WITHLACOOCHEE RIVER ELECTRIC COOPERATIVE, INC.

Your Touchstone Energy® Cooperative

Renewable Energy and Energy Conservation

-Energy Efficiency: There are multiple ways you can live more sustainably. See below for a few tips.

1. In your home:

- Turning off lights when not in the room.

-Open your blinds during the day to bring in natural light instead of using lights in your home.

-Take shorter showers.

-Unplug unused appliances.

-Lower your water heater temperature.

-Replace old windows with energy efficiency windows.

-Seal around pipe penetrations coming through the walls.

-Check the ceiling behind the cornice built on bookshelves for holes cut during construction.

-Attic accesses stairways should fit tightly into the ceiling and be carefully weather stripped using insulated sheathing board.

-Ensure the weather stripping around doors and windows is tight.

-Remove the whole-house fan if not used and seal and insulate.

-Make sure your outside dryer vent door closes when the dryer is not in use. This requires cleaning away lint accumulation periodically.

-Overfilling your washer can increase your energy use.

- If you have a window that is west facing and sees a lot of sunshine consider adding solar screening to it to catch a lot of the heat. It is sold at many home improvement stores.

-Upgrades to add energy efficiency to your home: Add energy star qualified appliances, install water sense – labeled low flow shower heads and faucet aerators to conserve and reduce water heating costs. Use LED lightbulbs, they use 75% less energy than normal bulbs. Install Energy star qualified ventilation fans in your bathroom. Hire a qualified energy auditor to assess your home, you will receive customized list of energy -saving recommendations.

2. Around your home:

-Plant some shade, this can help cut cooling cost in your home.

-Start a compost bin, this creates rich soil additive that can improve your lawn and garden.

-Set up a rain barrel**.** Lawn and garden watering make up nearly 40% of total household water use during the summer months.

-Hang a clothesline: Air drying clothes can help cut the cost of using a dryer which can be as much as $100 a year or more.

-Landscaping is a cost-effective way to cool your home. Studies indicate that in shaded neighborhoods, temperatures can be reduced 3 to 6 degrees during the summer months. Plants trees to maximize shade on your home. Vines, shrubs, grasses and hedges are also effective.

Solar power is a great way to harness the energy of the sun to power every day items including your home. Withlacoochee River Electric Cooperative (WREC) is investing in solar energy. We started our solar journey in 2009 when we installed a 3.15 kW(AC) ground mounted array with a single Sunny Boy Direct Current(DC) to Alternating Current(AC) inverter, using 18 Sun Power 175 Watt panels at the Billy E. Brown Corporate Center in Dade City. It was commissioned in October of that year. We have since expanded our solar resources with the addition of a 121.8 kW(DC) ground mounted array that uses modern EnPhase C250 micro-inverters for the DC to AC conversion, and 348 Mission Solar 350 Watt panels at our Crystal River District Office. It was commissioned on April 11, 2018.

A Photovoltaic(PV) system converts sunlight directly into DC electricity. The solar system's inverter converts the DC current from the solar panels to AC power that is used by the member's home or business.

The net meter installed on the Member's home or business measures the amount of energy the member uses, just like a standard utility meter, but it also has the capability to measure and record the amount of energy the member's solar system sends back to WREC's electrical grid. If the Member generates more energy than they use over the course of a year. WREC will purchase any excess energy at WREC's wholesale power provider, Seminole Electric Cooperative's, avoided cost.

WREC does not install or supply PV systems, but only provides an interconnection to the electric utility grid. A good resource for solar energy questions is the Florida Solar Energy Center, located in Cocoa Beach Florida (www.fsec.ucf.edu).

For Smart Shopping Tips for Solar visit Smart Shopping Tips for Solar | Department of Energy

For more resources and information regarding solar
https://www.energy.gov/eere/solar/articles/smart-shopping-tips-solar

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How Do Solar Panels Generate Electricity From The Sun?

Solar energy systems work when sunlight hits a solar photovoltaic module (solar panel or PV panel) and causes electric current to flow. The current produced from the panels is controlled and regulated by an inverter. Inverters convert Direct Current (DC), which is produced by the solar panel, to Alternating Current (AC). Alternating Current is the type of current that powers the appliances in your homes and businesses.

What Happens To Any Excess Energy Generated By My System?

Any excess energy that is generated by your grid-tied system, that is not used or stored using a battery storage system, is sent back to WREC's power grid.

Does The Cooperative Purchase The Excess Energy Generated By My System?

Yes, WREC purchases the excess energy generated by your system at the end of every year. The rate is based on WREC's wholesale power rate from Seminole Electric Cooperative, our wholesale power provider.

How Long Will Solar Panels Last?

Certified solar panels are generally reliable, and the manufacturer typically offers a 20-25 year warranty.

How Much Electricity Can I Generate?

That depends on several factors.

1. The size of your system.
2. The location of your system. The more sun that shines on your system the more energy your system will generate.
3. The efficiency of the solar panels that are installed.

What happens With A Solar System At Night And On Overcast Days?

Your system will not produce energy at night and energy production will be diminished on overcast days. For this reason, most homeowners have grid-tied systems and receive power from their electric utility when the system is not producing energy or enough energy to power your needs.

What Is A Battery Backed System?

Battery backed systems use on-site battery storage to store excess energy that is produced. This energy is then used at night or when your system is not producing enough energy to power your needs. Battery backed systems add additional upfront purchase and maintenance costs.

Does WREC Offer Rebates On Solar Systems?

No, however there are Federal Tax Credits available. Consult your solar contractor and your tax professional to see if you would qualify for a tax credit.

Light from the sun hitting the Solar Panels creates an Electric Field.

1. **Electricity is Generated**
2. Direct Current (DC) flows from Solar Panels to your home or business.
3. An **Inverter** converts this Electricity into Alternating Current (AC) which can be used in homes and businesses.
4. The Alternating Current (AC) then travels to your breaker box where it is sent throughout your home or business.
5. Any unused electricity travels back through your Electric Meter and through your Cooperative's transformer.
6. After the electricity flows through the transformer, it travels throughout the grid for others to use.