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Solar's New Twist: Panels That Float On Water

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With the aim of carving out a niche market, a solar company in California is rolling out an upgraded version of an unusual solar panel –one that floats on water.

SPG's "Floatovoltaics" -- floating solar

The product, called Floatovoltaics, is intended for reservoirs and irrigation ponds rather than the ocean, and uses the same kind of solar panels that can be mounted on the ground or a building's roof. The innovation is in the engineering of a racking system and floating structure that can accommodate water rising and falling.

"We think there are big opportunities in California and portions of the West," says Chris Robine, the chief executive of SPG Solar, a solar installation company in Novato, Calif. that developed the Floatovoltaics. Robine says the floating solar product is designed for commercial and industrial customers that want to install solar but don't have a lot of available land.

Floatovoltaics come with a 10-year warranty and Robine says they are cost-competitive with ground-mounted solar. His company uses panels from what he refers to as Tier-1 suppliers: Suntech (STP), Trina Solar (TSL), Yingli (YGE), Sharp and Kyocera.

The first two floating solar customers for an earlier, more costly iteration of Floatovoltaics were California wineries, Far Niente and Gundlach Bundschu. Several years ago, Larry Maguire, the CEO and part owner of Far Niente Winery in Napa Valley, decided to install enough solar to cover 100% of his winery's needs. But most of the land at the winery was either shaded by California live oak trees or covered with extensively planted gardens. And the land for growing grapes was largely needed for that purpose. Far Niente turned to SPG Solar to cover part of its reservoir, which it uses for irrigation purposes, with solar panels. SPG created an installation that's seven-tenths of an acre on top of the Far Niente pond. They turned on the switch in 2008. "It's so deceptively simple," says Maguire. "You can walk out on the pontoons are there are solar panels sitting on top of them."

But it was pricey. Maguire says Far Niente spent $7 million installing 400 kilowatts of solar –some on vineyard land and the rest on the reservoir; that price also included 330 kilowatts of ground-mounted solar at Nickel & Nickel, another winery in the Far Niente stable. The company got a $2 million rebate from utility PG&E and Maguire expects the payback on the net investment to come in 10-12 years. Maguire says the panels actually generate more electricity than Far Niente needs–about $30,000 worth, and at the moment, there is no mechanism to sell the power back to the grid. "We slightly overdesigned," explains Maguire, who said he is happy with the system. "I'd like to think that more people would do this," he adds.

The revamped version of Floatovoltaics that SPG Solar is currently unveiling does not use pontoons but instead is secured with moorings. Robine notes that it also reduces water evaporation, which is less of an issue today in California than it is in other parts of the world. With that in mind, he's dispatched a salesman to the Middle East in search of potential customers.