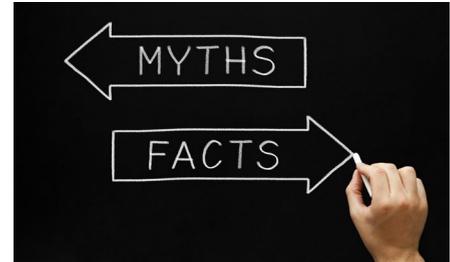


Distributed Generation: Myths vs. Facts

If you're thinking about installing a solar photovoltaic (PV) generation system, make sure you have all the facts. Read through our list and see if you've heard any of these myths.



MYTH: I don't need to contact St. Croix Electric Cooperative before I install a distributed generation (DG) system on my property.

FACT: Owners of distributed generation, also referred to as alternative energy production facilities (such as solar photovoltaic and wind turbines) are required to notify their utility company, which includes electric cooperatives, of plans to construct, install and operate any system that will be connected to the utility's system. This includes electric transmission lines, distribution lines or attached equipment. The notification by the owner must be made in written form and received by the electric cooperative at least 30 days prior to the commencement of construction or installation.

MYTH: St. Croix Electric Cooperative will help cover the costs associated with determining whether owning a DG system is a good choice for me.

FACT: It is solely the responsibility of the member-owner to determine if owning a distributed generation system is a good investment. St. Croix Electric Cooperative does not provide financial assistance with the analysis. However, members are encouraged to contact your trusted energy advisers at St. Croix Electric Cooperative if you are considering a distributed generation system (715-796-7000).

MYTH: I already have a DG system on my premise so I don't need to contact St. Croix Electric Cooperative if I plan to expand my system.

FACT: Whenever a system expansion is planned, it's necessary to contact St. Croix Electric Cooperative to ensure all electrical needs can be adequately met and that system reliability and safety are not compromised. SCEC's wholesale power provider, Dairyland Power Cooperative, also has a 20 kW limit for residential DG systems located at the same site. In some instances, line upgrades may be necessary to serve the expansion. The system expansion also will need to undergo the same inspection process required of a new generation system.

MYTH: I will be using all of the energy I generate with my DG system, therefore, I don't need to contact St. Croix Electric Cooperative.

FACT: No matter the size of the system and the intention to generate all of the power needed, members are required to notify St. Croix Electric Cooperative of plans to construct, install and operate any system that will be interconnected with the Cooperative's systems (electric transmission lines, distribution lines or attached equipment). The notification must be made in written form and received by SCEC at least 30 days prior to the commencement of construction or installation. An interconnection agreement also is required to be in place prior to operation of the system.

MYTH: If I install a DG system, I won't need the grid.

FACT: In order to ensure reliable and uninterrupted power, individual renewable systems typically must be balanced with a continuous source of dependable power from central station generation. It's very rare for individuals who want continuous and reliable electricity to be completely off the grid. Backup generation in the form of a gas-powered generator or battery bank or some other storage technology would be needed if the member was no longer on the grid and a continuous supply of power was desired. However, these backup systems can be more expensive and less reliable than currently available central station generation provided by an electricity provider using the grid, and may require diligent monitoring and regular maintenance by the member-owner to maintain reliability.

MYTH: The grid acts as a battery for my excess kilowatt-hours.

FACT: Currently, the grid is not capable of storing electricity in a manner that is cost competitive with other technologies and storage technology itself has not advanced to a point that it can be seamlessly integrated with existing systems in an efficient and cost-competitive manner.

MORE ...

MYTH: An interconnection agreement is not required by St. Croix Electric Cooperative.

FACT: To ensure your own safety and that of your fellow Cooperative member-owners, you must notify St. Croix Electric Cooperative if you intend to install a distributed generation system and an interconnection agreement must be in place. Whenever a generating resource is connected and providing power, SCEC must be aware that the system is in place so our line personnel and other employees are not put in harm's way. There are a number of safety mechanisms that must be taken into account and put into place with member-owned generating facilities.

MYTH: If I install a DG system, and St. Croix Electric Cooperative requires an interconnection agreement, then SCEC is responsible for the maintenance of my system.

FACT: St. Croix Electric Cooperative does not have responsibility for the maintenance of member-owned distributed generation systems. The member-owner who owns the generation resource is responsible for all necessary maintenance and repair investments and activities.

MYTH: Once my system is installed, it does not need to be inspected before it is interconnected.

FACT: The State of Wisconsin requires a series of inspections be completed to ensure the distributed generation facility is safely interconnected to the grid. Upon completing construction, the member-owner must have the system inspected by a local or state electrical inspection authority to ensure it meets code requirements. A certificate of a satisfactory inspection must be provided to the Cooperative. The interconnection of the distributed generation facility must comply with the National Electric Safety Code and Institute of Electrical and Electronics Engineers (IEEE) Standard 1547. Finally, a required commissioning test will be conducted by St. Croix Electric Cooperative to establish safe and reliable interconnection with the Co-op's distribution and transmission system.

MYTH: I am not responsible for fees associated with line upgrades that may be needed in order to provide power to my distributed generation resource.

FACT: St. Croix Electric Cooperative reviews who benefits from extensions or upgrades, and then the costs are generally assigned to those who benefit. Federal energy policy assigns the responsibility of any interconnection costs, such as line upgrades and any other costs of interconnection, to the member-owner interconnecting the distributed generation system to the grid.



MYTH: Owning and operating a DG system on my property does not present any additional safety issues for St. Croix Electric Cooperative.

FACT: Each type of generating source often has specific safety requirements. For example, in the case of a rooftop solar system, the International Fire Code requires a construction permit, specific signage and markings, properly spaced access points, and smoke ventilation, just to name a few. All distributed generation systems within Wisconsin must have a safety inspection by either a local city inspector or the state. These measures are to ensure the safe and reliable operation of the system and to protect our member-owners and employees who interact with the power grid. If our line workers are not aware of an interconnected system, they could be at risk of a serious injury when working on the distribution system. These requirements also support the safety of local first responders, such as the fire department, by ensuring that there is appropriate system notification in the case of fire to prevent an injury from such a system.

MYTH: I don't need to have any additional insurance for my DG system.

FACT: In most states, distributed generation owners are required to provide proof of some type of general liability insurance as part of the interconnection agreement. Check with St. Croix Electric Cooperative for the specific insurance requirements needed for the system you are considering.

MYTH: Solar generation production matches St. Croix Electric Cooperative's peak demand periods.

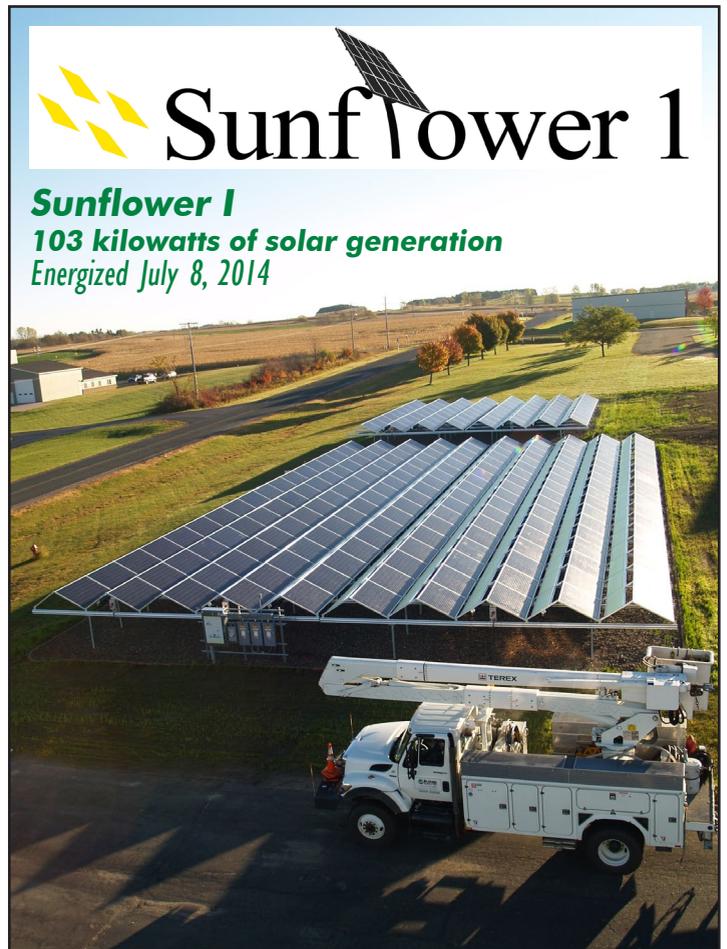
FACT: Peak production for solar generation is typically between 2 p.m. to 4 p.m., and member electric use generally peaks in the early evening, which means there is a mismatch between energy production and energy consumption. In order to maximize the potential benefits of distributed generation, it's important to size the system properly and to invest in the technology that coincides with providing the most output during your peak-use period. Unlike many other types of commodities, electricity cannot be stored in a manner that is cost-effective and available exactly when needed, which is why it's important DG output aligns with member-owner demand.

MYTH: On a cloudy day, my solar generation system will produce the same amount of energy as it does on a sunny day.

FACT: Solar energy production is at its highest on a sunny day; cloudy skies and humidity/haze (summer) significantly impact production. Research shows that production may drop 60 to 70 percent or more on a cloudy day (or when a cloud passes over the array) versus a sunny day. It's worthwhile to note that peak production for solar generation is typically between 2 p.m. to 4 p.m. and member electric use generally peaks in the early evening, which means there is a mismatch between energy production and energy consumption.

MYTH: St. Croix Electric Cooperative is not engaged in renewable energy.

FACT: St. Croix Electric Cooperative is among numerous electric cooperatives in Wisconsin who support renewable energy and responsible environmental policies that balance the needs of the environment, while providing for affordable, safe and reliable power. Electric cooperatives have integrated cooperative and member-owned renewable resources, such as wind, solar, biomass and methane into our portfolios. In addition, as part of our commitment to environmental responsibility, collectively we have invested millions of dollars in energy efficiency programs and services, as well as environmental upgrades to existing generating facilities.



Sunflower 1

Sunflower I
103 kilowatts of solar generation
Energized July 8, 2014



Sunflower II
2.34 megawatts of solar generation
16-acre pollinator meadow
Ceremonial groundbreaking Aug. 1, 2016



Source: © 2015 by the Iowa Association of Electric Cooperatives.