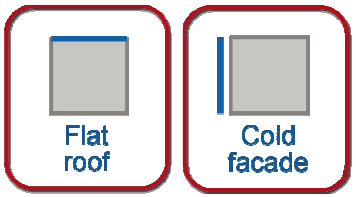
University of Applied Sciences and Arts of Southern Switzerland
Department of Environment Constructions and Design
Institute of Applied Sustainability to the Built Environment

SUPSI

Swiss BiPV Competence Centre



Heizplan Solar Park

Gams, Canton St. Gallen (CH)

Building Details

CONTACTS	Name	Website (or e-mail)
Owner	Heizplan AG	www.heizplan.ch
Architect	atm3, Werner Vetsch	www.atm3.ch
Energy Consultant	Heizplan AG	www.heizplan.ch
PV Installer	Heizplan AG	www.heizplan.ch

BUILDING

Completion year	2010 Building		2010 PV Plant	
Category	New	Renovation	Enlargement	Other
Typology	Residential	Administration	Industrial	Sport
	Agricultural	Urban	Historical	Other

Building Energy Performance **kWh/m² y** -


SOURCE: www.atm3.ch

Description

In 2010 the Heizplan company built an energy-efficient factory and office lock in the form of an energy-plus building, winning the Swiss Solar Prize for "new building" category. Thank to triple-glass windows, insulation of 20-30 cm and controlled ventilation system, building meets Minergie standard. With total energy consumption of around 13,000 kWh/y and a usable power generation of over 58,000 kWh/y, the building produces four times more energy than it consumes. Two PV plants were perfectly integrated into the southern and eastern facades of the building and producing the 24 % of total output. On south side black vertical monocrystalline modules, alternating at the windows, and on the east side red-brown amorphous modules reflect the landscape around. There is a large plant mounted on the flat roof, installed with overlapped system with inclination of 20°, as well as two tracking systems, which means that a combined system capacity of 60.6 kWp is installed. A heat pump operated by solar electricity generates the energy required for heating and warm water. The rest of the thermal heat is supplied by a 25 m2 large thermal solar plant.

Aknowledgments Swiss Solar Prize 2011 Cat.: B - New Building

SOURCE: www.atm3.ch

BiPV Details

LOCATION OF PLANT

Roof	Flat roof	Sloped	Curved	
Façade	Cladding	Balcony	Greenhouse	Curved
Glass	Façade	Roof	Solar shading	Canopy
Orientation	South	West	East	North
BiPV System	Facade opaque cladding; On roof overlapped system (BAPV); Solar Tracker on the roof.			

ARCHITECTURAL EVALUATION

Color	Black (Sud facade, roof); red-brown (est facade)
Transparency	opaque
Frame	Black frame (est façade)

COSTUMIZATION LANGUAGE AT COMPONENT SCALE

PV CELL	MODULE LAYERING	MODULE FEATURES	DUMMIES
DESCRIPTION			

SPECIFICATION

Photovoltaic	Monocrystalline	Multicrystalline	Thin Film	
PV Module	**Cells**			
	Module	3S (Sud facade); Schott Solar (est facade); Schuco MPE 190 (Roof); Schuco MPE 230 (Tracker)		
Power	**kWp**	28.2(facades); 36.9(roof); 3.7(tracker)		
Size	**m²**	104(est façade); 88(sud façade); 248(roof)		
Energy production	**kWh/year**	19500(façades); 36900(roof); 68000(TOTAL)		
Cost	**€/m²**	-		