

Solar Power International

Compiled by *SolarPro* magazine



North America's largest solar energy event keeps getting larger. In October, more than 1,200 companies from across the world and the value chain convened in Dallas, Texas, for the 2011 Solar Power International (SPI) Conference and Expo.

In an effort to round up highlights from the 1-million-square-foot Dallas Convention Center and gather impressions on the state of the solar industry in the aftermath of the event, *SolarPro* magazine enlisted the services of seven industry veterans: Greg Ball, principal engineer, BEW Engineering; Tobin Booth, CEO, Blue Oak Energy; Bill Brooks, principal, Brooks Engineering; Scott Carlson, longtime solar installer; Blake Gleason, director of engineering, Sun Light & Power; Marvin Hamon, principal, Hamon Engineering; and Rebekah Hren, director of implementation, O₂ energies. These

contributors are involved in different aspects of the design and deployment of solar power systems, and as a group they represent the full spectrum of downstream market segments. While everyone was asked the same three questions, contributors were free to answer any or all of them as they saw fit.

» What products or services were you most impressed with at SPI 2011?

“Ecolibrium Solar’s Ecofoot mounting system is the latest plastic-racking product to show up on the solar market. The Ecofoot system uses much smaller plastic feet—which weigh about 4 pounds each—to support the modules. Each Ecofoot is made of 100% recycled plastic. In contrast to the Sollega product, which includes the front and back support for a single row of modules in each plastic unit, in one unit the Ecolibrium Solar product includes the back support for one row and the front support for the next row of modules.

“This design allows the product to be much shorter in length, which in turn allows a major difference in installation sequence from most other racking products. The entire ‘rack’—two Ecofoot units—is bolted to the module frame as soon as the module comes out of the crate, and the rack/module unit is carried to and placed at the installation location, where the module is fastened to the previously placed row. The rack parts do not need to be separately carried and laid out before the modules. Aside from module-specific proprietary systems, like the SunPower T5 or the SOLON SOLquick, this is perhaps the closest approximation yet to a module-integrated rack solution.

“In terms of layout flexibility, the Ecolibrium Solar product falls somewhere between RenuSol and Sollega. Modules and racking are connected north-south—the direction of highest wind loading—but not east-west. In contrast to many sheet metal racking systems with long connecting struts, all of these products allow for layout changes at the last minute without significant changes to the bill of materials. The Ecofoot design, which spans between rows, requires that ballast pavers be placed between module rows. This can be a benefit, as each row of modules and racking can be installed and adjusted without jigs or spacers before ballast



Plastic mounting systems RenuSol CS60 (top), Sollega InstaRack (center), Ecolibrium Solar Ecofoot System (bottom)

is applied. However, walking down the aisles between rows for maintenance requires stepping over every ballast paver.

“As with most ballasted racking systems, interrow wire management is left to the installer on all three products. However, wire management, module bonding and module hardware presumably took a backseat to the bulk plastic racking mold for the initial product rollout. I suspect that these ancillary features will improve as these products mature, and that plastic racking systems will give the incumbent ballasted mounting system manufacturers some serious competition.”

SCOTT CARLSON

“I have been installing solar electric systems for 23 years now. Every time I attend SPI, I look forward to finding solutions that solve problems we installers face on a day-to-day basis. I am never disappointed in the ability and imagination that infuses the people in the solar community. As newer products come to market each year, my job has invariably

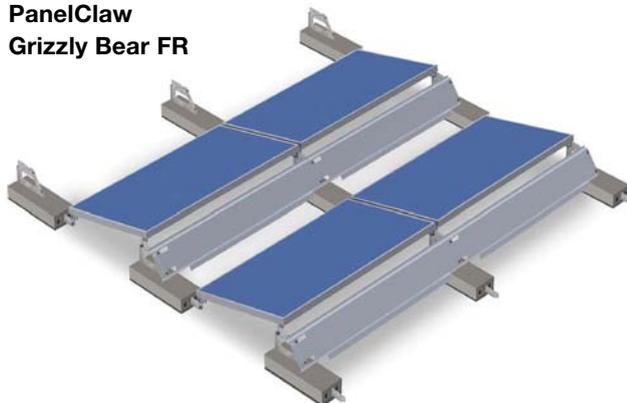
become easier. This year was no exception.

“My main problem was finding a great low-slope racking system for commercial and residential projects. What I want is a low-cost, nonpenetrating mounting system with a low parts count that I can carry in stock and use in various scenarios without requiring a lot of design time. I realize this is a big request. However, PanelClaw, RenuSol and DynoRaxx seem to have answers.

“PanelClaw, which offers two different flat-roof mounting systems, seems to have a good solution for large commercial installations. Both the Grizzly Bear FR and the Polar Bear FR products use just three components: support, wind deflector and universal claw.

The Grizzly Bear support features integrated ballast and wire management chases. The wind deflector used in both systems is available in either steel or aluminum. Best of all, the universal claw is UL 2703 certified for bonding. System installation appears to be very simple and quick.

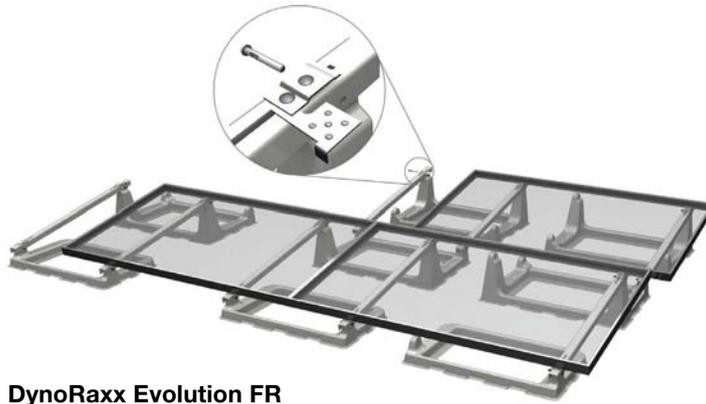
**PanelClaw
Grizzly Bear FR**



“After visiting Panel-Claw, I came upon Renusol and its CS60 mounting system. The product is made of high-molecular-weight polyethylene, which does not need to be bonded to ground. System sizing is simple, with one mount per module. Renusol had a very large crowd around its booth most of the time, which made it difficult to ask questions.

“Obviously, I was not alone in my quest for this type of product. However, I had identified two acceptable solutions to my problem. Deciding between the two would probably depend on which one I could get at the lowest cost. Satisfied that I need look no further for flat-roof racking systems, I walked down a less-crowded row of booths and almost walked right past DynoRaxx.

“While DynoRaxx occupied a smaller booth, it clearly has a product with huge potential. The company’s Evolution FR flat-roof mounting system uses fiberglass components and features a toolless pivot clamp to attach modules to the rails.



DynoRaxx Evolution FR

This seems like a big leap forward. Eliminating the need for tools to attach the modules to the rack would save a tremendous amount of installation time. Meanwhile, the use of fiberglass means no bonding, rusting or galvanic corrosion issues. Nathan Rizzo, president of DynoRaxx, came

across as personable and full of knowledge, two things that seem increasingly rare as the industry continues to grow. The overall design was beyond anything I had imagined. I wanted the product now—not just for flat roofs, but also for all types of installations.

“All three companies’ offerings appear to cost less than the traditional methods in use today. Given the possible reductions in installation time, they could each become very successful and have huge growth potential. As installers, we now have more wonderful products to choose from—and due to increasing competition among vendors, we also have lower prices to pass on to our customers.”