



Takara Leben, Hitachi Zosen and Solar Frontier Start Construction on Megasolar at Former Golf Course

Japan's first extra high voltage megasolar power plant using small inverters

Tokyo, December 9th, 2014 – Takara Leben, Hitachi Zosen and Solar Frontier announced today that construction has started on a 15MW solar power plant located on a former golf course in Nakagawa, Tochigi Prefecture, Japan. The power generated by the plant will be sold to the grid. Takara Leben owns the former golf course, Hitachi Zosen is providing EPC services for the project, and Solar Frontier supplied its CIS thin-film modules, which provide high power output in real operating conditions.

This project marks the first time that small inverters have been used in an extra high voltage megasolar plant in Japan. The overall design is expected to reduce the initial investment cost and ongoing operating expenses for this project. It also spreads the risk of power loss and the need for site work during construction, reducing the burden on the environment.

The plant will benefit from stable energy output thanks to Solar Frontier's CIS thin-film modules. CIS modules have a higher tolerance for partial shading and heat compared to crystalline silicon modules, providing higher energy output as well as enabling the plant to provide more stable output on north-facing slopes.

The use of small inverters is expected to provide lower ongoing operating expenses and risk for this project. Fairways and other areas in golf courses differ in size, requiring a more complex array layout and electrical system design. Central inverters have, until now, limited this design. This project, however, takes a different approach by using small 20 kW inverters to overcome the configuration issue. The system design also spreads the risk of power loss since equipment can be replaced on the same day.

The plant's design reduces the burden on the environment by negating the need for site work thanks to its use of a one-pile foundation structure. This means that not only the height difference between modules in east-west installed arrays is smaller, but the number of pile-drivers used in the installation is less than half that of previous installations, resulting in shorter installation time and a reduction in environmental burden.

The three companies involved in this project have all worked on separate megasolar installations before. They have pooled their collective know-how to make this installation environmentally friendly and economically sound, as well as drive the ongoing adoption of solar power.

Project Outline:

Operator: Takara Leben CO., LTD.
Location: Minowa, Nakagawa, Tochigi Prefecture, Japan
Site Size: 400,000 m²
Installation Size: Solar Module Output: 19.8 MW (120,000 x 165W Modules)
Power Conditioners: 15 MW (750 x 20KW)
Output: 15MW
Projected Annual Capacity:
approx. 21,000,000kWh (equivalent to 3,700 homes)
Projected Annual CO2 Emission Reduction:
approx. 11,000t

Image (when complete):



Photo of Groundbreaking Ceremony:



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.

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