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

GreenPix, Zero Energy Media Wall

Xicui Road, Beijing China

Building Details

CONTACTS	Name	Website (or e-mail)
Owner	Mr. Zhang Yongduo, Jingya Corporation	www.jingya.com
Architect	Simone Giostra & Partners Architects; ARUP	www.sgp-a.com www.arup.com
Energy Consultant	Schüco International KG; Sunways AG	-
PV Installer	-	-

BUILDING				
Completion year	2008 Building		2008 Plant	
Category	New	Renovation	Enlargement	Other
Typology	Residential	Administration	Industrial	Sport
	Agricultural	Urban	Historical	Other
Building Energy Performance	**kWh/m² y**	-		

Description

This groundbreaking curtain wall system, called GreenPix Media Wall, is a sustainable and digital media façade applied to the Xicui Entertainment Complex in Beijing, nearby the site Olympic site. The interactive skin was the largest LED display building integrated (2,292 color RGB-LED light points) and the first PV system integrated into a glass curtain wall in China. Greenpix behaves like an organic system, absorbing solar energy during the day to illuminate the 2.200 m2 screen in the night using the same power. The building's façade becomes a screen for advertising or for the public art space. The polycrystalline PV cells are laminated within the translucent glass of the curtain wall according to a variable pattern. The density texture increases building's performance, allowing a certain natural lighting and also reducing the overheating. The different density and inclination of some panels allows to create a surface reflecting the surrounding landscape in a discontinuous manner. The steel trusses substructure is anchored to the rear load-bearing building skin.

Aknowledgments World Architecture Festival 2008 - Shortlisted


Source: © SGPA

BiPV Details

LOCATION OF PLANT

Roof	Flat roof	Sloped	Curved	Greenhouse
Façade	Cladding	Balcony	Greenhouse	Curved
Glass	Façade	Roof	Solar shading	Canopy
Orientation	South	West	East	North
BiPV System	Double skin facade			

ARCHITECTURAL EVALUATION

Color	Dark blue
Transparency	Semi-transparent
Frame	Frameless

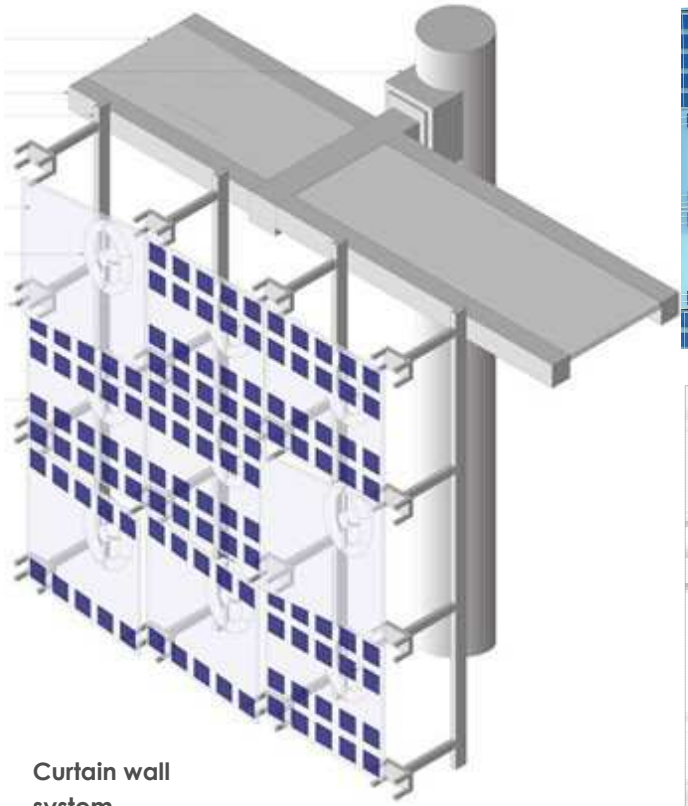
COSTUMIZATION LANGUAGE AT COMPONENT SCALE

PV CELL	MODULE LAYERING	MODULE FEATURES	DUMMIES

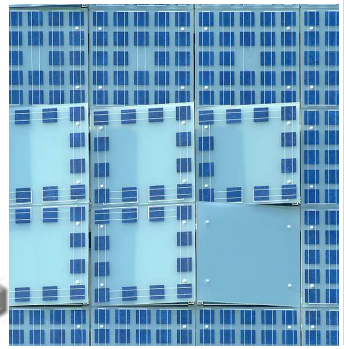
DESCRIPTION PV cells are laminated within the glass and placed with changing density on the entire building's skin

SPECIFICATION

Photovoltaic	Monocrystalline	Multicrystalline	Thin Film
PV Module	**Cells**	-	
	Module	34200 PVpolycrystalline silicon cells - Sunways	
Power	**kWp**	-	
Size	**m²**	2200	
Energy production	**kWh/year**	-	
Cost	**€/m²**	-	



Curtain wall system



BiPV Details

BUILDING SYSTEM INFORMATION

Trasparency	OPAQUE	TRASPARENT	G Value
Constructive system	MASSIVE BUILDING		LIGHTWEIGHT
Ventilation system	NOT VENTILATED	MICROVENTILATED	NATURAL VENTILATED
U value (W/m² K)			

PLAN DETAILS