

Case Study

FUTURA ENERGI

Residential Rooftop Simrishamn



Simrishamn, Sweden



On the roof of a former farm in Simrishamn, southern Sweden, 84 Solar Frontier CIS thin-film modules were installed facing south-east and south-west. (Image: Futura Energi)

Site Overview

Location	Simrishamn, Sweden
Coordinates	55.63° N, 14.24° E
Average global irradiance	1,094 kWh/m ² /yr
Average temperature	8.4 °C, 47.1 °F
Average precipitation	600 mm/yr, 23.7 in/yr

Technical Overview

Date onstream	October 2012
System capacity	12.6 kWp
Panel type	SF150-L (150 W)
Number of installed panels	84
Tilt angle, orientation	45°, -45° SE (35 modules), +45° SW (49 modules)
Expected output	11,720 kWh/yr
Total CO₂ reduction	8,500 kg/yr, 18,739 lbs/yr
Inverter	Danfoss TLX 12.5

Financing Bank

—

"We are very happy to work with Solar Frontier, as they offer first class service and support, and attach great importance to customer satisfaction. The aesthetically appealing CIS modules are of excellent quality and convincing particularly in Sweden for their higher than average output in low-light conditions."

Niklas Knoppel, Managing Director Futura Energi

Futura Energi, headquartered in Simrishamn, in the south of Sweden, is a wholesaler in the field of photovoltaic systems and serves a broad network of dealers and installers nationwide. They offer turnkey solutions for solar power systems for both private households and companies. Futura Energi delivers carefully selected high-quality PV products from mounting systems and inverters up to complete components.

On the roof of a former farm in the south of Sweden, a total of 84 Solar Frontier modules were installed. The south-east facing roof area provides space for 35 modules, the remaining 49 modules were installed on the south-west side of the roof. The solar plant's installed capacity of 12.6 kWp is expected to produce 11,720 kWh of electricity annually. Thus it will offset about 8500 kg of CO₂ per year. After 8 months of operation, as of this writing the actual production stood at 4.5 % above the expected output.

Simrishamn is located in a sunny region of Sweden with an annual global irradiance level of almost 1,100 kWh per m² and is therefore a good location for PV systems. The area is ideal for installations with Solar Frontier's CIS modules because in the summer the days are very long and there is a long twilight phase. The Solar Frontier CIS technology has a greater sensitivity than other technologies for the long-wavelength red light of sunset and dawn.

The tilt angle of the roof at 45° is optimal for Sweden, as the sun never rises as high as for example, southern Europe. Thanks to this the energy yield is especially optimal.

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