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Solar basks in a white hot market: Over the past two years, the industry has grown capacity, revenue and jobs

By Peter Key, Staff Writer

When the Solar Energy Industries Association last held its annual PV America trade show in the Pennsylvania Convention Center in June 2009, it was able to boast that 277 megawatts of solar generation capacity had been installed in the United States the preceding year.

When the SEIA holds this year's show in the convention center April 3–5, it will be able to say that nearly 1,000 megawatts of capacity was installed in the country last year.

“We've seen the industry grow fourfold in the last two years here in the United States,” said Rhone Resch, the association's president and CEO. “Now solar is the fastest-growing industry in the United States and the mid-Atlantic region is the fastest-growing regional market.”

Resch's reference to fourfold growth uses installed capacity as the measurement. When he says solar is the fastest-growing industry, he's referring to its revenue as measured by the total value of the projects installed in the United States, which was \$6 billion last year, up 67 percent from \$3.6 billion in 2009.

The industry also is generating jobs. The Solar Foundation, a nonprofit research and policy organization, released a survey of solar industry employers last October that said that the industry employed 93,000 at more than 16,700 solar sites in the United States. The respondents expected to create nearly 24,000 more jobs by August.

“We're seeing states like New Jersey, Pennsylvania, Maryland and New York get literally tens of thousands of jobs from the solar industry as we're expanding,” Resch said. “And you're seeing not only new manufacturing plants [for solar panels], but you're seeing electricians and roofers and plumbers get an opportunity to grow their businesses or start new businesses after being let go by the housing industry.”

Pennsylvania ranks second among all states in solar-industry employment with 6,700 workers, behind only California, which has 36,000. New Jersey has 1,875 solar jobs, not enough to put it among the Top 10 states, which were all the report ranked, but New Jersey is second in installed solar generation capacity with 137.1 megawatts, according to the SEIA's 2010 Solar Year in Review report. California has the most installed capacity, 258.9 megawatts; Pennsylvania is sixth with 46.8 megawatts.

The total amount of installed solar generation capacity in the country is 2.6 gigawatts, which is still less than one percent of the country's total generation capacity, according to the SEIA.

The growth of solar power is being fueled by the decreasing cost of installing it; its cost compared to the cost of electricity bought off the grid in some parts of the country; federal and state incentive programs; and requirements by states that a certain amount of the power sold within their borders come from solar.

The federal incentives include a tax credit program that was enacted in 2005, went into effect the following year and has been extended through 2016. It allows businesses or homeowners to get tax credits of up to 30 percent of the cost of installing a solar generation system.

When the Solar Investment Tax Credit was renewed in October 2008, the economic slump reduced its usefulness by reducing the number of investors looking for tax credits to offset income. So the American Recovery and Reinvestment Act converted the tax credit to a grant, enabling a person or business installing a solar generation system to get up to 30 percent of the cost of the installation back in cash. The grant program runs through the end of this year.

Another federal incentive is a program that allows developers of many renewable projects to depreciate their entire value this year. After this year, developers will be able to depreciate half the value of a renewable project in its first year of service and the rest of its value over five years.

States have their own incentive programs, with New Jersey's being among the most generous. That, plus a strong solar-generation requirement has made the state "the hottest solar market in the country," said Nate Whigham, who develops solar projects in New Jersey for San Diego-based Borrego Solar Systems Inc.

Generating a megawatt of solar power earns an installation's owner a solar renewable energy credit, or an SREC. Instead of having to convert a certain portion of their generation portfolio to solar, power generators can buy these credits and count them towards their solar-generation requirement. SREC markets have sprung up, with the value of the credits being based on, among other things, the amount of electricity sold in a state that is required to be solar power.

Pennsylvania was early in enacting a solar-generation requirement but as other states have enacted or increased theirs, some people in the solar industry feel it hasn't kept pace.

Pennsylvania mandates that 0.05 percent of power sold in the state come from solar generation by 2021. New Jersey, meanwhile, requires 5,316 gigawatt hours, or about 7 percent, of the power sold in its borders to be solar by 2026.

That, plus compliance penalties, set the market for SRECs, which in turn helps set the market for solar power projects.

Mike Perillo, CEO of Berwyn-based Dynamic Solar LLC, which develops solar projects in the Mid-Atlantic states, said Pennsylvania's low standard is costing it.

“Pennsylvania was an early mover in 2004, but they just haven’t kept pace, so what’s happening is you’re seeing most of the investment in clean, renewable technologies flowing to surrounding states,” he said.

Federal incentives plus the uncapping of electric rates have made the state attractive to some companies in the residential solar industry.

One Block Off the Grid last year offered a group buying program for homeowners in the Philadelphia area looking to install solar generation systems. That was so successful that the San Francisco-based company is doing it again.

“We did 31 homes, which is decent,” said Dave Llorens, its president. “I’d like to do about 100.”

1BOG recruits home owners interested in learning about solar power, educates them and puts them in touch with an installer with which it has negotiated a price for the systems that includes a volume discount.

Mercury Solar Systems Inc. of Port Chester, N.Y., was the installer for 1BOG’s program last year and is the installer for its program this year, too.

“They do a great job of finding people who are interested in solar and educating them, so the result was our leads doubled and the close rate ... went up 50 percent,” said Bob Stickney, Mercury’s vice president of sales.

The federal and state incentives to encourage solar growth are meant to lower the cost of solar generation systems to the point that they become widespread.

The cost is coming down; an index by market analysis firm Solarbuzz puts the cost of a solar module at about \$3.25 per watt last month, down from about \$5.40 per watt in December 2001.

“We fully anticipate that within another five years, we will be the lowest-cost energy,” Resch said. “At that point in time, if Congress and the states want to reduce subsidies for all energy technologies, we’ll support that.”