



Landkreis Nordwestmecklenburg

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Case study – Photovoltaic

PROJECT: RES-CHAINS

PROGRAM: SOUTH BALTIC PROGRAM

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LANDKREIS NORDWESTMECKLENBURG

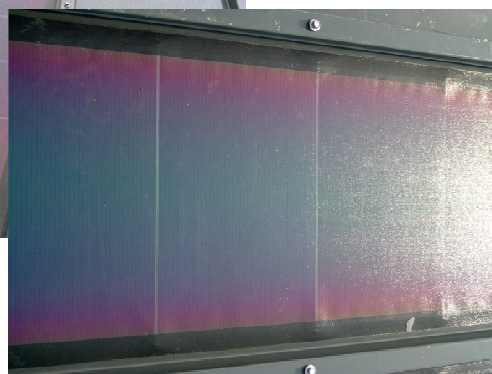
FOR: SOUTH BALTIC PROGRAM USERS

DATE: DECEMBER 2012

Solar centre Mecklenburg-Vorpommern (second roof)



THYSSEN SOLAR TEC



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 roof is 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): 100

Orientation (north, east, ...): east-west

Angle: 12

Construction and installation

What type of material is basically used?	Thin film Silicon
Wafer-based or thin-film cells?	thinfilm
Where have the solar cells been manufactured?	USA
How has the grid connection been established? (in case)	3 inverters SMA Sunny boy

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)	0,0054 MW
Yearly electricity generation? (MWh / year)	3.5
What is the conversion efficiency of the cell?	8

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?	20000 €
What are the operational and maintenance costs?	500
Other costs?	0
What is the life time of the PV facility?	More than 40