



Case Study

Residential Installation in Tochigi



The Ogasawara family has enjoyed beyond-spec performance from their installation, thanks to the “light soaking” effect of CIS modules.

Site Overview

Location	Tochigi, Japan
Coordinates	36.5° N, 139.7° E
Average global irradiance	1,204 kWh/m ² /yr
Average temperature	12.5 °C • 54.5 °F
Average precipitation	1,359 mm • 53.5 in/yr

Installation Overview

Date onstream	February 2010
System capacity	4.25 kWp
Panel type	SC85-RT-A (85 W)
Number of installed panels	50
Tilt angle, orientation	10°, North 135°
Output Mar.-May 2010	1,435 kWh
CO ₂ reduction	629 kg • 1,386 lb

“We chose Solar Frontier because their CIS modules have good conversion efficiency and are less sensitive to shadows. Their all-black appearance offers great design and the installation cost is relatively inexpensive.”



Yasuyuki Ogasawara
Home owner

Yasuyuki Ogasawara has a wealth of experience when it comes to choosing solar systems: he does it for a living. Working at one of Japan’s major building firms, he often provides his customers with recommendations. He chose Solar Frontier for his own home in Tochigi prefecture, Japan. He was not alone in doing so: Solar Frontier built its business on residential installations, with thousands of satisfied homeowners in Japan and overseas.

Solar Frontier’s modules offered many benefits over the competitors: for one, their proprietary CIS technology absorbs a broader range of sunlight than crystalline silicon modules, while their black appearance was also more aesthetically suited to his roof. But with a tree to the east of his home, a key decision was the ability of Solar Frontier modules to continue to perform in shadows, where other solar technologies would stop. And while other competitor’s modules may have higher efficiencies, they were simply not as cost effective once installation costs were factored in.

“We were so surprised with the results in March and April, when the weather was the worst on record,” said Ogasawara-san. Solar Frontier’s unique “light soaking” effect means panels provide a higher energy output after three months than simulation data suggests. Electricity output levels climbed from 106% to 125% over the original simulated data in this period.

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