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Beijing South Railway Station

Beijing China

Building Details

CONTACTS	Name	Website (or e-mail)
Owner	China Ministry of Railways	www.china.org.cn www.bjrailwaystation.com.cn
Architect	Terry Farrell & Partners (TFP) - Hong Kong; Third Railway Survey and Design Institute.	www.terryfarrell.co.uk www.tsdig.com
Energy Consultant	Ruihua Construction Corporation (RHC)	-
PV Installer	Ruihua Construction Corporation (RHC)	-

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/m ² y		-	

Description

The new Beijing South Station is an important upgrade of a 109 years old station, known by the name of Yongdingmen Railway Station. It is one of four Asia's largest railway stations and is designed to serve a multi-modal transportation hub, accommodating high-speed intercity networks, suburban trains, taxis and two underground lines. The oval-shaped morphology, that looks like a giant stingray, is characterized by three parts: a large elliptical central roof and two symmetrical side canopies. Natural ventilation and solar system are a key features of this building. The central roof is composed by a 30,000 m² skylight providing daylight into the stations departure hall. Along the perimeter, high solar performance glasses is used along with a 30% of thin film PV glasses with CIS technology. The PV modules are arranged alternately with clear glass creating a pattern. Besides generating electricity, they shade the interior contributing to reduce air conditioning costs. The electrical power generated is also used for the lighting of the car parking, reducing 220 t of annual CO₂ output.

Acknowledgments 2009: Royal Institute of British Architects (RIBA) International Award for its design;
 American Institute of Architects Hong Kong Chapter Merit Award for Architecture



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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	Semi-transparent roof			

ARCHITECTURAL EVALUATION

Color	Black
Transparency	Semi-transparent
Frame	Frameless

COSTUMIZATION LANGUAGE AT COMPONENT SCALE

PV CELL	MODULE LAYERING	MODULE FEATURES	DUMMIES
DESCRIPTION	9 to 18 CIS modules arranged alternately with clear glass panels in a checkerboard pattern		

SPECIFICATION

Photovoltaic	Monocrystalline	Multicrystalline	Thin Film
PV Module	Cells		
	Module	5.200 CIS modules Würth Solar 75W (605x1205mm)	
Power	kWp	390	
Size	m²	3750	
Energy production	kWh/year	180000	
Cost	€/m²	-	

- MANAGEMENT
- HEALTH & WELLBEING
- ENERGY
- TRANSPORT
- WATER
- MATERIALS
- WASTE
- LAND USE & ECOLOGY
- POLLUTION

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BUILDING SYSTEM INFORMATION

Transparency	OPAQUE	TRASPARENT	G Value
Constructive system	MASSIVE BUILDING		LIGHTWEIGHT
Ventilation system	NOT VENTILATED	MICROVENTILATED	NATURAL VENTILATED
U value (W/m ² K)			

