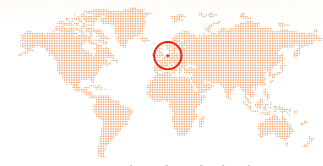


Case Study

SOLARCLARITY

Commercial Rooftop Lelystad



Lelystad, Netherlands



The black color of the Solar Frontier thin-film modules fit in perfectly with the new black cladding of the barn rooftop. (Image: SolarClarity)

Site Overview

Location	Lelystad, Netherlands
Coordinates	52.26° N, 5.32° E
Average global irradiance	1,050 kWh/m ² /yr
Average temperature	10.5 °C, 50.9 °F
Average precipitation	800 mm/yr, 31.5 in/yr

Technical Overview

Date onstream	October 2012
System capacity	31.0 kWp
Panel type	SF155-L (155W)
Number of installed panels	200
Tilt angle, orientation	20°, -43° SE
Expected output	25,765 kWh/yr
CO₂ reduction	21,128 kg/yr, 56,802 lbs/yr
Inverter	2x DiehlAko Platinum 17000TL3

Financing Bank

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"Farmers have always used solar energy to grow crops – this is just a different way of using it. Since I pay special attention to ecological production, the Solar Frontier CIS installation gave me the opportunity, to produce clean energy on my own farm."

Wim Stegeman, Agricultural entrepreneur and owner

SolarClarity, based in Weesp, is one of the leading PV wholesalers in the Netherlands. The company has formed a team of counselors, technical experts and professionals to provide high quality products and first class services to customers in the Netherlands and Belgium. The main goal of the company is to contribute to the development of renewable energies, especially solar energy.

This 31 kWp Solar Frontier PV system was designed by SolarClarity and installed by HG Montage as part of a renovation of the barn rooftop. It was connected to the grid in October 2012 in the Dutch town of Lelystad. 200 Solar Frontier's CIS modules were installed on a 245 m² subarea of the south-east faced rooftop of the building. The system is expected to produce more than 25,000 kWh of energy per year and will offset more than 21 tons of CO₂ emission.

On top of the new black rooftop cladding, the black Solar Frontier modules match perfectly with the overall appearance of the building. The Solar Frontier modules were also selected due to the high output of CIS thin-film technology even under unfavorable conditions like this south-east orientation. Beside this, the ammonia resistance of the CIS modules is advantageous in an agricultural environment. All these advantages confirmed Wim Stegeman in his decision for Solar Frontier's cadmium- and lead free CIS thin-film modules.

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