

New Record for Thin-Film Efficiency

Suniva Inc., of Atlanta in September demonstrated 20 percent conversion efficiencies using a patented combination of simple cell designs and screen printing technologies, verified by the National Renewable Energy Laboratory (NREL). This represents a world record for screen-printed cells, the company said.

The efficiency achievement closely follows Suniva's two recent customer agreements with Germany's Solon AG and India's Titan Energy Systems Ltd., deals together worth approximately \$1 billion. Suniva's ARTisun cell technology, now in production, has demonstrated a verified efficiency of 18.5 percent in the lab.

Suniva specializes in reducing the number of steps required in producing thin-film

cells. For instance, the company says it can create a higher sheet resistance emitter as well as enhanced surface passivation dielectrics in a single high-temperature step. Suniva produces narrower screen-printed contacts on the front of the cell and a high-quality surface reflector on the back. These components, combined with improved texturing methodologies, allow the company to trap light and achieve high efficiencies while keeping costs low.

The company has applied for three new patents relating to the structural design, process of fabrication, module integration and efficient use of low-cost heterojunction solar cells. Suniva now owns or has exclusive license to 32 patents and patent applications worldwide.



Oregon PV Array to Offset Highway Lighting

The state of Oregon in August broke ground on the nation's first solar demonstration project in a highway right-of-way.

The \$1.3 million project, a collaboration between Portland General Electric (PGE), U.S. Bank and the Oregon Department of Transportation (ODOT), will construct a 104-kilowatt PV array, providing net-metered power to offset lighting of the interchange at Interstate 5 and Interstate 205 in Tualatin. The system, comprised of 594 PV panels manufactured in Oregon, will offset about 28 percent of the 400,000 kilowatt-hours used to light the intersection each year. Completion is expected in December.

The project is designed, constructed and installed by SolarWay, a consortium consisting of four Oregon firms: Aadland Evans Constructors of Portland as the general contractor; Moyano Leadership Group of Salem as the project manager and design leader; Advanced Energy Systems of Eugene as the solar power specialty designer, and installer; and Good Company of Eugene as the community and sustainability specialist. SolarWorld AG of Hillsboro supplies the solar panels and PV Powered of Bend provides the inverter.

RE News continued on page 64.



BRETT SCHRECKENGOST

Solar Ski Factory Recycles Building, Waste

Wagner Custom makes about 500 sets annually of custom-built skis and snowboards in a recycled gas station in Placerville, Colo., about 10 miles downstream from the resort town of Telluride. Sited at 8,200 feet elevation, the factory gets about 6 feet (2 meters) of snow each winter. Nonetheless, 192 square feet (58 square meters) of water-heating collectors provide 100 percent of hot water needs and space heating via hydronic tubing in the concrete floor. Owner Pete Wagner buys wind energy for electrical needs. The factory builds skis using hardwood cores. Waste wood is bagged and sold for kindling. Sawdust is recycled as kennel bedding for the local animal shelter.

Correction:

An alert reader who teaches engineering at the University of Georgia points out an error in the story, "Trina Cells to Power Round-the-World Flight Attempt" (page 60, September/October). Ninety horsepower equals about 70 kilowatts, not 700 kW. We regret the error.