

## Solar manufacturing plant opens in Poway

By Monica Unhold

July 22, 2010

Poway will soon harness the power of both the sun and the cleantech industry, with a new solar manufacturing plant.

Energy Innovations Inc. announced plans Thursday to manufacture 3 megawatts of Sunflower photovoltaic solar concentrators each year at a new Poway facility.

In the next two months, the company plans to more than quadruple its current staff of 25, hiring 100 new employees to fill an array of different positions, said Joe Budano, CEO of Energy Innovations.

Establishing the new plant was possible due in part to a \$3.5 million low-interest loan from the California Energy Commission.

The plant opening marks the commercialization of Energy Innovations' Sunflower solar concentrator system, which was developed at Idealab's facility in Pasadena, Calif., Budano said.

"Today marks the beginning of a new era in the evolution of our company," Budano said.

Using a series of mirrors, the Sunflower system concentrates natural sunlight 1,200 times onto high efficiency solar cells. The innovative product is engineered to achieve a 29 percent efficiency rate, the best available among solar concentrators, Budano said. The Sunflower's efficiency is more than double the average 15 percent of traditional photovoltaic panels, commonly seen atop homes and businesses.



Each solar concentrator unit is constantly moving to track the sun.

Ensuring the longevity of the units required a custom gearbox, similar to those used on satellites. The gearbox is completely sealed, and will last 25 years without any maintenance, Budano said.

The technology is ideal for utility-scale solar generation in the deserts of Southern California. Photovoltaic solar panels lose efficiency as temperature increases, at a rate of 1 percent per degree Celsius. The solar cells in the Sunflower system only degrade by 0.1 percent per degree Celsius, Budano said.

"At noon their (traditional PV) panels are putting out 38 percent less energy than our system," Budano said.

The generating capacity of the solar concentrators is so great that if placed on just 40 square acres, they would generate enough energy to power the entire United States, Budano said.

The system's "erector set" rack is also configured to avoid disrupting sensitive habitat. The rack is approximately 5 feet tall and allows small animals to pass underneath the concentrator units.

The Sunflower system will be competitively priced and the company plans to ship modules to locations throughout the United States, Middle East, Africa, and to China, Korea and India. The power generated by the Sunflower will go for \$5 per watt, or \$5 million per megawatt, Budano said. He declined to discuss specific prices of the system or projected annual revenue.

Energy Innovations' presence in Poway shows that American manufacturers can compete internationally, said State Assemblyman Nathan Fletcher.

"We can compete," Fletcher said. "We just have to figure out what policies to put in place."

Kevin Carroll, executive director of TechAmerica San Diego, agreed.

"This proves manufacturing is possible in San Diego," Carroll said.