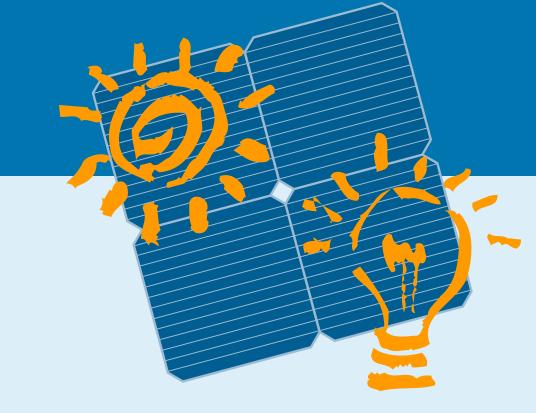
PHOTOVOLTAIC POWER SYSTEMS PROGRAMME



Performance Analysis, Reliability and Sizing of PV Systems

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Task 2

- Provides technical information on PV systems operational performance, long-term reliability and sizing of PV systems.
- Analyzes performance and reliability data for PV power systems to ensure the quality and comparability of data in different countries.
- Developes analytical reports on key issues such as operational performance, reliability, expected output and sizing of PV systems.

Examples of Task 2 Performance Database



Plant name : Ho-oh High School

Country : Japan Start of plant operation : 1997

Type of plant

Type of use

Type of use

Nominal peak power

Annual yield (2000)

Grid-connected

Housing-Office

150.7 kWp

150.7 kWp

Performance Ratio (2000): 0.57

The typical PV roof top system is mounted on a Japanese High School showing PV integration with multi-orientated PV arrays.



Plant name : Stadelhofen High School

Country : Switzerland Start of plant operation : 1999

Type of plant : Grid-connected

Building Integrated PV plant

Nominal peak power : 23.5 kWp Annual yield (2001) : 731 kWh/kWp

Performance Ratio (2001): 0.83

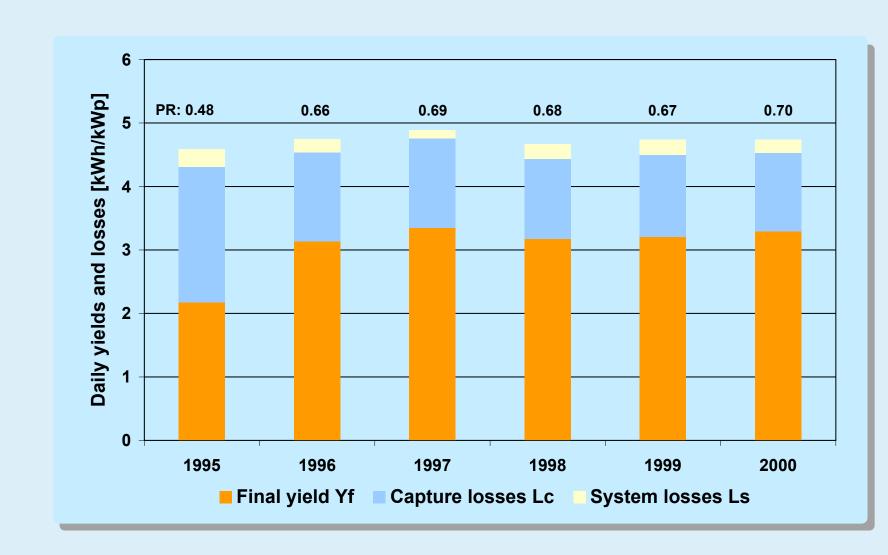
The project was one of the winners of the Swiss solar prize in 1999, for the best integrated architectural design and the use of PV modules as multifunctional elements. The solar cells are integrated into the

Specially manufactured double glazed highly insulated roof windows. Special laminated PV modules on the southwest facade of the building serve as shading device for the building.

Plant name : Serre Country : Italy Start of plant operation : 1995

Type of plant : Grid-connected
Type of use : Power station
Nominal peak power : 2 970 kWp
Number of PV modules : 45 000
Annual yield (2000) : 1 200 kWh/kWp

Performance Ratio (2000): 0.70



The largest PV plant in Italy is obtaining good operational performance results and high PV system availability.

Results 2000-2004

- Report "Analysis of Photovoltaic Systems" summarizes PV systems performance results and illustrates the operational behaviour of PV.
- Report "Operational Performance, Reliability and Promotion of PV Systems" focuses on long-term performance results and reliability issues.
- Report "Availability of Irradiation Data" discusses the users needs for irradiation data and presents the available sources.
- Task 2 Performance Database update contains high quality data of 410 monitored PV systems of 12 MWp located worldwide.



Information

Task 2 provides this service to diverse target audience including:

- Detailed technical reports
- Database for comparing and assessing performance data, as planning and learning tool
- Workshop / symposium
- Conference presentations
- Contact us at:
 www.task2.org and
 www.iea-pvps.org