

Kleines Heim Solar PV System with battery backup in Windhoek, Namibia

deea sol	uti	ons (GmbH
Excellence	in	Renev	vables

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Project Lead:

Project Implementation:

Host Institution:

Technology Partner:

In cooperation with:









- Organization and

site

inverters

batteries

preparation of construction

Checking completeness and

conditions of equipment

Mounting of inverters and

















Day 4: Installation of first modules

- Getting modules on the roof - Mounting of first two rows of
- modules



Day 8: Commissioning

- Test of components
- Test of isolating and circuit breakers
- Reading the meter
- Grid connection

This project is part of the worldwide dena Renewable Energy Solutions Programme coordinated by Deutsche Energie-Agentur (dena) - the German Energy Agency - and co-financed by the German Federal Ministry for Economic Affairs and Energy (BMWi) within the German Energy Solutions Initiative.

Day 3: Mounting of

- Installation of complete

mounting structure

Dav 7: Connection of

- Installation and connection

of inverter incl. testing

- Connection of batteries

inverters & testing

substructure

Day 5: DC cabling and modules - Installation of DC cables

bolts

rails

- Mounting of remaining
- modules Connection of all modules

into three strings

Day 6: Final installation of

Day 2: Setting of anchor

- Fastening of all anchor bolts

- Installation of first module

- Drilling 128 holes



Grid-connected PV System "Kleines Heim" with battery backup

The project is located on the guest house of the Namibia University of Science and Technology in the Namibian capital Windhoek. The rooftop project has an installed capacity of 15.08 kWp and a battery backup of 16.8 kWh.





Main features:

- Modules: SI-Classic P260 SI Modules
- Inverters: Powador 5500, blueplanet gridsave eco 5.0 TR1 – Kaco New Energy
- Batteries: 24 x 2V 5 OPzS solar.power Hoppecke
- Orientation: northeast (46°)
- Tilt angle: 16°
- Performance Ratio: 79.4%
- Annual Grid Feed-in: 28,820 kWh
- Spec. Annual Yield: 1,948.63 kWh/ KWp
- CO₂ Emissions Avoided: 16,992 kg/year

Project Implementation:

deea solutions GmbH provides tailor-made engineering, economic and strategy support and advisory services in the fields of renewable energy, electrification and energy efficiency. As an independent company of energy sector consultants, deea offers a variety of services. Depending on client group and project type, deea services comprised a balanced mix of technical, economic and strategic solutions.

The Terrawatt Planungsgesellschaft mbH

is a German engineering company with more than 20 years of experience in planning, consulting, technical installation and operation of renewable energy projects. The company can look back on the experience of over 190 wind power projects with more than 600 wind turbines.



Installation of mounting rails

In total 26 mounting rails were fastened to the roof with 128 anchor bolts.



Mounting of solar modules

After 2 days fastening and installing the framing system, the first modules were installed.



Installation of inverters and batteries

Inverters and batteries were installed between day 3 and 7.



DC and AC cabling

Installation was finalized including DC and AC connection within eight days of construction.



Inauguration

The successful installation of the solar system was celebrated on the 25^{th} of October.