

A time to go solar

It's a great time to get involved with the solar movement

by Rhone Resch

The solar energy industry is an emerging economic engine for the U.S. In 2008, during a major economic downturn, the solar industry posted its third consecutive year of record growth.

Total installed capacity for solar energy in the U.S. grew by 1,265 megawatts, bringing total capacity to 9,183 megawatts.

I expect 2009 to be another year of record growth.



Photos courtesy of the Solar Energy Industries Association.

Prices for a typical solar thermal installation range from \$2,000 to \$7,000.

As someone whose job involves working to expand the U.S. solar market, I am excited about the thousands of jobs our industry is creating and its tremendous potential for coming years. Many new solar-related jobs are in manufacturing and engineering, but there also is a great need for installers of photovoltaic (PV) panels on roofs. Overall, tremendous opportunities are available for entrepreneurs who want to be at the forefront of this emerging industry.

Rooftop installations

When most people think about solar installations, they picture panels installed on the roof of a home or business. These are PV systems and solar thermal (also called solar water heating) installations.

PV systems directly convert energy from sunlight into electricity. Prices for a typical home PV system range from \$25,000 to \$40,000 depending on the

PV system's size. In 2008, the U.S. added 292 megawatts of PV electricity to its electric grid, an increase of 81 percent from the 2007 growth rate. The U.S. now has more than 1 gigawatt of PV capacity on its electric grid. This is enough electricity to power about 150,000 homes.

Solar thermal installations also offer tremendous potential for roofing contractors because installing a solar water heater is one of the easiest ways for consumers to “go solar.”

Although solar water heaters don't generate electricity, they help lower utility bills by allowing homes and businesses on which they are installed to use the sun to heat water rather than using electricity or natural gas. They are affordable with prices ranging from \$2,000 to \$7,000 depending on the size and type of solar water heating system. Solar thermal installations also are an excellent solution for pool heating; consumers typically recoup their investment in one to two years.

PV and solar thermal systems have

long-term warranties of 25 years or more. Typically, building owners will need to replace their roof systems before their solar energy systems.

When I discuss these technologies with homeowners and business owners, they often say: “I just don't get enough sunlight in my town to make solar a smart investment.” They always are pleasantly surprised to find out Germany, the global leader in deployed solar, has the same solar resources as Alaska. They also are surprised when I point out that, after California, New Jersey is the U.S.' largest market for rooftop solar.

Rooftop solar technologies—PV and solar water heating—work in all 50 states, and robust markets are emerging throughout the U.S. In fact, the Solar Energy Industries Association (SEIA) hosted the first PV America conference in June in Philadelphia to highlight the mid-Atlantic region as an emerging PV powerhouse.

Solar policy

So what is driving the tremendous growth in rooftop solar systems throughout the U.S.? Primarily, legislative and regulatory state and federal policies.

Public officials know the public vastly supports solar energy. In fact, a September poll by Kelton Research, New York, found that 92 percent of Americans support expanded use of solar energy—more than any other energy source.

During the past year, Congress extended the solar investment tax credit through 2016. The legislation extended a 30 percent tax credit for commercial and residential solar installations and eliminated the monetary cap for residential solar electric installations, allowing utilities to use the credit.

For an average homeowner or business owner, this is like seeing a big “30 percent off” sign in his or her local solar installer's window. It means consumers never have had a better opportunity to install solar

systems on their roofs—and that means solar installers are seeing increased sales and hiring more employees to meet demand.

If a 30 percent sale on rooftop solar systems isn't incentive enough for consumers, many states also are getting in on the solar action. Most have enacted renewable portfolio standards (also called renewable electricity standards) that require a certain percentage of the state's electricity to be generated using renewable sources, such as PV systems. Some even set specific goals or "carve outs" for solar energy—this means a certain percentage of a renewable portfolio standard goal would have to come from solar energy. And Congress currently is debating creation of a national standard that would help deploy more solar energy systems across the U.S.

Additionally, President Obama signed the American Recovery and Reinvestment Act of 2009—also known as the economic stimulus bill—into law Feb. 17 after touring a rooftop solar array in Denver. Since then, the administration has begun investing stimulus funds in numerous programs to spur deployment of more solar energy equipment. The bill also created tax incentives for solar manufacturing, specifically a 30 percent tax credit for purchasing manufacturing equipment or constructing facilities to produce solar materials and components.

Opportunities

At the same time that legislation is driving solar installations, material costs for PV panels have declined, making solar installations more affordable. With more suppliers and scaled-up manufacturing, the PV industry is hard at work producing PV panels. In 2008, U.S. panel manufacturing capacity increased 65 percent from 2007 levels. But those panels will sit in warehouses if there is no one to install them on roofs. This is where I believe roofing contractors can play a big role.



This home's 7-kilowatt PV system produces nearly all the electricity the home uses each year.

Many homeowners and business owners only call roofing contractors when they have problems with their roof systems; a roof may have developed a leak, old shingles may need to be replaced or a tree branch may have damaged a roof during a storm. Typically, it's not a call one wants to make.

But a roof shouldn't be a liability; it should be an asset. Installing rooftop PV panels is one of the best ways for a homeowner to increase the value of his or her home. And contractors installing rooftop PV panels can turn roof systems into newfound revenue.

The benefits of installing rooftop PV panels are numerous. I had PV panels installed on my home's roof in 2006 and recently upgraded my system. During the course of a year, the panels provide almost all the electricity my home needs. I've seen my electricity bills decrease, and I'm doing my part to help reduce U.S. dependence on traditional fossil fuels.

The future

I see a bright future ahead for the solar movement. Exciting advances in solar technology are making it easier for consumers to say "yes" to solar installations and for entrepreneurs to become part of the industry. Turnkey systems have simplified installation and shortened required training. Developments in PV shingles and building-integrated PV are offering new design options for architects, builders and building owners.

I envision a future for the U.S. with as many rooftops as possible generating clean, reliable solar energy. But it can't be done without the help of roofing contractors and others in the roofing industry. Together, we can help lead the U.S.' new energy economy. 🌞 🌱

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