

Distributed Generation: Myths vs. Facts

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

Myth: I don't need to contact my electric cooperative before I install a distributed generation system on my property.

FACT: Iowa law requires that owners of distributed generation, also referred to as alternative energy production facilities (such as solar photovoltaic and wind turbines) 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 systems. The utility's system referenced 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: North West REC (NWREC) will help to cover the costs associated with determining if owning a distributed generation 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. NWREC does not provide financial assistance with the analysis. However, NWREC has created this information to help our members-owners to understand the complexity of owning a distributed generation (DG) system before a decision is made.

Myth: Because I already have a wind or solar generating facility on my property, I don't need to contact NWREC if I plan to expand my system.

FACT: Whenever a system expansion is planned, it's necessary to contact NWREC to ensure all electrical needs can be adequately met and that system reliability and safety are not compromised. In some instances, line upgrades may be necessary to serve the expansion. The system expansion also will need to undergo the same inspection process that is required of a new generation system.

Myth: I will be using all of the energy output that I generate with my distributed generation system; therefore, I don't need to contact NWREC.

FACT: No matter what size of the system and the intention to generate all of the power needed, the state of Iowa requires that consumers notify their electric cooperative of plans to construct, install and operate any system that will be connected to the cooperative's systems (electric transmission lines, distribution lines or attached equipment). The notification must be made in written form and received by NWREC 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 distributed generation 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 consumer was no longer on the grid and a continuous supply of power is 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.

Myth: An interconnection agreement is not required between NWREC and me.

FACT: To ensure your own safety and that of NWREC member-owners, you must notify NWREC if you intend to install a distributed generation system and under Iowa law, an interconnection agreement must be in place. Whenever a generating resource is connected and providing power, NWREC must be aware that the system is in place so that 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 distributed generation system, and NWREC requires an interconnection agreement, then NWREC is responsible for the maintenance of my system.

FACT: NWREC 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 Iowa requires that a series of inspections are 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 is required to 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 NWREC 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: NWREC reviews who benefits from the extensions or upgrades, and then the costs are generally assigned to those that benefit. Federal energy policy assigned the responsibility of any interconnection costs, such as line upgrades and any other costs of interconnection, to the member-owner interconnecting the distributed generation unit to the grid.

Myth: Owning and operating a distributed generation system on my property does not present any additional safety issues for my cooperative.

FACT: Each type of generating source often has specific 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 the state must have a safety inspection by either a local city inspector or the Iowa Department of Public Safety. Iowa law further requires that consumers notify their electric utility before interconnecting distributed generation and that an interconnection agreement is in place. 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 linemen 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 safety personnel, 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 distributed generation system.

FACT: In accordance with Iowa law, all distributed generation owners are required to provide proof of some type of general liability insurance as part of the interconnection agreement. Check with NWREC for the specific insurance requirements needed for the system you are considering.

Myth: Solar generation production matches my cooperative's peak demand periods.

FACT: Peak production for solar generation is typically between 11:00 a.m. and 3:00 p.m. and consumer electric use generally peaks around 7:30 a.m. in the winter and between 4:30 p.m. and 7:30 p.m. in the summer. This 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 can significantly impact production. Research shows that production may drop 60-70 percent or more on a cloudy day versus a mostly sunny day.

Myth: My electric cooperative isn't engaged in renewable energy.

FACT: NWREC supports renewable energy and responsible environmental policies that balance the needs of the environment while providing for affordable, safe and reliable power. Collectively, NWREC and our power suppliers have integrated cooperative and member-owned renewable resources, such as wind and solar 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, and environmental upgrades to existing generating facilities.

>> For more information and resources on distributed generation systems, we encourage you to download the Iowa Utilities Board's *Consumer Informational Guide for On-Site Generation* at: <https://iub.iowa.gov/distributed-generation>