

Is Solar Power a
Good Choice for You?

Consider Powering Your
Commute with Electricity

JEMCOnews

A PUBLICATION FOR JACKSON EMC MEMBERS

April 2015



save about
\$180
a year

Control:

A programmable thermostat can save about **\$180 a year** in energy costs.

**GOING
GREEN**

Save Electricity
and Money with
a Few Changes
Around the House



President/CEO
Chip Jakins

Sunny Outlook

Georgia's warm and sunny climate make it a great place to live and, most people would think, to capture the sun's power as energy. According to the National Renewable Energy Laboratory, we are 10th among other states for potential solar energy based on the sun index. Nevada tops the list; Georgia is tied with South Carolina and Mississippi.

While people have been harnessing the power of the sun as energy for decades, and we've been delivering it to our customers through Green Power EMC, residential installation of solar power is still relatively new in this state.

Sunlight is free. Solar power is not. Cost has been a limiting factor in the adoption of solar. While the cost of adoption is decreasing, solar power systems cost \$20,000 to \$50,000 to install. The price varies based on size, type of panels and the type of mounting system used.

Legislation discussed this session has cast a spotlight on new opportunities for homeowners and business owners to add solar as a source of power. Many people think a solar installation will replace their need for a traditional energy source. But the ability to convert sunshine to energy is unpredictable and entirely dependent on the laws of nature. Solar power is only available on sunny days and peak production happens between noon and 2 p.m., when the sun is directly overhead. Your demand for energy typically peaks in

the winter morning hours and between 4 p.m. and 7 p.m. on summer evenings, when the sun isn't available to generate power. So, homes with solar panels still have to be connected to the electrical grid so they have power when their panels aren't producing energy.

One of the best ways to use solar power is through solar water heaters. These water heaters use energy from the sun to heat water and then hold it at the desired temperature. Solar water heating is one way people can reduce consumption and cost. Most homes use 18 to 25 percent of their energy heating water. We offer a rebate for our members who choose to install this type of system.

Solar is just one of the renewable resources EMCs across the state support through Green Power EMC. That effort supplies our members with electricity sourced from renewable resources. JEMCO members can purchase blocks of power as part of the Green Power Rider – there is more about the program in this issue.

Power that isn't used is the "greenest" energy of all. With the 45th anniversary of Earth Day celebrated on April 22, it's a great time to think about using energy more efficiently. As a member-owned cooperative, we have an obligation to provide safe, reliable power to our members at the lowest possible cost. We are also charged with educating our members about the efficient use of electricity. Take a look at the tips for reducing consumption in this issue to manage your consumption, and your bill. ▲

JEMCO news

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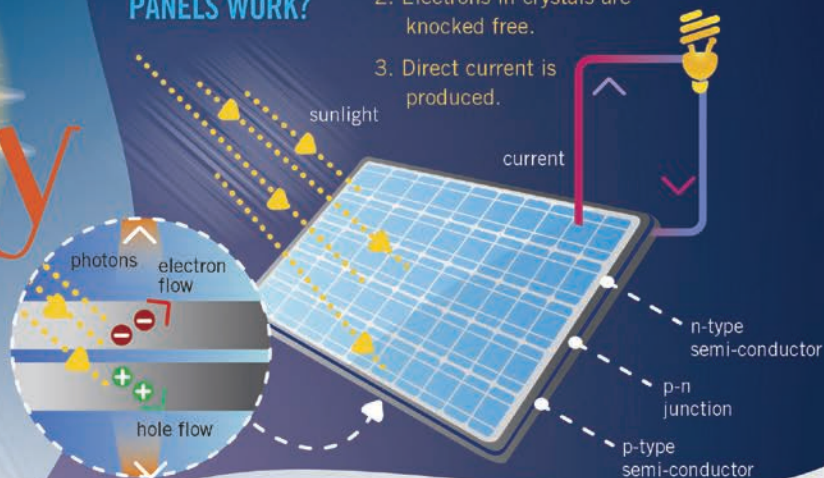
Paperless billing saves you time and money while reducing your carbon footprint. About 14,000 Jackson EMC customers receive their monthly bills in their email inbox each month rather than their mailbox, saving paper, time and postage. We still mail a little more than 200,000 bills, which costs the cooperative around \$100,000 each month in postage and paper. If another 14,000 customers signed up for paperless billing, we'd save an additional \$7,000 each month. As member-owners of the cooperative, cost savings are passed down to you. Sign up for paperless billing through your online account at <http://ebill.jacksonemc.com>. You'll be automatically entered in a drawing to win one of two tablets.



Solar electricity 101

HOW DO SOLAR PANELS WORK?

1. Photons from the sun's rays strike the solar panel.
2. Electrons in crystals are knocked free.
3. Direct current is produced.



Watch our newsletter and website as we research and develop more information and advice on installing solar electricity systems.

Solar array – uses energy from the sun to produce an electric current

Community solar, or shared solar, allows many consumers to share the benefits of a single solar project. It may be the right choice for people who are renters, have a shaded roof, a roof that's not properly oriented or just don't want to make the upfront investment in their own solar electricity system.

Electric grid – supplies electricity when the solar array can't produce (cloudy or night)

Meter – measures electricity use

Inverter – converts the direct current produced by the array to alternating current used by the appliances and devices in your home

Breaker panel – routes the electricity from the inverter to the circuits in your home

Harvesting energy from the sun, through the use of photovoltaic (PV) cells to convert light from the sun directly into electricity or through solar collectors that heat water using sunlight, helps conserve natural resources. These renewable energy technologies can help you save on electricity costs all year, while reducing the negative impact on the environment.

Graphic courtesy of Walton EMC, designed by mprintdesign.com.

WILL SOLAR WORK AT YOUR HOUSE?

- Your home's roof should be mostly unobstructed by trees and have little shading.
- Panels should face south to take advantage of the most sun hours.
- Shingles or roofing must be in good condition.
- There should be at least 300 to 400 square feet of area available for the panels.
- There is often considerable upfront cost when installing a whole-house solar system, around \$50,000 before incentives. It takes about 10 years to get a return on investment for a solar electric system.

INCENTIVES

JACKSON EMC – Solar Powered Home: A one-time rebate of \$450 per kilowatt (kW) of DC installed, up to 10kW for members who qualify. Maximum benefit of \$4,500. *(Reserved for members who follow our installation and equipment specifications.)*

FEDERAL: Uncapped 30 percent federal income tax credit on solar equipment installed before January 1, 2017. **Consult with your tax advisor.*

SOLAR SYSTEM VS. SOLAR WATER HEATING

A **solar electricity system** produces an electric current when photons from the

sun's rays strike a photovoltaic panel made up of silicon crystals.

A **solar water heating system** produces hot water when the sun's radiant energy heats a liquid in a solar collector containing a piping system. JEMC offers a \$500 rebate for the installation of a new ENERGY STAR® rated solar thermal water heater.

SAFETY

Before installing a solar power system, contact Jackson EMC for assistance on properly connecting it to our power grid. An improper connection can be dangerous to you, your neighbors and Jackson EMC's employees.

To find a certified installer, and for more information about our Sun Power program, see www.jacksonemc.com/sunpower.

Electric Vehicles

Electricity is a very affordable way to fuel a car. Exactly how much you will save depends on electric rates and the price of gasoline. In Georgia, regular unleaded gasoline costs, on average, \$2.53 per gallon. The cost for driving an electric vehicle averages \$1.20 per e-gallon, the Department of Energy's measure for the cost of fueling a vehicle with electricity compared to a similar, but gasoline-fueled, vehicle.

Many people are looking to electric vehicles for environmentally-friendly and affordable transportation. If you find yourself contemplating the switch from gas to electric, look at your lifestyle and decide which option is the best fit for you.

COMPARE: 3 types of electric vehicles



Battery Electric Vehicles

Battery electric vehicles (BEVs) have no gasoline engine and run exclusively on the energy stored in batteries. These vehicles can run for 80 miles or more before recharging and include the Nissan Leaf, Fiat 500e, Mitsubishi i-MiEV, Ford Focus Electric, Chevrolet Spark EV, Honda Fit EV and Tesla models.



Plug-in Hybrid Electric Vehicles

Plug-in hybrid electric vehicles (PHEVs) are similar to conventional hybrids, but they have a larger battery that can be charged by plugging into an electric outlet. PHEVs are usually designed with an electric-only range of 10 to 40 miles, blended with a gasoline engine to achieve higher speeds and loads. After the electric-only range is exceeded, the vehicle continues to operate as a hybrid vehicle using a gasoline engine or generator. Examples include the Toyota Prius, BMW i8, Honda Accord Plug-In and Ford C-MAX.



Extended Range Electric Vehicles

Extended range electric vehicles (EREVs) have a plug-in battery pack and electric motor, as well as an internal combustion engine. EREVs are different from plug-in hybrids because the electric motor always drives the wheels, with the internal combustion engine acting as a generator to recharge the battery when it is depleted. Typically, these vehicles have a pure electric range of around 40 miles before the vehicle switches to the range-extender mode. A Chevy Volt is one EREV.

2015 INCENTIVES:

Up to \$7,500 Federal Tax Credit for Electric Vehicles.
Up to \$5,000 Georgia Tax Credit for Electric Vehicles.

CHARGING:

All electric vehicles can be charged using a standard 120-volt outlet, commonly called Level 1 chargers. Charging vehicles with a Level 1 charger can take seven to 17 hours when empty. If you need to charge your vehicle faster, consider having a 240-volt circuit installed, similar to the one that powers your clothes dryer. A 240-volt, or Level 2 charger, can fully refuel a battery in four or five hours.

If you are traveling around town, or across the country, download the **PlugShare app** for your smart phone to find a charging station. Or, log on to the Department of Energy website and find chargers on their map, www.afdc.energy.gov/fuels/electricity_locations.html.

PLUG-IN ELECTRIC VEHICLE (APEV) RATE:

If your lifestyle allows you to limit your electricity use during peak times, you could charge your vehicle overnight for five cents per kilowatt-hour with the Jackson EMC Residential Plug-In Electric Vehicle (APEV) rate. This is a **whole-house rate**, which has the potential to benefit electric vehicle owners. It is similar to our Residential Time-of-Use rate plan, which encourages the shift of electricity use from peak time periods, 3 to 8 p.m. on summer weekdays, to off-peak periods. In addition, those on the APEV rate have the added benefit of a Super Off-Peak period between the hours of 11 p.m. and 7 a.m., when charging their car will result in the greatest savings. Qualifying members must commit to stay on the plan for 12 months. More information about the APEV rate is available at: www.jacksonemc.com/evrate or send questions to info@jacksonemc.com.

- **On-peak energy** consumption is the kWhs used from 3 to 8 p.m. Monday through Friday, from June 1 through September 15, excluding Independence Day and Labor Day, and is billed at 32.99 cents per kWh.
- **Super off-peak energy** consumption, occurs between 11 p.m. and 7 a.m. year-round, and is billed at 4.98 cents per kWh.
- **Off-peak energy** is energy consumption not during those specific times, billed at 6.20 cents per kWh.
- Service charge increases from \$13 to \$16 a month.

GOING GREEN SAVES YOU GREEN

10+ YEARS

Upgrade:

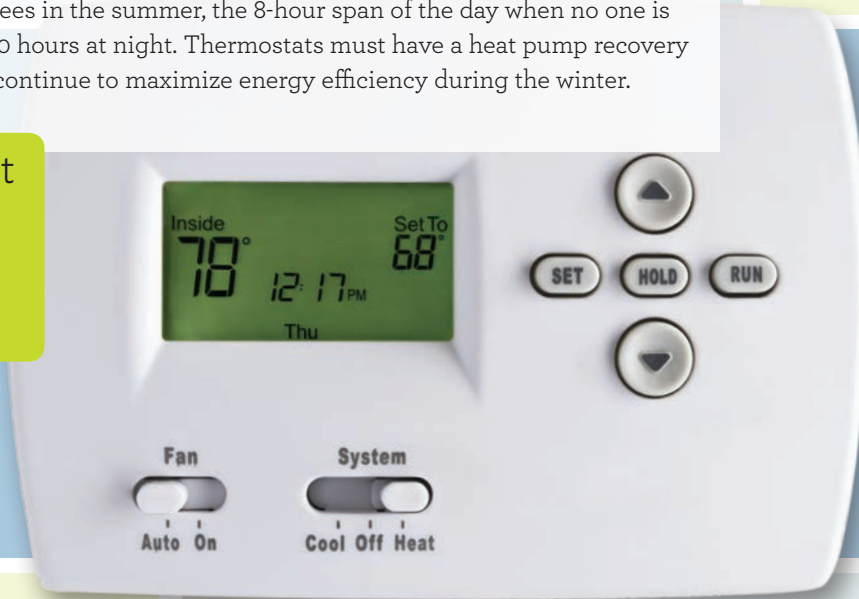
If your heat pump is more than 10 years old, you should consider replacing your inefficient electric heating and cooling equipment with an ENERGY STAR® rated heat pump. This upgrade can save you 20% or more on heating and cooling costs.

Control: A programmable thermostat can save about **\$180 a year** in energy costs if your home temperature is set back 8 degrees in the winter or up 8 degrees in the summer, the 8-hour span of the day when no one is home, and 10 hours at night. Thermostats must have a heat pump recovery function to continue to maximize energy efficiency during the winter.

-1° reduces energy use
3% - 5%

Set your thermostat at **78° F** in the summer and **68° F** in the winter. With each degree decrease on your thermostat in the winter and increase in the summer, you can reduce energy use **3% to 5%**.

save about
\$180
a year



\$50
a year
to run a laptop



Up to **50%** of the energy used at home goes to heating and cooling the air inside.

Cash:

\$1,900 in rebates are available from Jackson EMC when using the Personal Home Fitness Evaluation to identify and improve energy efficiency.



Screen saving:

Utilizing the sleep function on your computer, rather than a screen saver, when you will be away for more than two hours has the potential to **save \$42.75** a year.

Save about 50¢

per shower with a low-flow showerhead. Using less hot water when you shower will reduce your energy cost. Save \$145 a year for each low-flow shower head installed.

Recycle your unbroken CFLs at Lowe's, Home Depot and other retailers.



save more than
\$300
a year

Bright Idea: Switching from incandescent to CFL bulbs can typically **save more than \$300 a year**. It costs \$70 per year to power a 100-watt incandescent light bulb 24/7.



More is not better. One 15-watt fluorescent bulb puts out roughly the same light as two 60-watt incandescent bulbs, but uses **20% less energy**.

Fun Fact

The number of light bulbs in the average U.S. home:

50+

Sources:

Energystar.gov
Alliance to Save Energy www.ase.org
PaystoLiveGreen.com

Use our energy efficiency guides to learn how you can reduce electricity and cost.
www.jacksonemc.com/guides

Food Bank of Northeast Georgia



Approximately 80,000 individuals struggle with hunger in Northeast Georgia, according to Feeding America. The Food Bank of Northeast Georgia distributes an average of 1 million pounds of food per month to this population, putting about 34,000 pounds of food on the tables of those in need every day.

The Jackson EMC Foundation granted \$15,000 to the Food Bank of Northeast Georgia in February to support its Mobile Pantry program, which sends truckloads of food to central distribution points where hungry people can get food.

“With mobile pantries, the food is trucked to a community location using a big box truck or a full tractor trailer. Then, we distribute food on the same day and no one has to store anything. We are able to give out much more fresh food that way,” said Elizabeth Penney, grants manager at the Food Bank of Northeast Georgia.

More than 20 agencies in JEMC’s 10-county service area serve as distribution locations for the program. Through this approach, 200 to 600 families can be served in just a few hours. Mobile pantries serve food at least once a month, but several offer food each week. Each family receives about 50 pounds of food including dairy, meat, produce, canned goods and grains.

“People have to qualify, but potentially, a family could get food every week,” Penney said. “We want to make sure people get the food they need when they need it.”

The food bank estimates the JEMC grant will supply 1,665 50-pound boxes of food to people in our community. ▲

operationroundup

Jackson EMC Foundation awards \$110,500 in grants

The Jackson EMC Foundation board of directors awarded a total \$110,500 in grants to organizations during its February meeting, including \$103,500 to organizations and \$7,000 to individuals.

\$15,000 to the **Boys & Girls Clubs of Jackson County** to help purchase a 15-passenger van to provide safe, dependable transportation for the more than 250 club members who travel to the club after school, as well as transportation for summer program field trips and activities.

\$15,000 to **Center Point**, a Gainesville nonprofit that mentors at-risk young people in Gainesville City and Hall County schools, to provide free and low-cost counseling to youth and their families who could not otherwise participate in therapy.

\$15,000 to the Athens-based **Food Bank of Northeast Georgia** for its monthly Mobile Pantry Program, which distributes food through partner agencies in seven counties served by Jackson EMC, eliminating the need for the agencies to store the food and allowing the food bank to distribute thousands of pounds of food to those in need at a fraction of the cost.

\$15,000 to the **YMCA of Georgia's Piedmont, Brad Akins Branch** for its summer camp to enable 16 children and 14 teens from economically disadvantaged families to attend an 11-week day camp that provides a safe environment and nurturing quality programs for youths that might otherwise be “latchkey” kids during their schools’ summer break.

\$10,000 to the **Ark of Jackson County**, a community outreach effort by area churches that assists individuals who have experienced a loss of income due to circumstances beyond their control, to help fund emergency housing assistance for rent or mortgage, and prescription medicine assistance.

\$10,000 to **L.A.M.P. Ministries** in Gainesville for its Community Youth Outreach program. The program combines group counseling and community activities over three-month sessions that provide high risk youths in Hall and Jackson counties

with a positive alternative to gang participation and other delinquent behavior.

\$10,000 to **Teen Pregnancy Prevention** in Gainesville to help fund the “Smart Girls” program in Hall County and Gainesville City high schools that offers guidance and support through weekly sessions to provide girls with the knowledge, skills, self-esteem and self-confidence they need to make healthy decisions about sexual activity and dating relationships.

\$7,500 to **Athens Nurses Clinic**, a nonprofit health care clinic providing free services to uninsured low-and-no income residents, to help implement the Healthy Living/Healthy Community Program, which helps diabetic patients understand their disease and make lifestyle changes that will result in improved health.

\$3,500 to **Good Samaritan Ministries**, a Gainesville nonprofit

that provides food, clothing, furniture, job counseling and education assistance to those in need in Banks, Barrow, Clarke, Gwinnett, Hall, Jackson and Lumpkin counties.

\$2,500 to the **Gainesville/Hall Community Food Pantry** to purchase food from the Atlanta Community Food Bank and the Georgia Mountain Food Bank for distribution to those in need in Hall County.

Individual Grant Recipients:

\$3,500 to help purchase a ceiling lift for a **wheelchair-bound teenager suffering from spinal muscular atrophy** whose parents can no longer safely lift her.

\$1,750 to help pay for dental work for a **senior citizen with limited income**.

\$1,750 to help pay for dental work for a **disabled senior citizen with limited income**.

Will Choice Rates Work For You?

Jackson EMC's goal is to provide safe, reliable and affordable electric service to its members. To offer our members the best value, we offer choice rates that may save members money. The **Residential Time-of-Use rate (ATO-14)** encourages members to limit energy use from 3 to 8 p.m. Monday through Friday, June 1 to September 15. This rate is ideal for those who are not home during the peak time and can set back the thermostat and use a timer on their electric water heater. Members must sign-up for time-of-use rates by May 1. The monthly service charge increases from \$13 to \$16.

When choosing a plan with a rate structure that changes throughout the day, understanding consumption becomes very important. With choice rates, cost per kWh can change from five cents to 33 cents depending on the hour. Heating, cooling and water heating are the top three household energy users. It is important to shift the energy loads you can to the lowest possible cost to make choice rates work for you. Learning how to change your energy usage, you need to understand how it is calculated.

ATO-14



5.89¢

All other times

32.99¢

All on-peak 3-8 p.m.
Monday-Friday
June 1 - Sept. 15

The formula is: $P_{(W)} \times t_{(h/day)} / 1000_{(W/kW)} = E_{(kWh/day)}$

For example, a typical dishwasher is 1800 watts x 1 hour / 1000 = 1.8 kWh per load. Multiply the usage by the cost per kWh to determine the price you pay to wash a load of dishes. On a time-of-use rate, washing a load of dishes would cost 59 cents at 6 p.m. or 10 cents at 10 p.m.

SOME OTHER COMMON CALCULATIONS:



A refrigerator uses
4.8 kWh
per day.



A freezer uses
6.6 kWh
a day.



A ceiling fan uses
1.6 kWh
when it runs all day.



An air conditioner uses
7-10 kWh
every 2 hours it runs.



It takes
3.9 kWh
to wash and dry a
load of laundry.



50-gallon water heaters use
9 kWh
to heat water every 2 hours.

smartconnections

Green Power FAQs

Through our partnership with Green Power EMC, Jackson EMC members can support the generation of green energy through the Green Power Rider program. For \$4.50 a month, members can purchase 150 kWh, about a tenth of their energy usage, from renewable resources. Members can choose to participate or withdraw from the program at any time. After a few years in the program, these are the questions that are asked most frequently.


What "green" energy sources does Green Power EMC use?

Green Power EMC obtains green power from renewable facilities all over the state, including low-impact hydroelectric, biomass from wood waste and solar power. However, most energy is collected as methane gas from landfills.

What is landfill gas-to-electricity generation?

The decomposition of organic matter in landfills produces landfill gas, or methane. It is normally disposed of by burning, but the burning methane gas can be harnessed to power electric generators. Landfill plants use otherwise wasted landfill byproducts to replace burning fossil fuels.

How do I know I'm really getting green power?

There's no way to specifically send the electricity generated from renewable resources to your home. By subscribing to Green Power, you are encouraging investment in environmentally-friendly power generation. Every Green Power kilowatt-hour you purchase means that Jackson EMC is purchasing one fewer kilowatt-hour from other sources, such as coal-burning power plants. Members who subscribe to Green Power are not only helping the environment, but also helping develop programs to create awareness and educate students. Funding from this program pays for solar installations in 35 schools across the state participating in the Sun Power for Schools program. 

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(770) 963-6166

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Suwanee, GA
(770) 963-0305 or
(706) 543-4009

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WHAT'S COOKIN'?

"I have made this dish so often and my family enjoys it so much. It is not hard to make and it tastes so good."

- Mary Reba Cannon, 96 years old - Jefferson, GA

Pork Chop and Rice Casserole

Ingredients:

- 2 cups uncooked rice
- 5 pork loin portions, sliced (approx. ¾ inch thick)
- 1 can beef consommé soup
- 1 can French onion soup
- ½ stick margarine, melted

Instructions:

- In casserole dish, pour uncooked rice.
- Layer pork on top of rice.
- Combine soups with margarine and pour over pork loins.
- Seal tightly with foil.
- Bake at 350 degrees for 1 hour.



Submit
Recipes to:

Cooperative Cooking
Jackson EMC
P.O. Box 38
Jefferson, GA 30549