

SOLAR WASH

Brightening the future

BY ARAN MOORE | CONTRIBUTING WRITER





RES uture

How adding solar panels can reduce expenses and your carbon footprint.

Solar energy is rapidly becoming an affordable resource. Many have been caught off guard by the sudden increase in affordability. In less than a decade, the costs have been cut in half.

The cost of an average rooftop system in 2005 was between \$40,000 and \$50,000, and in 2013 the average was just over \$20,000 – and falling. These costs coupled with government rebates and tax credits have made solar installation an affordable reality. The decreases in costs are the result of economies of scale.

Harness the power of the sun

China's entrance into the solar panel manufacturing market has increased numbers while reducing the cost per panel. Their production has provided the world with large quantities of cheap solar panels, and production today is more than two times what it was just a few years ago. The exponential growth in demand has made this level of production practical, while improving technology behind the panels has made them more efficient at converting the sun's energy into electricity. All of this is good news for us.

With initiatives being carried out by states across the country, solar is becoming cheaper than the grid for

many people. You have probably seen more homes in your area with solar panels over the last several years. In 2006, 30,000 homes had the panels; in 2013, that number grew to 400,000, and current projections have the number of homes reaching 900,000 to 3.8 million by 2020, according to the Union of Concerned Scientists.

Decreasing costs have also made solar panels an attractive option for many businesses. One of the best places for installing solar panels today is on a carwash. They require a great deal of electricity in order to power all of the machinery, and being able to reduce that electrical bill will translate directly into savings for the company.

Due to washes often being located in the open and having a lot of roofing space, it is easy to install a large number of solar panels on them. In addition to solar photovoltaic (PV) panels being installed, a carwash can install solar thermal panels. Solar thermal panels contain tubes that are connected to the water tank of the carwash. The thermal panels warm the water up and then send it to the tank. A carwash needs warm water because it is better for washing, so thermal panels reduce the electricity used, turning cold water

(Continued on next page)

(Continued from prior page)

into warm water.

Now you're probably wondering, "How much electricity will these panels produce?" First, it should be noted that the technology for solar panels is always improving but has already reached an extremely high level. Carwashes all over the country have already installed solar panels and are saving big on electricity costs. The ones that currently have solar technology installed have reduced their energy needs by 30 to 50 percent – that's a whopping amount of electricity.

Take advantage of tax breaks

This amount will vary depending on the number of solar panels installed and what part of the country you are located in. Sunnier places such as Texas, Arizona and California will see higher outputs. However, even places with a number of cloudy days each year will still see a tremendous benefit and reduction in their energy consumption.

Another benefit of solar electricity is a more predictable electricity bill. When winter rolls around the costs for heating and electricity always go up due to demand and so do the number of people coming for carwashes. Solar can allow freedom from worrying about increased electricity costs cutting into your bottom line.

As carwashes are beset by a number of economic pressures such as minimum wage increases, health insurance for workers and regulations, it is critical for these companies to find ways to reduce costs. The solar industry has a lot of momentum behind it right now.

There are a couple ways to go about paying for solar panels: You can buy them outright or lease them. Every company has a number of leasing plans and buying plans, so you will have to weigh your options



... in 2013 the average was just over \$20,000 — and falling.

carefully and do some calculations in order to make the right decision for your business.

The federal government is also currently offering a tax credit. It started on January 1, 2006, runs until December 31, 2016, and it is equal to 30 percent of the total cost of any solar panel system put into service. Additionally, depending on which state you live in, there may be more tax write-offs. New Jersey and

(Concluded on page 48)

(Continued from page 46)

Maryland offer rebates up to 70 percent of the cost of the installation. Californians can also write off \$3,000 to \$6,000 because of the 10-year \$3.3-billion program passed by former Governor Arnold Schwarzenegger.

There are literally thousands of solar companies all across the U.S., which is good for buyers because there is a lot of competition among sellers. Be sure to shop around your local area, speak with as many companies as possible and compare estimates before making a decision.

Some carwash companies that have already installed solar panels are reporting savings in their electricity bills of over \$2,000 per year. If you figure installation will cost you, before tax credits and rebates, approximately \$22,000, then it would take eleven years to pay off the investment and start seeing returns. However, with the tax credits, rebates and any other deals that might exist in your area, you're looking at a far lower cost of \$5,000 to \$10,000, which means you will have the solar panels paid off in just a few years and be generating profits from them.

Be environmentally responsible

You'll also show the community you are trying to reduce your impact on the environment. Our society has become extremely conscious about its carbon footprint. People are eager

“Even places with a number of cloudy days each year will still see a tremendous benefit.”



to reduce their footprints, and going to a green carwash is one way they can do that. Many carwashes that have gone green are using it as advertising on their website, and the results have proven positive.

Despite the economy's recovery, it can still be a real struggle for small companies right now, and carwashes need to make sure they are able to stay open as much as possible while maintaining low costs. Solar power and the recent wave of smart technology make motors and other machinery more energy efficient at carwashes. As our economy continues to push for more renewable energy and the costs of fossil fuels continue to rise, solar will become cheaper and more efficient.

Along with the rise in solar, technology for storing electricity when it

is overproduced is also being improved. As this technology advances, it will allow those with solar panels to store excess electricity and use it when the sun isn't shining or they have a spike in usage. If each person and small business does their part to integrate renewable energy into their systems, the collective results will be global. □

Aran Moore is owner and president of Sun First! Solar. Moore founded Sun First! Solar in 1984. Since then he has gone through extensive training and certification in the solar industry, and he has completed training in sustainable energy and business administration through San Francisco State University and UC Berkeley. As operations manager, he is responsible for each installation process and keeps up with the latest technology in the solar field.

*Photos in this article:
zstockphotos/iStockPhoto (pg. 44, top),
pialhovich/iStockPhoto (pg. 46, top),
ghornepphoto/iStockPhoto (pg. 46, bottom),
fotolinchen/iStockPhoto (pg. 48, top).*