



CHARLESTON COUNTY

Solar Programs

CHARLESTON COUNTY AT A GLANCE



- Population: 381,015 (Source/Date: US Census Bureau, 2010-2014, 5 Year American Community Survey, December 2015)
- Size: 916 square miles
- Large Companies: Joint Base Charleston, Medical University of South Carolina, Boeing



BARRIERS



- Barriers:
 - Hard to understand
 - Access to LMI communities
 - Rural community
 - Growing industry
 - Predatory advertising

SOLUTIONS



- Solutions:
 - Educational material
 - Website update
 - Training for staff
 - Policy changes for building and zoning
 - Being involved with DOE Programs

What is Solar Energy?

Solar energy is energy that is harnessed from the sun. Technological advances allow us to capture and use this energy to heat, cool, light and power our homes and businesses. Solar energy is free, clean, abundant and renewable. It has extraordinary potential to bring electricity to the most remote parts of the world. For us in Charleston, it has tremendous potential to lower (and possibly eliminate) our electric bills.

Why Go Solar?

- ☀ Reduce or eliminate your electricity costs.
- ☀ Make money by selling excess energy back to the electric company.
- ☀ Protect the environment and help keep the air we all breathe clean.
- ☀ Increase your property value as homes with solar often sell more quickly and for more money.
- ☀ Ensure you always have power—solar electricity gives you security against traditional power failures and electricity grid attacks.
- ☀ Help the United States be less dependent on foreign countries for our energy.
- ☀ Support South Carolina's growing clean energy economy and the creation of new jobs.

How Does it Work?

Solar panels—often made of glass and silicon or a thin film—contain groups of individual solar cells. The solar cells absorb energy from the sun and generate direct current (DC) electricity. A device called an inverter then converts the

DC electricity into alternating current (AC) electricity. Once that conversion is complete, you can power anything that requires electricity!

Can Solar Energy Power My Entire Home or Business?

Yes, it can power an entire electrical system, including lights, heating and cooling systems, appliances and electronics. Systems can also be designed to provide partial power if that works best for your needs. The amount of electricity ultimately generated depends on the size of the panels, how many cells are in each panel and/or how much direct sun exposure the panel gets.

How Large of a System Do I Need?

This depends on several factors including how much electricity you use, the size of your roof, how much you are willing to invest in your system, and if you want the system to supply all of your electricity or just a portion of your higher cost energy usage.

How Do I Know if Solar is a Good Option for My Home and/or Business?

There is a good chance you can "go solar" as solar energy is plentiful here in Charleston. On average, we get 211 days that are at least partly sunny each year. In fact, approximately 78% of all buildings in the Charleston area are considered solar-viable. A solar-viable building has enough surface area on the roof and enough direct exposure to sunlight to make it a good candidate for a solar power

78%
#Buildings
in Charleston
are solar-viable

How Does Solar Power Work?



system. To get started you may want to visit www.google.com/get/sunroof or contact a solar installer to find out if your home is solar-viable.

How Long Do Systems Last?

A system that is designed, installed, and well maintained will operate for about 30 years. The best way to ensure and extend the life and effectiveness of your system is to have it properly installed. Most problems occur as a result of inadequate system installation. Additionally, most vendors recommend a yearly check by your installer.

How Much Will it Cost to Install?

The cost depends on a number of factors, including:

- ☀ whether you are looking to add a system to an existing structure or integrate a system into the building design of new construction
- ☀ the size of the system
- ☀ financial incentives (rebates, tax credits, etc.) from your local, state and federal governments and the manufacturer.

The system can be paid for up front with no additional payments over time. Systems often pay for themselves within 10 years. Alternatively, they can be financed with loans or can sometimes be leased.

How Much Will I Save on Utility Bills?

The amount you will save on your utility bills depends on:

- ☀ how much you currently pay for electricity
- ☀ how much electricity you use
- ☀ how many hours of sunlight your roof receives an average year
- ☀ how much energy your solar system produces
- ☀ how much your utility will pay you for any excess power that you generate and sell back

Solar specialists can give you a customized analysis to understand how much you will save—and possibly earn—by switching to solar.

Tax Credits for Installing Solar Panels
36% Federal
(through 2019)
25% South Carolina
(through 2019)

SOLSMART: GETTING TO GOLD



- The Application:
 - Building Inspection Services
 - Planning
 - IT
- NACO competition
 - Solsmart County Challenge
- Gold Status!

GROWING PROJECTS



- Solar in your Community Challenge
 - Solar powered bus stops
- Google
 - Using Sun Roof
 - Libraries
 - Bus stops
- NREL
 - Policy and Data



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