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COVER STORY
CONSIDERATIONS
IMPLEMENTING
AS WITH ALL OTHER PV SYSTEM COMPONENTS, MARKET
PRESSURES DEMAND CONSTANT IMPROVEMENTS IN COST,
RELIABILITY AND EFFICIENCY OF TODAY'S DISTRIBUTED POWER
ELECTRONICS SOLUTIONS, IF IMPLEMENTED CORRECTLY,
THE INTEGRATION OF THESE SOLUTIONS DIRECTLY ONTO
THE PV MODULE IS AN IDEAL WAY TO ACHIEVE SUCH ADVANCES.

A Magic Combination CPV Plants Map 2011

Tips for Better Solar Systems

Design & INSTALLATION Optimizing Revenue through Quality Assurance

PRANCIAL & INVESTMENT Solar Gall: Q2 2011 Roundup PV BoS Cost Analysis: Ground-Mounted Systems Kyocera: Setting the Global Quality Standard

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First Major Step in Crystalline Silicon Manufacturing

Asia



FEBRUARY 15(Wed)-17(Fri) 2012 KINTEX, KOREA WWW.EXPOSOLAR.ORG

The Largest Distributed Solar Tracker Farm in North America

AllEarth Renewables has designed and installed the largest distributed solar tracker farm in North America.

Cermont's largest solar installation at 2.2 MW and built under the state's feed-in-farrif used distributed inverters and thial axis solar trackers to maximize output.





382 AllSun solar trackers each with distributed SMA inverters were used to boost energy production up to 45% beyond fixed arrays, making it the largest installation of its kind in North America.

Located in South Burlington, VT, the U.S.A., the 2.2-megawatt PV system includes 382 AllSun Tracker Series 24 GPSoriented, dual-axis trackers and 382 SMA Sunny Boy 6000-US inverters. The estimated 2.91 million annual kWh of power generated by the installation will be sold to Vermont's Sustainably Priced Energy Development (SPEED) Program. The project was officially commissioned using an iPhone, highlighting the trackers' wireless communication and GPS/ dual-axis tracking, on July 27, 2011. Vermont Governer, Peter Shumlin (D) and Lt. Governer, Phil Scott (R) are expected to attend the ceremony.

AllEarth Renewables chose a decentralized inverter configuration for this 25-acre solar farm in order to achieve the greatest power generation from the trackers. Through this application, each inverter adjusts to the highest possible power output and efficiency of each tracker across the system. Utilizing distributed inverters helps prevent overall power losses that can arise when using a single centralized inverter, while also saving labor and DC wiring costs. The inverter configuration also allowed the company to use its series 24 AllSun Tracker model without a redesign and operation and maintenance expenditures are also expected to be reduced over the life of the system, increasing the overall value of the energy yield.

"The decentralized inverter concept is ideal for many commercial and utility-scale PV systems," said Jurgen Krehnke, President and General Manager of SMA America. "The combination of AllSun Trackers and Sunny Boy inverters in this application will ensure that the solar farm is consistently performing at the highest level."

The UL-Certified Sunny Boy 6000-US inverter was selected for this project based on its proven durability, reliability and class-leading efficiencies of up to 97%. The device's longevity is enhanced via SMA's patented OptiCool[™] active temperaturemanagement system and rugged cast-aluminum, outdoor-rated enclosure. Automatic grid-voltage detection and an integrated DC disconnect switch simplify installation, ensuring safety while saving time. The Sunny Boy 6000-US also features galvanic isolation and can be used with all types of modules--crystalline as well as thin film. Sunny Boy inverters include a 10-year factory warranty, with the ability to extend up to 20 years.

The AllSun Tracker is a dual-axis, grid-connected solar electric system that follows the sun from dawn to dusk producing up to 45% more electricity than a fixed, roof-mounted solar electric system of the same size. AllEarth's pole-mounted trackers use GPS technology and wireless communications to enhance their performance beyond traditional tracking systems. "Whether in backyard homes or a utility-scale project like this, our innovative technology produces more energy than fixed solar installations," said David Blittersdorf, CEO and Founder of AllEarth Renewables. "Distributed inverters allowed us to achieve the highest possible power output across the 25 acre farm using our proven dual-axis tracker design." The solar farm was created as part of Vermont's Standard Offer program with and the generated power will be sold to the SPEED program. The SPEED program encourages the development of renewable energy resources in Vermont, as well as the purchase of renewable power by the state's electric distribution utilities. The Standard Offer program, part of the Vermont Energy Act of 2009, was later enacted to encourage the development of SPEED resources using a variety of different renewable technologies. The Act established default prices for the standard offer for different technologies, calculated to allow developers of renewable power purchased through the SPEED program to recover their costs plus a return on their investment.

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