### Photovoltaic consultant

BE Netz AG

### Photovoltaic Installer

Aepli Metallbau AG

### Photo

Burckhardt+Partner AG /  
Mark Niedermann

## Awards & recognitions

### Awards

Schweizer Solarpreis 2021  
(category B – buildings:  
renovation)

### Publications

Burckhardt+Partner AG  
Agenda 107

Article of the 21 May 2020  
on Architekturbasel.ch –  
Ein Markstein fürs  
Gundeli: Das Coop  
Hochhaus by Mark  
Niedermann



South facade - Photo: Solaragentur