

Mitchell EMC

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The news
you need to
know in
5 minutes!

CAMILLA, GEORGIA
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Capture Your Share of the Sun With

COOPERATIVE
SOLAR
Mitchell EMC

Thinking of going solar but don't want the high cost and complications associated with rooftop solar panels? Or maybe there simply isn't enough sunlight where you live. With Cooperative Solar, you now have an easy way to capture your share of the sun — and it's only available from your local EMC.

- It's affordable.
- There are no long-term contracts.
- It's more cost-effective than owning or leasing a rooftop solar system.
- There's nothing to finance.
- There are no shade limitations.
- You'll have no holes in your roof.
- Concerns about roof age and condition are eliminated.
- No need to be concerned about roof orientation to the sun.
- There are no maintenance issues.
- Neighborhood covenants do not affect access.
- Renters can participate.

For more information, contact:



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greenpoweremc.com\solar

Consumer Federation of America endorses community solar

By Tracy Warren

As more U.S. consumers consider investing in solar energy, a new report from the Consumer Federation of America (CFA) makes the case for community solar.

As photovoltaic (PV) solar panels have dropped in price, more homeowners are installing them either on their roof or ground-mounting them on their property. In 2013, some 100,000 homeowners had installed solar panels; eighteen months later, that number had quadrupled to 400,000.

But nearly half of U.S. households have homes not suitable for residential solar, either because they rent or own a condo or co-op, or because their houses lack adequate sunlight or the right type of roof.

By comparison, community solar, also known as shared solar, is available to anyone who wants to invest.

Naturally, this form of local, home-grown power varies from place to place. Some projects sell or lease the panels; others sell or lease electricity generated by the array in "power blocks." Co-op's power suppliers develop some projects. In other cases, third-party developers take the lead.

What all community solar projects have in common is a model that allows anyone to participate and share the benefits, as well as the costs.

The CFA research identifies several benefits of this model for consumers.

According to the CFA white paper, "public power systems and rural electric cooperatives have led utility efforts in developing community solar projects..."

Larger, centralized community arrays can benefit from economies of scale, producing power that is less costly than electricity from individual rooftop solar arrays. According to the MIT Energy Initiative, "the per-kWh cost of electricity generated by residential PV is much higher than that from utility-scale plants."

In a community solar project, the utility or developer is responsible for the installation and maintenance of the solar panels, not the consumers.

The community-owned model eliminates some of the difficulties that arise when consumers without residential arrays end up paying more of the utility's basic infrastructure and maintenance costs.

According to the CFA white paper, "public power systems and rural electric cooperatives have led utility efforts in developing community solar projects. These projects reflect strong interest and participation of their residential customers, who as members (rural electrics) or citizens (public power) also have the final say about investment decisions."

The numbers back up CFA's assessment. Electric co-ops in 39 states have community solar projects that are already online or in the planning stages.

An explanation for this growth isn't hard to find. Electric co-ops embrace a business model that is open to participation by all members. For co-ops, locally-sourced, at-cost community power just makes sense.

Tracy Warren writes on consumer and cooperative affairs for the National Rural Electric Cooperative Association, the Arlington, Va.-based service arm of the nation's 900-plus consumer-owned, not-for-profit electric cooperatives.



Solar equipment 101

By Tom Tate

If a person had a Rip Van Winkle moment and fell asleep under a tree a decade ago, they would be amazed at how far solar photovoltaic (PV) systems have come. And they'd be right to feel that way as the technology continues to evolve at a rapid pace. Once the most expensive form of electricity generation, economies of scale in manufacturing and advances in technology are steadily driving prices down. The typical PV system has two main components, the panels and the inverter. Disconnect switches are also necessary so the system can be safely isolated for maintenance and other reasons.

Let's take a look at the solar panels first. Each panel is composed of many smaller cells that are all connected and together produce a certain amount of direct current (DC) electricity. When the system is being designed, the number of panels used is determined by the amount of electricity required and the amount of space available to mount them. The collection of panels is called an array.

Since solar cells generate DC power, but our homes and businesses use alternating current (AC) power—the next major system component is the inverter. This piece of equipment converts the DC electricity into AC power, which flows into your home. Like the panels, the inverters are evolving and becoming more capable with many now bearing the “smart” label indicating they can play an active role in the smart grid.

Many consumers are surprised to learn that heat has no part in the production of the electricity. In fact, solar panels increase in efficiency as temperatures drop. This often strikes people as odd since many solar arrays are shown in deserts and other hot, arid locations. A solar array will produce at its best on a cold, clear winter day all things being equal.

Scientists are constantly working with the solar cell components to develop more efficient and powerful

combinations. Today, the best commercially available panels have an average efficiency around 17 percent with some high efficiency panels exceeding 21 percent.

PV systems are installed in what is called a grid-tied configuration. This means that the system will only operate when electricity is present on Mitchell EMC's power lines. When a power outage occurs, the inverter automatically shuts down the flow of electricity from the solar array. Without this protective feature, the PV system could potentially back feed electricity into the co-op's lines, becoming a life-threatening danger to line crews and anyone in the area. When the inverter shuts down, the solar power stops flowing, so members should not install a system with the expectation that it will power their home or business during an outage.

While systems are sized to come close to the expected electrical needs of the member, there is no way to continuously match the output of the array to the current need for electricity. At times, the amount of solar power will be more than needed. At other times, it will be less. Here is where net metering comes into play.

The co-op's meter measures both the amount of electricity they supply when the solar production is less than required and the amount of electricity sent into the co-op's lines when solar output exceeds what is needed. On a regular basis, these flows are compared and credits or debits applied to the member's account. How this all works is determined by your co-op's net metering rate.

Storage is the final piece of the renewable energy puzzle. In the past, a battery system could cost as much as the total PV system. Today, companies like Tesla are bringing battery systems to the market that allow PV system owners to extend the capability and value of their investment at a price that doesn't break the bank. Being able to store excess power with a battery system provides the owner with power during an outage or at night when the PV system is not producing.

Solar PV has come a long way since first used on satellites in 1958. With this short overview, you now have a basic understanding of how these systems work.

For more information about renewable energy systems for your home, contact the energy experts at Mitchell EMC.

Tom Tate writes on cooperative issues for the National Rural Electric Cooperative Association, the Arlington, Va.-based service arm of the nation's 900-plus consumer-owned, not-for-profit electric cooperatives.

Solar Terms

Solar Panel

Combining individual solar cells into a larger, easier to install size.

Solar Cell

The basic power-producing part of a solar panel consisting of silicon and other chemicals. Solar cells can also be made from other elements such as cadmium telluride.

Inverter

The device that converts DC power into AC and may provide additional functions.

Solar Array

The collection of solar panels used in the overall system.

Racks

The structures on which the solar panels are mounted, either on the roof or ground.

Balance of The System (BOS)

All other parts and pieces of the PV system other than the array.



Energy Efficiency Tip of the Month



Is your room air conditioner working overtime? Reduce air leaks by installing rigid foam panels (instead of the commonly used accordion panels) in between the window frame and unit, and secure with duct tape.

Source: energy.gov

Employee SPOTLIGHT



Lisa Powell is Mitchell EMC's August Employee Spotlight. Lisa is an Accountant in the Camilla Office, and has been employed with MEMC for 14 years.

"One of my memorable events at Mitchell EMC was standing on the side of the road while Mitchell EMC employees raised the American flag in honor of a fallen hero," said Lisa. "I felt sad, but at the same time I had a sense of pride. I am proud to be a part of an organization that supports the community and makes you feel like family."

Lisa and her husband have two Maltese dogs, King Cotton and Bella. Lisa enjoys cooking, gardening, camping, and cool nights by the fire. She also loves the "wind in her face" and shares a passion of riding motorcycles alongside her husband.

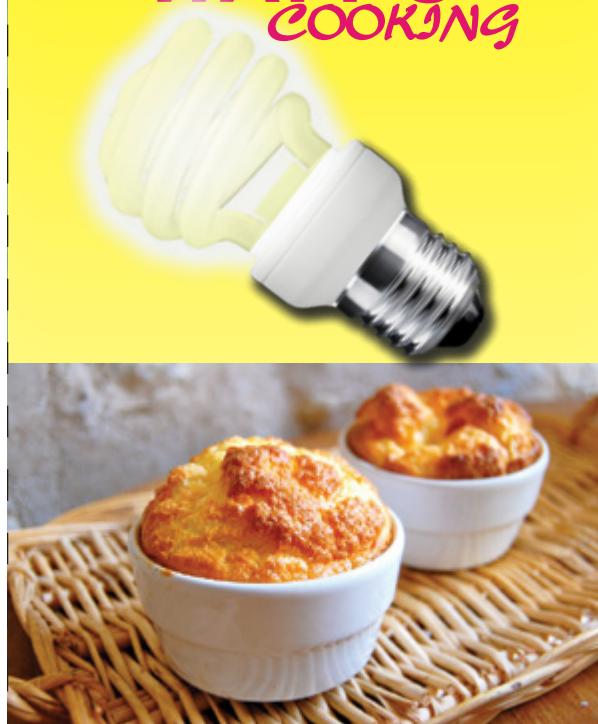


Note: If you move or no longer have electric service with Mitchell EMC, it is important that members keep their address current, so that future disbursements can be properly mailed. Capital credits are reserved for members even if they move out of the Mitchell EMC service area. Mitchell EMC will make a diligent effort to send a check by mail.

Statement of Equal Employment Opportunity

All applicants for employment shall be considered and hired on the basis of merit, without regard to race, color, religion, sex (including pregnancy), age, national origin, disability, genetic information, or past or present military status. The employment practices shall ensure equal treatment of all employees, without discrimination as to promotion, discharge, rates of pay, fringe benefits, job training, classification, referral, and other aspects of employment, on the basis of race, color, religion, sex (including pregnancy), national origin, disability, age, genetic information, or past or present military status. M/F/V/DV/D

WATT'S COOKING



Carrot Soufflé

Ingredients:

1 ½ pounds carrots
½ cup butter
3 large eggs
½ cup flour
1 ½ teaspoon baking powder
1 ½ cup sugar
¼ teaspoon cinnamon

Cook carrots until tender. Blend all ingredients in a blender. Spoon mixture into lightly greased 1 ½ quart soufflé dish. Cook at 350° for 1 hour and 10 minutes.

Thanks!

to **Bertha Simmons**,
Mitchell County, GA, for sharing
this recipe.

Share & Win!

Send us your favorite quick and easy dinner recipes. If your recipe is chosen for print, you can win a **\$25 credit** on your next Mitchell EMC bill.

Send recipes to Heather Greene, P.O. Box 409, Camilla, GA 31730 or email to heather.greene@mitchellemc.com.