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Poway Has Right Climate to Help Solar Company Grow

MANUFACTURING: Business Says it Expects Rapid Expansion

By Mike Allen

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Energy Innovations Inc., the latest solar energy company to set up shop in the area, has ambitious plans for its new 60,000-square-foot plant that officially opened in south Poway last month.

“We now have 25 employees but we’re hiring another hundred by the end of this year,” said Chief Executive Officer Joe Budano. “This is going to be a highly automated factory and with lots of robotic equipment. When we get to capacity we’ll be operating three shifts, five days a week, and have 450 workers within five years.”

Unlike many other solar module manufacturers, Energy Innovations isn’t making its panels for residential customers, but for large commercial and industrial ones.

“Our sweet spot are systems that generate between 100 kilowatts and 30 megawatts,” Budano said.

About 100 kilowatts is sufficient to power 33 single-family homes for a year.

While EI didn’t provide any customer names, Budano says there are many, and some from beyond this country’s borders. For example, the firm is working on a project for a customer in Abu Dhabi in the United Arab Emirates.

The manufacturer selected Poway as its new home after spending its first nine years at one of the nation’s most famous and successful business incubators, Idealab in Pasadena. The incubator is the spawning ground for such notable e-commerce businesses as Citysearch, eToys, GoTo.com, photo-sharing site, Picasa, and Vista-based electric car maker, Aptera Motors.

EI determined that the Poway Business Park was the best site for its plant because it is a spacious facility, this region has a growing reputation as a center for clean-tech energy development, and Budano is from the area.

But the most important factor was the site gets lots of sun.

“Poway gets an average of 263 sunny days a year, and that’s what we need to build our products, make improvements and then test them under the sun,” he said.

Financial Fuel From State, Investors

Beyond some work force training funds that would accompany nearly any new manufacturing plant, government incentives didn’t factor into the decision.

The company obtained a \$3.5 million loan from the California Energy Commission, but that required a matching equity investment from some of its major investors, Mohr Davidow Ventures based in Silicon Valley, and Idealab, Budano said. Interest on the loan is 2.75 percent. About \$2.5 million was spent on the factory's equipment.

The type of jobs being created by EI are software engineers, mechanical engineers, manufacturing engineers, assemblers, quality assurance people, testing technicians, and administrative support personnel, said Budano, who has been CEO for 18 months and is the former CEO of Elgar Electronics.

Since its founding in 2001, EI has raised about \$60 million in capital mainly from venture capital investors, Budano said. The company has registered 26 patents to protect its technology, which is far more efficient in capturing the sun's energy than solar devices using traditional photovoltaic cell technology, he said.

Innovative Energy Conversion

The modules produced at EI convert about 29 percent of the sun's energy into electricity, or nearly double the conversion efficiency found in traditional panels commonly sold today.

The key to the innovation is using high-powered lenses to focus sunlight on ultrahigh-efficiency cells that are less than an inch wide, and similar to the type of cells used to power space satellites. By concentrating the sunlight, the modules use 1/1,200 of the expensive photovoltaic material contained in most solar panels.

Another quantum improvement in EI's modules is they work even more efficiently as the sun gets brighter and hotter, says Budano.

"The hotter and sunnier it is, the bigger the advantage that these modules have," he said.

Given this fact, the modules are perfectly suited to the desert region of the Southwest United States, but don't work as well in less sunnier climes such as the Pacific Northwest or the Northeast, he said.

EI's relocation to Poway underscores what is clearly becoming a fast-growing cluster of businesses centered on harnessing the power of sunlight to generate electrical energy.

According to Holly Lepre of CleanTech San Diego, a nonprofit that promotes alternative energy development businesses, there are 175 companies in the region engaged in some aspect of solar energy. In May, CleanTech said of some 700 companies involved in green energy here, about 115 were in the solar energy space.

Kevin Carroll, executive director of TechAmerica San Diego, the trade group for the local high-tech industries, said one of the exciting things about EI's move is it disproves a tired cliché that the region can't support any manufacturing.

"This proves that if the manufacturing is high-tech, and specialized, then San Diego can compete," Carroll said. "The irony here is that many people say that all we have to offer here is our sunshine, and yet that's one of the main reasons why Energy Innovations came here. I guess that this is a case of our good weather helping us in more ways than one."