

Sweden: City of Malmö

BIODATA

PV community name:	MALMÖ
Kind of urban area:	Public - other (museums, schools etc.)
Main building type in community:	Non-residential buildings - 3 or 4 floors
New/Retrofit/Added:	Added separately to the building
Type of project:	Demonstration project, and commercial project
Start of operation:	Year 2001
City, state, etc.:	Malmö
Country:	Sweden
Latitude:	N55 35'
Longitude:	E12 57'

PV SYSTEM CHARACTERISTICS

Total PV power:	500 kW
Number of houses/buildings:	15 buildings
PV power per unit:	11-166 kW
Energy yield per year:	850 kWh/kW
Main PV system type:	Grid-connected - demand side
Main PV application type:	Flat roof - mounted & mechanical fixing, Façade - integrated in fixed sunscreens and mounted
Main PV module type:	Framed regular module
Main PV cell type:	Crystalline silicon - multi
PV module manufacturer/brand:	Sharp, Kyocera, Suntech
Inverter manufacturer/brand:	SMA, Fronius,
Investment for PV systems:	6 300 EUR/kW

OWNERSHIP

Building owner:	City of Malmö
PV owner:	City of Malmö
PV energy user:	Schools, museum etc



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PV COMMUNITY DESCRIPTION

PV Community Brief

The city of Malmö is located in the very south of Sweden and the third largest city in the country. Investment in solar energy is being made to strengthen and market the environmental profile of the city, to reduce CO₂-emissions and to become more self-sufficient in energy. Malmö has also established the first Solar City Association in Sweden, with the objective to increase the use of solar energy and strengthen the solar energy market in southern Sweden. The work of the municipality has been going since 2001 and includes installation of several large PV plants on public buildings. All plants are retrofit installations. With a total of 15 PV-plants and a total area of 3400 m² and a peak power of 500 kW, Malmö is the leading city in Sweden regarding PV installations.

Grid issue

All PV installations are dimensioned so that the production never exceeds the consumption in the building or the municipal internal grid.

Urban planning and architectural issues

The city has focused on making investments in well-functioning PV plants that are nicely integrated in the urban environment, at the same time as they are visible to the public to create positive publicity. PV plants have been installed on different types of public buildings like schools, museum and hospital at different locations around the city.

PV plants in Malmö have been awarded PV Plant of the Year by the Solar Electricity Program in 2006 and PV Plant of the Year by the Swedish Solar Energy Association in 2007.

Economic / financial issues

All electricity producers in Sweden must pay a fee for the metering, calculation and reporting in order to deliver electricity to the grid. The size of the fee depends on the grid owner, but it is approximately 420 EUR per plant each year, which is a significant cost for a small-scale electricity producer. Because of this, a majority of PV installations are dimensioned so that the electricity production never exceeds the consumption in the building or the municipal internal grid, and no electricity is delivered to the external grid. There are no feed-in tariffs in Sweden. Electricity from PV plants can be sold to the grid, but at the same price as other renewable energies like windpower. All systems got a governmental investment subsidy of 70 % for the project.

Other remarks

The investments in PV have very well succeeded in strengthening and marketing the environmental profile of Malmö. The investments have received attention in media, in newspapers and magazines as well as in television, both nationally and internationally. The City of Malmö has gained a lot of experience the past years thanks to the PV installations made so far and has several successful reference objects to show.

COMMUNITY INFORMATION

Project leader company: Malmö City, Department of internal services

Other project company:

Project's www: www.solarcity.se

Contact address: Solar City Malmö,
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