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Case study – Photovoltaic

PROJECT: RES-CHAINS
PROGRAM: SOUTH BALTIC PROGRAM
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LANDKREIS NORDWESTMECKLENBURG
FOR: SOUTH BALTIC PROGRAM USERS
DATE: DECEMBER 2012

Solar centre Mecklenburg-Vorpommern (shutters)



Summary

THE SOLAR CENTRE MECKLENBURG-WEST POMERANIA is solar information, demonstration, congress and research centre, solar technology and industrial centre. They pursue the aim of long-term support of climate protection and the creation of innovative workplaces thanks to the use of regenerative energies. The ecologically restored manor house, a listed building, is used for conferences, congresses, exhibitions, training courses, information and advice and is also open to external event organisers.

The solar shutters are a part of exhibition and research at this place.

Site details

Start of operation (year): 2002

Location : Wietow

Coordinates (for the map): 53.83725 / 11.52544

Area (m²): 22

Orientation (north, east, ...): south

Angle: 90

Construction and installation

What type of material is basically used?	Silicon monocryst.
Wafer-based or thin-film cells?	wafer
Where have the solar cells been manufactured?	Koblenz, Germany
How has the grid connection been established? (in case)	Modul integrated invertors

Other important information

Building integrated

Core process

What is the solar irradiance? (W/m ²)	1150 kWh/m ² y
What is the installed capacity? (MW)	0,0018 MW
Yearly electricity generation? (MWh / year)	1.2
What is the conversion efficiency of the cell?	15

Downstream process

Grid-connected or off-grid system?	Grid-connected
What average annual performance ratio? (grid- connected PV)	780

Decommissioning

Any non-recyclable elements / materials?	
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Environmental aspects

Use of harmful or hazardous substances?	Toxic or explosive gases, corrosive liquids
Average lifecycle GHG emissions?	
What are the yearly emissions to air and water?	
CO to air	
CO ₂ to air	
SO ₂ to air.....	
NO _x to air	
Other to ...	
Other to ...	
Other to ...	

Financial aspects

The costs need be roughly estimated so as to reflect the total annual cost of the plant. The fundamental assumption is that the total annual cost comprises capital costs + O&M costs but if there is anything more important, please add that under the heading “Other costs” so as to make up 100 %.

What are the overall investment costs and interest rate?	8000 €
What are the operational and maintenance costs?	0
Other costs?	0
What is the life time of the PV facility?	More than 40

Summary



closed shutter