



DISTRIBUTED GENERATION - FREQUENTLY ASKED QUESTIONS -

- 1. What is distributed generation?** Also known as co-generation, it is any form of electricity generating technology (wind, solar, digesters, etc.) installed by a member or independent energy producers that is connected to the grid at the distribution level.
- 2. What is required by the Cooperative if I install distributed generation?** Cooperatives must adhere to all applicable federal and state laws when working with a member to connect generation to the grid. The Cooperative provides all the necessary information for interconnecting to its system in its “Distributed Generation” packet.

When considering the installation, a strong emphasis is placed on safety considerations for the cooperative’s employees and members, protection of the Cooperative’s and member’s delivery system, and fairness to other members of the Cooperative from a cost perspective. A written agreement between the Cooperative and the member is executed to ensure proper communication and protections are in place prior to connection of the facility to the grid. Consideration must also be given to established requirements for installation, maintenance, metering, switching and liability insurance.

- 3. What is required of me, as a member, if I decide to install distributed generation?** The general requirements include paying for any interconnection devices that are necessary to protect the safety of Cooperative representatives and to maintain the integrity of the delivery system. The member is also required to carry liability insurance in the amount of \$1,000,000. Individuals must pay for the necessary metering equipment used to measure energy delivered back to the grid by the member. The member will also be responsible for all engineering costs or additional equipment associated with the interconnection.
- 4. Why do I have to carry \$1 million dollars of liability insurance?** It is very common for businesses and individual homeowners to carry liability policies to insure against various types of losses or claims. Conceptually and generally, members should not view carrying liability insurance on distributed generation any differently than the liability insurance that is required to drive an automobile. Insurance on automobiles is carried to provide coverage for damages to others and their property. This basic business principle applies to carrying liability insurance for distributed generation. Just as it is true for other personal property, it is up to the owner of a system to assume responsibility for insurance coverage.
- 5. What if I disagree with some of the requirements of the Cooperative—what is the process for challenging this?** Members are encouraged to discuss any concerns with Kosciusko REMC representatives to resolve questions or issues associated with connecting distributed generation to the grid. As your electric cooperative, it is our goal to work with

our members to address questions and concerns. However, many of the requirements are based on federal or state statutes and regulations. Kosciusko REMC can't modify these requirements.

6. **What is the process for installing distributed generation?** Before investing in any form of distributed generation or before connecting it to the grid, the member should meet with the appropriate Kosciusko REMC representatives to gain an understanding of the expectations for both the Cooperative and the member. The member and the Cooperative will sign a written agreement, which will address these expectations as well as each party's responsibilities. The agreement will also cover the terms and conditions associated with the interconnection, including rates that the Cooperative will pay the member for the power they deliver to the grid, insurance requirements and metering requirements to name a few. This agreement must be in place before the facility can be connected to the grid.
7. **How much does distributed generation cost?** It depends greatly on the type and size of generation installed. There are several aspects of cost: The cost of the generator, the cost of the balance of the plant (the power electronics, structure, installation), the cost of interconnection (including any required engineering studies to ensure that the system can be integrated with the grid without impacting the quality or reliability of service to neighboring cooperative members, and any upgrades needed to the distribution system), and the cost of maintenance from a reliable service provider.
8. **How long will it take before I am able to generate electricity?** This will depend on several variables including design and engineering studies, installation of required interconnection equipment, construction time, availability of necessary equipment, weather, etc. By working with Kosciusko REMC, a timeline can be established taking into account the variables related to connecting to the grid.
9. **How much electricity can be generated?** You should first determine how much electricity you want to generate. Based on your current electricity usage, decide how many kilowatt-hours you would like to produce. Once you know how much energy you want, you can select the right system to meet your needs.

The vendor should be able to give you an idea of the output capacity of the system, but it's also necessary to look at local conditions. For example, the wind speed at your site at the height you intend to erect your wind turbine is a critical factor in estimating your energy output and may vary from the figures your vendor used to calculate output.

10. **Do I have to have two meters if I install distributed generation?** Cooperatives require metering capability to measure electrons being drawn from the grid by the member and metering capability to measure electrons being delivered to the grid by the member. Many situations necessitate two meters, depending on the type of meter being used.

- 11. Does the Cooperative offer “net metering?”** Kosciusko REMC does not offer net metering as it negates cost-fairness among Cooperative members.

Most cooperatives have chosen not to net meter member-owned generation because it is a subsidy that raises costs for other members on the system. Net metering policies require utilities to pay members the retail price for wholesale power. The retail rate utilities charge includes not only the marginal cost of power, but also recovers costs incurred by utilities for transmission, distribution, generating capacity, and other utility services not provided by the member-generator. The policies also require utilities to pay high costs for what may be low-value power. Power from wind and photovoltaic (PV) systems is intermittent and cannot be scheduled or dispatched reliably to meet system requirements. Further, net metering allows members to underpay the fixed costs they impose on the system. A utility has to install sufficient facilities to meet the peak requirements of the member and recover the costs of those facilities through a kilowatt-hour charge. When the net meter rolls backwards, it understates the total energy used by the member, and thus understates the member’s impact on the fixed costs of the systems. It also understates the member’s total share of other fixed charges borne by all members such as taxes.

- 12. What rate will the Cooperative pay me for electricity generated?** Kosciusko REMC will pay rates based on avoided cost for energy that the member generates and delivers to the grid to ensure other members on the system do not bear an undue cost for their electricity. This avoided cost standard is pursuant to federal regulations. Please contact the Cooperative for this information.

- 13. Does the Cooperative charge a different rate to generators versus members that do not generate their own electricity?** No, not usually. However, if a member installs a wind turbine that is larger than the typical residential or small commercial unit (up to 10 kW), Kosciusko REMC may provide a special rate to address the unique load characteristics of such a large member resource.

- 14. What is the Cooperative’s backup rate when my generator is not generating?** At the present time the rate customers pay during this time period is the normal cost-based rate for the rate class applicable to the member. However, under federal regulations the Cooperative has the right to charge a different rate for backup power.

- 15. What kind of payback can I expect in terms of breaking even?** The payback period can range from several years to several decades, depending on the cost of the system and its output. You can estimate a simple payback by using the following formula, assuming the system is properly sized to not exceed your demand:

(Installed cost including interconnection costs, \$)

(kwh/year x retail price of electricity, \$/year) – (annual operation and maintenance cost, \$/year)

The annual operation and maintenance costs include insurance premiums, maintenance calls, service contracts, and the net present worth of long-term repairs.

16. Do I have to pay any taxes, such as property taxes, if I install distributed generation?

Depending on the particular situation, the generator may be subject to additional taxes. This question should be directed to your tax accountant and/or tax lawyer.

17. Is distributed generation worthwhile to put up? Installing your own generation is an individual decision for each member. The Cooperative's role in this process is to help educate the member regarding the Cooperative's expectations in this process. First and foremost, Kosciusko REMC must protect the safety of its members and employees as well as maintain the integrity and reliability of the grid and establish mechanisms to ensure cost fairness. The greatest payback to the member occurs when all the energy produced by the generator is consumed by the member.

The Cooperative will try to help you obtain information you deem relevant to your decision-making process. However, the decision is one you must make on your own or with the assistance of consultants hired to provide you with advice.

18. Are there any equipment standards that must be met? Yes. The UL1741 standards cover inverters, converters, charge controllers, and interconnection system equipment (ISE) intended for use in stand-alone (not grid-connected) or utility-interactive (grid-connected) power systems. Utility-interactive inverters, converters, and ISE are intended to be operated in parallel with an electric power system (EPS) to supply power to common loads.

For utility-interactive equipment, these requirements are intended to supplement and be used in conjunction with the Standard for Interconnecting, Distributed Resources with Electric Power Systems, IEEE 1547, and the Standard for Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems, IEEE 1547.1.

See the "Interconnection Requirements" document contained in KREMC's Distributed Generation packet for more information.