

SolarSets Case Study

LEAN SOLAR GMBH

Residential Rooftop Pliezhausen



Pliezhausen, Germany



A 5.9 kWp SolarSet of Solar Frontier CIS thin-film modules on the roof of a family house in Pliezhausen. (Image: lean solar GmbH)

Site Overview

Location Pliezhausen, Germany

Coordinates 48.34° N, 9.11° E

Average global irradiance 1,210 kWh/m²

Average temperature 8.7 °C, 47.7 °F

Average precipitation 728 mm/yr, 28.7 in/yr

Technical Overview

Date onstream July 2013

SolarSet 1x SolarSet 5.9

System capacity 5.9 kWp

Panel type SF165-S (165 W)

Number of installed panels 36

Tilt angle, orientation 35°, 5° S

Expected output 7,200 kWh/yr

CO₂ reduction 5,970 kg/yr,
13,160 lbs/yr

Inverter 2x SF-WR-3000

Financing Bank

lean solar GmbH is a system provider in solar and renewable energy concepts. They offer custom-made energy consulting and individual solutions for environmental energy generation and cost reduction. As a "one-stop" provider they can pass significant benefits and costs transparently to their customers. From planning to commissioning, lean solar GmbH remains the sole contact for customers.

A 5.9 kWp Solar Frontier SolarSet was installed on the southern roof of this house in Pliezhausen, Baden-Württemberg. The 36 CIS thin-film modules fit the roof area of the newly-built house perfectly, and blend in well because of the black module design. The plant is expected to produce about 7,200 kWh of electricity per year, and a major part of this will be used directly by the residence. About 6,000 kg of CO₂ can be saved yearly as a result.

An advantage of SolarSets for installers is the measurable savings in time of purchasing, planning and installation phases, since the system is already well matched and configured, and only needs to be mounted. The challenges for this particular plant lay in the steep roof inclination of 35° on the one hand, and shadowing on the modules from the balcony roof on the other. In contrast to most silicon modules, however, Solar Frontier's CIS modules deliver high yields even under these suboptimal conditions, due to their good low-light behavior and high shadow tolerance.

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

"The Solar Frontier modules were chosen primarily for their design and high yields. The home owners are very happy with the installation of the SolarSets, and are looking forward to making a positive impact on environmental protection with their solar plant."

Hartmut Bauer,
Managing Director lean solar GmbH