

Case Study

HopSol

Commercial Rooftop Otjiwarongo



Namibia's first SPAR supermarket to source renewable energy using a rooftop solar energy system. (Image: HopSol)

Site Overview

Location	Otjiwarongo, Namibia
Coordinates	20.5° S, 16.7° E
Average global irradiance	2,360 kWh/m ² /yr
Average temperature	20.9 °C, 69.6 °F
Average precipitation	453 mm/yr, 17.8 in/yr

Technical Overview

Date onstream	February 2013
System capacity	249.6 kWp
Panel type	SF160-S (160 W)
Number of installed panels	1,560
Tilt angle, orientation	Various
Expected output	515,923 kWh/yr
CO₂ reduction	290,000 kg/yr, 639,000 lbs/yr
Inverter	15 x Sunny Tripower STP 17,000 TL-10

Financing Bank

Bank of Windhoek

"We expect a payback time for this installation of about five years. After that, the Solar Frontier installation will supply us with electricity from the sun for at least 20 years. This is a fantastic perspective in the light of annually increasing electricity prices in Namibia of 20%."

Theo Borstlap, Supermarket owner

HopSol provides turn-key solutions for photovoltaic power plants. HopSol's head office is located in Switzerland and the headquarter of HopSol Africa (Pty) Ltd has been established in Windhoek, Namibia, for its customers in southern Africa, where they have specialized in fulfilling the requirements of the solar industry for desert regions. Furthermore, HopSol acts as a wholesaler of all relevant parts for photovoltaic solar power solutions. Superior quality of modules and balance of equipment, along with engineering experience for desert conditions are crucial success factors.

In early 2013, HopSol installed about 250 kWp on the roof of a SPAR supermarket in the town of Otjiwarongo, Namibia. Theo Borstlap, the owner, was convinced by HopSol's technical approach, to generate high yields even in hot regions by choosing the right technology. HopSol installed more than 1,500 Solar Frontier CIS thin-film modules on different rooftops of the supermarket building in order to supply the supermarket with self generated energy. The owner of the installation expects an annual electricity output of about 515,000 kWh and a CO₂ offset of 290 tons. In doing so, Theo's Superspar follows the trend towards green energy as first Namibian SPAR supermarket.

Solar Frontier's CIS thin-film modules were HopSol's first choice to account for the various orientations and inclines of the building's roof, as well as Namibia's hot climate. Even when not at their optimal tilt angle, CIS modules generate high yields due to their excellent low-light behavior. Their lower temperature coefficient also results in higher yield in the hot African ambient temperatures compared to crystalline silicon modules – in some cases up to 15%.

About Solar Frontier

Solar Frontier is committed to creating the world's most ecological, economical solar energy solutions. Our proprietary CIS technology (denoting key ingredients copper, indium, and selenium) has the best overall potential to set the world's most enduring standard for solar energy. For more information visit www.solar-frontier.com and www.solar-frontier.eu