

## Financial backers, users benefit from solar power

by Mike Freeman

Four years ago, architect Robert Noble submitted a bid to design a showcase solar array covering the parking lot at Kyocera's San Diego plant. He got the job when no other architect put in a proposal.

**SOLAR INVESTORS** - Envision Solar helps companies install solar arrays in their parking lots. Here, President Karen Morgan and Chief Executive Officer Robert Noble stand under an array in the Kyocera facility in San Diego. CNS Photo by John Gibbons. Today, dozens of companies would elbow for a chance to build such a project, highlighting the cachet currently surrounding solar power.

Firms including Google, Qualcomm, Hewlett-Packard, Kohls and Wal-Mart have built or plan to build solar systems at their campuses or stores. Noble, former head of San Diego architectural firm Tucker Sadler, founded a new company, Envision Solar International Corp., to help companies install solar arrays in their parking lots.

While a desire to be "green" plays a role in these projects, the biggest spark driving the nascent industry these days isn't corporate environmentalism. Instead, it's an emerging financing scheme that makes solar relatively painless.

In simple terms, it works like this: A solar provider agrees to install and maintain a solar array at a company's campus in exchange for a power purchase agreement under which the company commits to buying electricity for 15 or 20 years at a fixed rate, which is generally at or below daylight retail rates.

Then the solar provider recruits an investor - usually a bank or big investment firm - to put up the millions needed to build the system.

The investor owns the system. It gets federal tax credits, accelerated depreciation, state rebates and the bulk

of the revenue from the power purchase agreement. The investor usually has the right to sell its interest after five years.

Pioneered by Maryland-based SunEdison and now being copied by a handful of solar rivals, the financing mechanism allows corporations to tap solar without upfront construction costs or ongoing maintenance expense that in the past have been roadblocks.

And it gives these companies a predictable supply of energy at a set price, serving as a hedge against rising utility costs.

Solar technology has been around for decades, but until recently the panels have been installed primarily by hard-core environmentalists. Solar makes up a very small piece of the nation's power generation infrastructure - by most estimates well under 1 percent.

But advances in photovoltaic technology, coupled with rising prices for natural gas and greenhouse gas emissions issues surrounding coal, have solar getting a second look.

"Our mission is to deploy solar," Noble said. "But to deploy solar, we need to solve the cost issues in building these."

Envision Solar recently merged with Generating Assets, a San Francisco solar development company with experience in "structured finance" models for funding solar projects. The merger brought roughly \$15 million in power purchase contracts to Envision.

The company was founded in 2005 after Noble finished the Kyocera solar array for Tucker Sadler. "From

Day One, I saw that this is where solar is going to be," he said. "The biggest market is going to be parking lots and parking structures."

The firm, which recently raised \$2.2 million in venture capital on top of its initial \$600,000 in seed funding, aims to bring architectural style to solar arrays in parking lots.

Envision Solar is offering the financing model that has emerged recently for solar projects to its clients. But Noble thinks there are more ways to make money on solar than power purchase agreements and tax credits.

In hot climates, Noble believes there's a value to shade provided by solar arrays that vehicle owners will pay extra for - providing another revenue stream. He also sees the arrays as a vehicle for investors to advertise themselves as green.

There are obstacles for solar parking arrays, including the rising cost of steel needed to build them. While several of Envision's competitors offer solar parking systems, most focus on less-expensive rooftop arrays.

Hewlett-Packard recently said it would install units on the roof of its ink-jet printer research campus in San Diego. SunPower Corp. of San Jose, Calif., will install and maintain the \$8 million project with the backing of a third-party investor.

Financial backers for these projects typically don't benefit from small projects, so companies like Envision, SunEdison and SunPower usually establish a fund that covers dozens of installations - allowing their investors to deploy tens of millions in capital.

Investors have been putting money into solar mostly because of a 30 percent federal investment tax credit.

There's also a tax benefit from accelerated depreciation, said Barry Neal, director of environmental finance for Wells Fargo Bank, which has been an early investor in several solar projects, including with SunEdison.

"It's a nascent market," Neal said. "But what we've seen over the last year are some real advances in the financing structures of these transactions.

"What's starting to happen is these financing structures are opening up the market for more institutional investors," he said. "And as that happens, things start to get interesting."

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