

Case Study

SCHIRRA SOLAR CONSULTING

Residential Rooftop Trier



Trier, Germany



Solar Frontier CIS thin-film modules are the best choice for this north-east oriented rooftop.

Site Overview

Location	Trier, Germany
Coordinates	49.76° N, 6.64° E
Average global irradiance	1,264 kWh/m ² /yr
Average temperature	9.9 °C, 49.8 °F
Average precipitation	754 mm/yr, 29.7 in/yr

Installation Overview

Date onstream	July 2011
System capacity	8.45 kWp
Panel type	SF130-L (130 W)
Number of installed panels	65
Tilt angle, orientation	35°, -140° N/E
Expected output	5,113 kWh/yr
Average CO₂ reduction	4,510 kg/yr, 9,942 lbs/yr
Inverter	1x Diehl AKO Platinum 3800 S, 1x Diehl AKO Platinum 4300 TL

Financing Bank

Private Investment

"Having installed mono-crystalline modules on the south side of the rooftop, the house owners took our advice to install Solar Frontier CIS thin-film modules on the north side of their rooftop. Our experience shows that Solar Frontier high efficiency modules are the best choice for suboptimal conditions because of their good shadow tolerance and low-light behavior."

*Dirk Schirra,
Managing Director Schirra Solar Consulting*

Schirra Solar Consulting GmbH, located in Wasserburg on Lake Constance, is a professional solar energy partner particularly for small and medium-sized crafts enterprises. Founded in 2009, Schirra Solar plans and installs turnkey solar systems.

Schirra Consulting GmbH has several sales offices and collaborates with a number of other solar energy specialist firms.

In July 2011, a roof-mounted solar installation with Solar Frontier CIS thin-film modules was installed by Buch Solar GmbH and was connected to the grid on a private rooftop in Trier, in Rhineland-Palatinate. The 65 installed CIS modules have a total installed capacity of 8.45 kWp. The residential rooftop installation is expected to produce 5,113 kWh annually and reduce polluting CO₂ emission by 4,510 kg per year.

The challenge of this installation was to use a north-east oriented rooftop with a tilt angle of 35°. Under these suboptimal conditions, Solar Frontier CIS thin-film modules showed especially better performance characteristics than conventionally used crystalline modules. In addition to the high efficiency of the modules even under partial shadowing and low-light conditions, the lead and cadmium free content of Solar Frontier CIS modules were also compelling factors.

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