



NEWS RELEASE

Solar Frontier Features Slim, Lightweight Panel and High Output Panel at PV Japan

In its twentieth year of R&D, modules focused on design and high-performance

Tokyo, July 23, 2013 —Solar Frontier will feature its two newest products at PV Expo in Japan this week: **Solacis neo** is the world's lightest glass substrate thin-film CIS module; **SF170-S** is a thin-film CIS module with an output of 170W, Solar Frontier's highest performance mass-production module to date. Currently, these products will be offered primarily in Japan.

Solacis neo is a slim, lightweight module using Solar Frontier's latest CIS technology. The module is just 6.5 mm thin, virtually the same as a smartphone, and weighs only 8.0 kg. This constitutes a 40% reduction in weight from previous models. The lighter weight, advanced frameless design, increased flex tolerance, all-black appearance, and overall high quality, Made-in-Japan construction make it well-suited to rooftops. Manufacturing of this new product will begin at Solar Frontier's Miyazaki No.2 Plant in October 2013, with shipments scheduled to start in November.

The SF170-S is manufactured using cutting-edge technology at Solar Frontier's Kunitomi Plant in Miyazaki, Japan's largest solar module plant. CIS thin-film modules achieve high output through low-light abilities, low temperature co-efficient, increased initial output after initial exposure to sunlight, and resistance to partial shading.

Solar Frontier will also feature new mounting systems for residential use called **Cross One** mounting system for **Solacis neo** and **SF** series modules respectively. The new mounting system substantially reduces the number of mounting points needed to install CIS systems on roofs, without sacrificing safety and reliability. **Cross One** mounting system can cut installation time by 40%, as well as reduce the load on roofs, which means a wider range of roofs can be outfitted with solar panels.

This year Solar Frontier is celebrating the 20th anniversary of its CIS technology since R&D began in 1993. Solar Frontier's proprietary CIS technology, which was developed as a next-generation module technology, currently achieves energy conversion efficiency on par with crystalline silicon technology. Thin-film CIS modules are distinguished from crystalline silicon technology by performance in real-world conditions. Their high performance has been demonstrated in field tests worldwide.

CIS thin-film modules deliver on residential market needs regarding appearance and functionality through their advanced design and performance. Solar Frontier provides customers with attractive solar energy options through aggressive R&D and improvements in mass-production technology.

Product Outline

Solacis neo

- Model No.: SFR95-A / SFR100-A (plan)
- Weight: 8 kg / module
- Size: L 1,231 mm x W 638 mm
- Thickness: 6.5 mm
- Main output range: 95 W - 100 W (plan)



Solacis neo

Smartphone

This photo must be replaced

High-Output Module SF170-S

- Model No.: SF170-S
- Weight: 20 kg/ module
- Size: L 1,257 mm x W 977 mm
- Thickness: 35mm
- Main output range: 170 W

Product Photos

Solacis neo



High-Output Module SF170-S



About Solar Frontier

Solar Frontier K.K., a 100% subsidiary of Showa Shell Sekiyu K.K. (TYO:5002) ("Solar Frontier"), has a mission to create the most economical, ecological solar energy solutions on Earth. Building on a legacy of work in solar energy since the 1970s, Solar Frontier today develops and manufactures CIS (denoting copper, indium, selenium) thin-film solar modules for customers in all sectors around the world. Solar Frontier's gigawatt-scale production facilities in Miyazaki, Japan, integrate compelling economical and ecological advantages into every module: from lower energy requirements in manufacturing to the higher overall output (kWh) of CIS in real operating conditions. Solar Frontier is headquartered in Tokyo, with offices in Europe, the U.S.A., and the Middle East. Visit www.solar-frontier.com for more information.

Showa Shell Sekiyu K.K.

Showa Shell Sekiyu K.K. is listed on the Tokyo Stock Exchange and has roots dating back more than 100 years in the downstream energy business.

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