
Department of Energy

Tax Credits Give Thin-Film Solar a Big Boost

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MiaSolé will expand its capacity to make its thin-film solar panels by more than ten times, thanks to two Recovery Act tax credits. | Photo courtesy of MiaSolé

For MiaSolé, a relative newcomer to the solar energy market, 2010 has been a year of major growth.

The Santa Clara, Calif.-based company makes [thin film CIGS](#) (copper, indium, gallium and selenium) solar panels, a relatively new technology, and only started shipping to customers in the fall of 2009.

Due to their thinness and low manufacturing costs, thin-film solar panels are useful in building-integrated or roof-integrated installations. This year, with demand on the rise and positive feedback rolling in, MiaSolé is planning a major expansion -- adding more than ten times its current manufacturing capacity over the next four years.

"We are sold out for this year and next year on the capacity that we have planned," says Stephen Barry, the company's vice president for corporate development. "The

feedback that we received from our customers is that they would buy more of our product if it were available.”

Innovation and Recovery Act tax credit

To help fund this growth, MiaSolé is using two Advanced Manufacturing tax credits totaling more than \$101 million available through the Recovery Act.

The company’s existing Sunnyvale, Calif. factory will get a boost in capacity with support of a \$10.5 million tax credit. Barry says that work is already underway and will help the company as much as triple the factory’s capacity to 60 MW by the end of 2010. By the end of 2011, the factory is expected to be running at its full, larger capacity.

The Sunnyvale plant is designed to operate five roll coaters and a module assembly line. As each new roll coater, necessary for thin film module manufacturing, is installed the facility’s output is increased accordingly.

“Our module assembly line is complete, with the proviso that additional equipment will be brought online to keep the overall capacity . . . balanced as roll coaters are added. Through this ramp-up period, headcount is increased to operate and maintain the expanding equipment set,” notes Barry.

In addition, MiaSolé plans an entirely new U.S. factory with an even greater output, supported in part by a \$91.4 million Recovery Act tax credit. The company has not yet selected a site, but Barry says it will likely use a “brownfield” site previously used for manufacturing.

Barry cannot yet say how many jobs this will create, but confirms that the new manufacturing capacity will require a significant increase in its workforce.

“You can appreciate that we’re going to grow in the next four years, probably 2 to 3 times the head count we have today,” he says.

Economies of scale

Barry says MiaSolé is expanding so much because it’s at the right stage of growth.

After spending two years refining its product and manufacturing process, the company moved last year into full commercial production.

Another reason Barry cites for expansion is taking advantage of economies of scale.

A challenge for all solar energy companies is achieving grid parity -- bringing down costs to at or below the cost of conventional grid energy. Thin-film solar panels are relatively inexpensive to start with, and MiaSolé uses a low-cost manufacturing process called sputtering to make them as well. Manufacturing in bulk is another way to control costs.

"In this game, you need to have a lot of capacity if you want to be considered a significant player, and that's the whole impetus behind investing in the future capacity," Barry says. "Everything is about cost per watt."

What are the key facts?

MiaSolé adding more than ten times its current manufacturing capacity

Company expects to double or triple its workforce with expansion

Expansion is funded by \$101 million in Recovery Act tax credit

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