

# Case Study

## HopSol

### Residential Installation Windhoek



Thanks to the low temperature coefficient of Solar Frontier's CIS modules high output is even achieved in hot temperature regions like Namibia.

#### Site Overview

Location	Windhoek, Namibia
Coordinates	22.6° S, 17.1° E
Average global irradiance	2,363 kWh/m <sup>2</sup> /yr
Average temperature	20.5 °C, 68.9 °F
Average precipitation	362 mm/yr, 14.3 in/yr

#### Technical Overview

Date onstream	November 2011
System capacity	7.2 kWp
Panel type	SF150-L (150 W)
Number of installed panels	48
Tilt angle, orientation	20°, -180° N
Output	16,186 kWh/yr
Total CO <sub>2</sub> reduction	9,113 kg/yr, 20,091 lbs/yr
Inverter	STP 8.000 TL-10

#### Financing Bank

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*"Due to the officially announced power shortages in the country and the continuously increasing prices of electricity, we had to find a sustainable solution. Thanks to our solar power plant, with Solar Frontier CIS modules we will be able to produce our own electricity on an independent and economical as well as ecologically attractive way. And it looks really great!"*

*Bettina Janka, Houseowner*

HopSol provides turn key solutions for photovoltaic power plants especially in desert regions. HopSol's head office is located in Switzerland. The headquarter of HopSol Africa (Pty) Ltd for its customers in the south of Africa, has been established in Windhoek/Namibia. They have specialized in the requirements of the solar industry for desert regions. Furthermore, HopSol acts as a wholesaler of all relevant parts for photovoltaic solar power solutions. Here, superior quality of all installation elements and the continuously increasing engineering experience are crucial success factors.

This residential house has been equipped with a 7.2 kWp rooftop solar power installation and is expected to produce 16,000 kWh per year thanks to the high irradiation levels in Namibia on one hand and among other properties to the very low temperature coefficient of Solar Frontier's CIS modules on the other hand. The low temperature coefficient of CIS thin-film modules leads to a much smaller loss in conversion efficiency at high temperatures compared to crystalline modules thus leading to better performance levels. The installation with its 48 modules also reduces CO<sub>2</sub> emission by approximately 9 tons per year. Because of yearly massive increasing electricity prices in Africa and due to the high temperature, Solar Frontier's CIS modules provide an attractive and cost-efficient solar energy solution. In addition the homogeneously black appearance of the Solar Frontier modules adds an outstanding aesthetic look to the residential rooftop.

#### About Solar Frontier

Solar Frontier is committed to creating the world's most ecological, economical solar energy solutions, on the world's largest scale. 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](http://www.solar-frontier.com)