

BARC News



Keyser's Corner



CEO Mike Keyser

Understanding Solar with Solarize BARC

With our new *Solarize BARC* initiative kicking off, you may be asking yourself whether it's time to "go solar" given the environmental benefits or the fact that electricity costs tend to rise over time (this is still the trend, even though our rates dropped 7% this year). You might also be wondering about the cost effectiveness of battery storage. My column this month will shed some light on these questions and help you determine if solar or batteries are right for you.

First, let's be clear: Installing solar panels or batteries does not mean you are going "off grid." Taking your home off the grid and avoiding our monthly fixed access charge means completely removing any connection to the electric

grid. Solar PV systems are not designed to consistently generate enough electricity to be a home's only power source; thus, the BARC Electric system is critical to providing safe and reliable power around the clock. Because of this, even with a solar PV system, our fixed access charge helps to recoup our costs of maintaining your electric connection year-round.

The first step in going solar is understanding how much electricity you use. The easiest way to do this is to gather your electric bills and add up your annual consumption (expressed in kilowatt-hours or kWh) and then divide by 365. This will give you your average daily consumption.

Next, you'll want to determine how large of a system you'll need, and thus, how many panels. The average home in the U.S. receives an average of 5 sun-hours per day over the course of the year. Other factors are the tilt angle panels are placed at and whether they face directly south or some other direction (hint: you don't want them facing north). To roughly determine how many solar panels you need, divide your average daily consumption by the



number of expected sun-hours. For example, say you use an average of 30 kWh per day, the calculation would look like this:

$$30 \text{ kWh consumed per day} / 5 \text{ sun-hours} = 6\text{-kW solar PV system}$$

The number of solar panels you'll need for a 6-kW system depends on the number of watts per panel. For *Solarize BARC*, you have two options, 320- or 385-watt panels. Which one you'll have depends on the size and shape of your roof. The final step in the calculation is to divide the system size (6 kW) into the panel wattage. Since 1 kilowatt equals 1,000 watts, the math looks like this:

$$6,000\text{-watt solar PV system} / 385\text{-watt panel} = 15 \text{ solar panels}$$

You can estimate the cost now that you know the system size. We have a very competitive negotiated all-in installed rate for the *Solarize BARC* program of \$2.45 per watt. Multiply

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this by the 6-kW system size and you have an installed price of \$14,700 prior to the investment tax credit. This is the amount you could finance at a low interest rate through the *Solarize BARC* loan program if you wanted to pay over time. The beauty of our loan program is that your reduced electric bill can help fund all or some of your loan payment.

Remember, these are just the costs for a solar PV system capable of powering your home for a single average day. In reality, not every day requires the same amount of electricity, nor is every day perfectly sunny. On very cold winter days or hot summer days, you could consume 80 kWh or more. Also, your roof may not be large enough to accommodate the number of panels required. This is why your connection to the electric grid remains vital, and why our net metering program exists. Net metering allows BARC to measure the flow of electricity in both directions at your meter (onto the grid and into your home), and bill you for only the amount you consume net of what you produce.

The next question you might ask is, “What if I installed batteries with my solar?” The number of batteries you need to power your home for a single day is dependent on your electricity consumption and the amount of electricity stored (to qualify for the investment tax credit for batteries, you must charge your battery 75% of the time using solar). Like solar, you’ll back into

to have enough backup storage capacity to power your house for many days, or even an entire week, if faced with a prolonged storm outage or need to use more than your average daily usage in a single day. Just one installed Tesla Powerwall battery costs about \$10,000 all-in, so installing three Powerwalls would cost about \$30,000 and give you just *one average day’s energy*. To achieve the same level of backup power as a propane or diesel generator, you’d need at least 10 Powerwalls, maybe more. These batteries only last about 15 years, by the way.

Going solar and staying connected to the electric grid provides the best of both worlds.

the battery size (kW) using consumption (i.e., kWhs). Also, keep in mind that losses associated with storing electricity mean you’ll need to store slightly more than what you use per day, likely closer to 32-34 kWh in our example.

One of the most famous batteries is the Tesla Powerwall, which stores 13.5 kWh of usable energy. So, in our example, you would need three Powerwalls to meet a *single day’s electricity need*. I cannot emphasize enough, *single day*. In reality, you’ll want

Going solar and staying connected to the electric grid provides the best of both worlds — clean, renewable solar energy and safe, reliable and affordable grid power whenever you need it. The electric grid will be vital to “going solar” well into the future. Utilizing the electric grid for 100% of your energy needs costs just \$3-4 per day.

Considering all the benefits the electric grid provides, it’s a tremendous value compared to just about anything you buy today.

The BARC Electric Cooperative office will be closed on Monday, May 25th, in observance of Memorial Day.

Please remember to salute the veterans in honor of their sacrifice!

Energy Efficiency Tip of the Month

When the weather is nice, put your grill to use! During summer months, cooking outdoors is a great way to save energy and eliminate unwanted heat from cooking indoors.



Tina Glenn

TINA's Tastings

Recipe provided by BARC Employee Candise Hiner

LEMON CRINKLE COOKIES

- 1 box lemon cake mix
- 1 (8 oz.) Cool Whip
- 1 egg
- ½ -1 cup powdered sugar

Preheat oven to 350 degrees and spray cookie sheet with non-stick spray (do not skip non-stick spray). Pour cake mix into a bowl and mix in the Cool Whip and egg — mix will be fluffy. Use a small cookie scoop or spoon to drop rounded cookie dough into a small bowl of powdered sugar. Roll the dough ball in the powdered sugar until it is lightly covered. Set the powdered cookie dough balls on the baking sheet about 2 inches apart. Bake 8-10 minutes until very light brown around the edges.

If you would like to see your recipe featured in *Cooperative Living*, please send a copy to Tina Glenn at P.O. Box 264, Millboro, VA 24460 or email to tglenn@barcelectric.com.

Notice of Meetings to Select Nominees for Board of Directors, Districts 3 and 4

Pursuant to Section 4 of the bylaws of BARC Electric Cooperative, the Board of Directors has called District Meetings to select nominees for the Board of Directors for districts 3 and 4. The meeting times and locations are as follows:

District 3 – May 25, 2020, 6 p.m.,
Bethany Lutheran Church, 1320
Bethany Road, Lexington, VA 24450,
Incumbent: Keith L. Swisher

District 4 – June 5, 2020, 11 a.m.,
BARC Electric Cooperative, 84 High
Street, Millboro, VA 24460
Incumbent: Albert J. “Jay” Lewis, II

To determine the district in which you reside, please refer to the mailing label on the front cover of this magazine. In the numbers above your name is a two-digit number starting with “D.” This is your district. Example:

0001999999 D1
Mr. John Doe
Route 3, Box 100
Anywhere, USA 20156

This member resides in District 1. If your number is not legible or you are unsure of your district, please call us at 1-800-846-2272.

The election of directors will take place at the Annual Member Meeting on July 15, 2020. For your convenience, we are reprinting the qualifications for directors (section 4.3) and the nominating process (section 4.4). Again, if you have any questions regarding the process or location, please contact the office at 1-800-846-2272.

SECTION 4.3 — Director Qualifications. Any Director or Director candidate must comply with this Section.

A. *Director Qualifications.* A Director or Director candidate must:

1. Be a natural person;
2. Have the capacity to enter into legally binding contracts;

3. Be a Member in good standing residing in the Director District from which the Director is elected or chosen or be a duly authorized officer, director or employee of a non natural person Member located in the Director District from which the Director is being elected; and
4. If the Cooperative has any separate Director Districts for any Class, be a Member of such Class.

Items 1–4 collectively, “Membership Director Qualifications.”

B. *Director Qualifications.*

1. While a Director, and during the one year immediately prior to becoming a Director, a Director or Director candidate must not be, nor have been:
 - a. A Close Relative of any existing Director, other than an existing Director who will cease being a Director within one year;
 - b. A Close Relative of an existing, non-Director Cooperative officer, employee, agent, or representative;
 - c. Employed by, materially affiliated with, or share a material financial interest with, any other Director; other than an existing Director who will cease being a Director within one year; or
 - d. Engaged in, nor employed by, materially affiliated with, or have a material financial interest in, any individual or entity other than an entity in which the Cooperative possessed an ownership interest (other than an entity in which the Cooperative possesses an ownership interest):
 - i. Directly and substantially competing with the Cooperative;

- ii. Selling goods or services in substantial quantity to the Cooperative or to substantial number of Members; or
- iii. Possessing a substantial conflict of interest with the Cooperative.

2. No current or former employee of the Cooperative shall be eligible to serve on the Cooperative’s Board of Directors.

Items 1–2 collectively, “Conflict of Interest Director Qualifications.”

C. *Continuing Director Qualifications.* Only natural persons complying with the Membership Director Qualifications, and Conflict of Interest Director Qualifications (collectively, “Director Qualifications”) may serve, or continue to serve, as a Director.

After being elected or appointed a Director, if any Director fails to comply with any Director Qualification, as determined by the Board, then the Board shall remove the Director. If at least a majority of Directors authorized by these Bylaws comply with the Director Qualifications and approve a Board action, then the failure of any Director to comply with all Director Qualifications does not affect the Board action.

SECTION 4.4 — Nominations. Not less than thirty days nor more than sixty days before any meeting at which Directors are to be elected, the Board shall call a separate meeting of the Members of each district in which the term of the Director serving such district is to expire (“District Meeting”), at a suitable place in each district for the purpose of selecting one person as a Director candidate to represent the Members located within such district. The notice of such meeting shall be delivered to each Member located in such district as provided in Section 3.3 of Article III and shall indicate the district to

which such Member belongs. The notice shall state that nominations for a Director are to be made at the meeting. The meeting shall, however, be open for discussion of any other matters pertaining to the business of the Cooperative, regardless of whether or not such matters were listed in the notice of the meeting, and recommendations with respect thereto may be submitted to the Board or the entire membership.

The District Meeting shall be called to order by the Director representing the District or by another designated representative of the Board, or in his absence, by any Member residing within the District. The Members shall then proceed to elect a chairman, who shall be someone other than a Director, and who shall appoint a secretary to act for the duration of the meeting. Fifteen Members residing in the district present in person at

such duly called District Meeting shall constitute a quorum. Members of other districts present at the meeting may be heard but shall have no vote. Nominations for candidates for Director shall be made from the floor at the meeting, and any Member residing in the district shall have the right to nominate one candidate. The meeting shall remain open for nominations until no further nominations are forthcoming, but in no case less than five minutes. Candidates must be Members residing in the district and must possess the Director Qualifications specified in Section 4.3; A, B and C of Article IV of these Bylaws. In the event a quorum is not present for any one of the District Meetings provided for herein, the Director currently serving the district shall be declared the official nominee for the district.

Voting shall be by ballot and proxy voting shall not be permitted at any District

Meeting. Each Member may vote for one candidate. The candidate receiving the highest number of votes shall be declared the official candidate of the district. The minutes of such District Meeting shall set forth, among other matters, the name of each person nominated at the District Meeting and the number of votes received by each, and shall specify the official candidate of the district. A certified copy of the minutes, signed by the secretary and the chairman of the District Meeting, shall be delivered to the Secretary of the Cooperative within five days after such District Meeting. In the event a quorum is not present at a District Meeting, there shall be no minutes taken. Instead, the Director currently serving the district shall prepare a statement to the effect that a meeting took place and a quorum was not present. Said statement shall be promptly provided to the Secretary.

MAY IS ELECTRICAL SAFETY MONTH



4 COMMON CULPRITS OF ELECTRICAL FIRES



Outdated wiring and overloaded circuits are the most common causes of electrical fires. Check the following areas of your home to ensure your home's electrical safety is up to par.



1. Electrical outlets: Faulty electrical outlets are a leading cause of home fires. As outlets age, so do the wires behind them that you can't see. Any loose, damaged or warm-to-the-touch outlets should be repaired or replaced.



2. Electrical wiring: Outdated wiring is another common cause of electrical fires. Frequently tripped breakers, flickering lights and burning smells are clear warning signs. If your home is more than 20 years old, it may not be able to handle today's increased power load. If you suspect your home's wiring is outdated, leave this one to the pros and contact a qualified electrician.



4. Old appliances: Older appliances are more likely to have loose or damaged wiring, which means they're more likely to catch fire. Check older appliances for damage and determine if it's time to upgrade or replace. Also check to ensure you're using appliance-grade outlets. A qualified electrician can help with installation.



3. Overloaded cords and outlets: Extension cords are not permanent solutions. If your big-screen TV, home theater system and other electronics are plugged into one extension cord, it's time to call an electrician and install additional outlets.