

Frequently Asked Questions Associated with Interconnecting Distributed Generation, Specifically Wind and Solar Energy

Audience: Member-Consumers

Prepared by WIN Energy REMC in cooperation with the Iowa Association of Electric Cooperatives
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General Wind Energy Questions:

1. What is the cooperatives' position on wind energy?

Today's changing energy landscape is bringing more attention to renewable energy resources, including wind. Indiana's rural electric cooperatives support generation that is safe, reliable, cost-effective and environmentally responsible.

2. What is required by the cooperative if I install a wind generator?

Cooperatives must adhere to all applicable federal and state laws when working with a member-consumer to connect wind generators to the grid. When considering the installation of a wind generator, a strong emphasis must be placed on safety considerations for the cooperative's employees and member-consumers; protection of the cooperative's and member-consumers' delivery system; and fairness to other member-consumers of the cooperative from a cost (billing) perspective. A written agreement between the cooperative and the member-consumer is typically developed 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. WIN Energy REMC will provide you with a complete list of all of the requirements.

3. What is required of me, as a customer, if I decide to install a wind generator?

The general requirements include paying for any interconnection devices that are necessary to protect the safety of the cooperative representatives and to maintain the integrity of the delivery system. The member-consumer is also expected to carry liability insurance in the amount listed in the *Agreement for Interconnection of Small Power Generation Systems*. Individuals must pay for the necessary metering equipment used to measure kWhs delivered back to the grid by the member-consumer.

4. What are some sources of information that I can look at relative to wind?

The Iowa Energy Center may be a good place to begin. There you will find links to related materials.

Iowa Energy Center

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5. What is the process for installing a wind turbine?

Before investing in a wind turbine or before connecting it to the grid, the member-

consumer should meet with the appropriate WIN Energy REMC representatives to gain an understanding of the expectations for both the cooperative and the member-consumer. The member-consumer and the cooperative will work together toward 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-consumer 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 wind turbine can be connected to the grid.

6. Once I purchase a wind turbine, how long will it take before it is generating electricity?

This will depend on several variables including meetings to reach an agreement on the terms and conditions of the interconnection, construction time, availability of necessary equipment, weather, etc. By working with WIN Energy REMC, a timeline can be established taking into account the variables related to connecting to the grid.

7. Which vendors should I work with regarding my wind turbine?

WIN Energy REMC does not endorse one particular vendor related to wind turbines. There are several resources on the Internet, for example, which may give you some additional background information.

8. Why do the cooperatives have so many requirements before a wind turbine can be interconnected with the grid?

As a rural electric cooperative, WIN Energy REMC is your partner in providing you with safe, reliable electric service. We have requirements in place to address issues of safety, grid integrity and cost fairness. Those requirements ensure that cooperatives can (1) protect the safety of member-consumers and cooperative employees (2) maintain the integrity and reliability of the grid and (3) establish mechanisms to ensure adherence to the cost causation principle.

9. Who are the manufacturers of wind turbines?

There are several manufacturers of wind turbines. The Internet or local library may be good sources for this information.

10. What if I disagree with some of the requirements of the cooperative — what is the process for challenging this?

Member-consumers are encouraged to discuss any concerns with WIN Energy REMC representatives to resolve questions or issues associated with connecting a wind turbine to the grid. As your rural electric cooperative, it is our goal to work with our member-consumers to address questions and concerns. Your local board of directors makes decisions concerning the policies of the cooperative. If the requirement is one where the cooperative has some discretion, the board could review it. However, many of the requirements are based on federal or state statutes and regulations. WIN Energy REMC can't modify these requirements.

11. What does a wind turbine cost?

WIN Energy REMC does not routinely monitor the market price of wind turbines. However, factors such as size or capacity of the turbine, type of turbine, manufacturer, and supply and demand for such turbines, may affect cost.

12. Isn't wind a cash crop for farmers?

The concept of a "cash crop" may apply to farmers who rent or lease land to large companies who own and operate several wind turbines. In these types of instances, payment(s) are made to the landowner for the use of their land. This is in contrast to an individual who actually owns a wind turbine.

13. Why don't the cooperatives have any investment in wind farms that pay farmers for their land?

Indiana's electric cooperatives typically have a diversified base of generating facilities necessary to serve the consumers

Electricity is a unique product in that it cannot be stored in sufficient quantities to make a difference in grid management. Thus, when consumers flip the switch to turn on lights, air conditioners, motors to run various production facilities, etc., the electric company must have generation available to supply this demand. Historically, the successful technologies used to meet this demand (or need) have been coal, hydro, oil, nuclear and/or natural gas that can be dispatched on an as-needed basis.

Wind is a technology that only generates kWhs when the wind blows. Therefore, at this time, investments in wind energy must be duplicated or backed up with generation facilities that can be dispatched, such as those listed above. If backup generation was not in place, and consumers relied solely on wind generation, they could experience brownouts or even blackouts when the wind is not blowing. Currently, duplication of generating facilities to serve an already widely dispersed customer base for the electric cooperatives can add additional cost to WIN Energy REMC member-consumers.

14. Do I have to have two meters if I install a wind turbine?

Cooperatives require metering capability to measure electrons being drawn from the grid by the member-consumer and metering capability to measure electrons being delivered to the grid by the member-consumer. There are some situations where this can be accomplished with one meter. Other situations may necessitate two meters.

15. Is wind worthwhile to put up? What are the economics of installing a wind turbine? Tell me why I should or shouldn't consider putting up a wind turbine.

Installing your own wind turbine is an individual decision for each member-consumer. A cooperative's role in this process is to help educate the member-consumer regarding the co-op's expectations in this process. The cooperative, together with the member-consumer, is also responsible for compiling a written agreement. First and foremost, WIN Energy REMC must protect the safety of cooperative member-consumers and employees, maintain the integrity and reliability of the grid and establish mechanisms to ensure cost fairness.

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.

16. I want to use wind as a cash crop on my farm. How do I accomplish this?

Even though you receive electric service from a cooperative, you have the right to allow other electric utilities or businesses to install wind turbines on your property. Typically, the companies involved in constructing a wind farm will review wind patterns and available infrastructure such as transmission facilities when determining the location of wind turbines. Other variables will also come into play as these companies evaluate the attractiveness of your property for a wind farm.

17. What rebates or other incentives do entities such as the state or federal government have for wind generators?

Incentives can come in the form of tax credits, low interest loans or other delivery mechanisms. Your tax accountant or tax attorney can advise you on the availability of various tax credits or other tax incentives relating to the installation of a wind turbine. The Iowa Energy Center may be another source of information in this area.

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18. What exactly is “Green Power” and what does the term “Green Marketing” refer to?

"Green Power" is power that is produced by a renewable ("green") energy source, as distinct from power produced by fossil fuel, nuclear, and other types of generators. One example of "Green Marketing" is the practice where an electric utility offers blocks of Green Power to customers.

Customers arrange to purchase a certain amount of "Green Power" (actually energy, in kilowatt-hours) per month, for which they commonly pay a small premium to completely or partly offset any higher cost of renewable power sources. The policy of allocating these costs to Green Power customers is called "Green Pricing."

WIN Energy REMC currently offers this program, which is called “Enviro-Watts” and the terms and conditions of this program may be obtained by contacting the cooperative.

Financial Questions:

19. What rate will the cooperative pay me for kWhs generated from my wind turbine?

WIN Energy REMC will pay rates based on avoided cost for kWhs that the member-consumer generates and delivers to the grid. This avoided cost standard is pursuant to federal regulations. Federal regulations also require a standard rate for qualifying facilities with a design capacity of 100 kilowatts or less and the regulations allow for an individually negotiated rate for units over 100 kilowatts. Our standard rate for qualifying facilities with a design capacity of 100 kilowatts or less is delineated in WIN Energy REMC Schedule 8.

20. Why do I have to carry \$1 or \$2 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, customers should not view carrying liability insurance on a wind turbine any differently than the liability insurance that is carried 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 a wind generator. Just as it is true for other personal property, it is up to the owner of a wind generator to assume responsibility for insurance coverage.

21. Will the cooperative net meter or net bill for me?

There are many different interpretations of “net metering” or “net billing”. The standard cooperative metering arrangement is for the consumer to pay for the kWhs delivered to their property based on a tariffed cost-based rate. This rate is designed to compensate the cooperative for the costs it incurs to generate the kWhs and to deliver the kWh through the transmission system and distribution system. WIN Energy REMC will pay the wind generator for the kWhs delivered to the grid at a rate that is developed pursuant to federal regulations based on an avoided cost basis. Federal regulations require the cooperative to have a standard rate for qualifying facilities with a design capacity of 100 kilowatts or less and the regulations allow for an individually negotiated rate for units over 100 kilowatts. Our standard rate for qualifying facilities with a design capacity of 100 kilowatts or less is delineated in WIN Energy REMC Schedule 8.

22. What is net metering (net billing)?

Net metering is a mechanism where the kWhs being delivered to the grid by a customer are netted against those being delivered to the customer by the cooperative through the metering process. In those instances where the price the cooperative is required to pay for kWhs delivered to it by a customer (based on avoided cost principle) is less than the rate being charged to the customer for the kWhs being used by the customer, the “netting” of kWhs delivered can create a windfall for the customer. Net billing performs netting through the billing process.

This is one of many mechanisms that can be used to deliver subsidies to consumers installing wind generators. Other subsidy delivery mechanisms include the state income tax structure, federal tax structure and property taxes to name a few. It is also a mechanism that causes the customers owning wind generation to avoid paying for their fair share of the costs associated with poles, wires, substations and transformers necessary to deliver the kWhs to their premise.

23. Explain how net billing or net metering works.

The following two examples illustrate a standard metering application for a wind turbine and a net metering application and the subsidy implications under each scenario.

Method A: Standard Metering--Monthly Billing Period	
AEP* member-consumer kWhs used from grid	1,000
AEP member-consumer kWhs input into grid	1,000
<i>Monthly Bill:</i>	
Monthly charge (assumed amount)	\$ 10.00
Monthly kWh usage charge (assumed to be \$.10 per kWh)	\$100.00
Monthly kWh credit for member-consumer AEP input to grid @ \$.02/kWh (1)	(\$20.00)
Subtotal bill before sales tax	\$ 90.00
Sales tax @ 5%	\$ 4.50
Total bill (includes sales tax)	\$ 94.50
(1) Assumed avoided cost of \$.02	

Method B: Net Metering--Monthly Billing Period	
AEP member-consumer kWhs used from grid	1,000
AEP member-consumer kWhs input into grid	1,000
KWhs used minus kWh input into the grid equals "net metered" amount	0
<i>Monthly bill:</i>	
Monthly charge (assumed to be \$10.00)	\$ 10.00
Monthly kWh charge (assumed to be \$.10 per kWh)	\$0.00
Subtotal bill before sales tax	\$ 10.00
Sales tax @ 5%	\$ 0.50
Total bill (includes sales tax)	\$ 10.50
Subsidy paid by other member-consumers = \$84.00 (i.e., \$94.50- 10.50)	

* = Alternate Energy Production (e.g. windmill)

Note: The amount of subsidy shown in the examples is not intended to be reflective of the actual subsidies in amount or by percentage. Actual subsidies will vary depending on the size of the generator, the amount of usage and generation by the customer and the cooperative rates to name a few.

24. Why are the cooperatives opposed to net metering?

Net metering is one of many mechanisms that can be used to deliver subsidies to member-consumers installing wind generators. It is also a mechanism that allows the member-consumer owning wind generation to avoid paying for their fair share of the costs associated with poles, wires, substations and transformers necessary to deliver the kWhs to their premise. If customers do not pay their fair share of costs necessary to provide them with electric service then other cooperative customers must pay these costs.

25. Why will the cooperative pay me only 2-3 cents per kWh when the cooperative has a green pricing program where member-consumers are charged 10 cents a kWh plus 3-4 cents more for green, for a total of 13-14 cents?

These two products in this example are vastly different. One is a retail product and the other is a wholesale product. One has costs associated with delivery facilities such as the poles, wires, transformers and substations being recovered while the other is solely a price paid for generation.

26. Does the cooperative charge a different rate to wind generators versus customers that do not have wind?

No, WIN Energy REMC does not currently have a separate price or rate schedule for co-generators, but reserves the right to create a separate price or rate based upon the unique characteristics of such member-consumers.

27. What is the cooperative's backup rate when the wind is not blowing and my generator is not generating?

The rate customers pay during this time period is the normal cost-based tariffed rate for the rate class applicable to the customer. However, under federal regulations the cooperative can charge a different rate for backup, supporting and maintaining power.

28. How does the cooperative determine what rate it will pay a wind generator for kWhs?

This is based on the avoided cost principle and may vary depending on the size of the particular wind generating facility. Federal regulations require a standard rate for qualifying facilities with a design capacity of 100 kilowatts or less and the regulations allow for an individually negotiated rate for units over 100 kilowatts. Our standard cost-based rate for qualifying facilities with a design capacity of 100 kilowatts or less is delineated in WIN Energy REMC Schedule 8.

29. What if I disagree with this rate? Who should I contact to discuss these concerns?

Consumers should contact WIN Energy REMC first. If the cooperative and the member-consumer cannot reach an agreement, the issue falls within the jurisdiction of the Federal Energy Regulatory Commission, district court or the Indiana Utilities and Regulator Commission depending on the particular issue.

30. Does the cooperative pay a wind generator for kW and kWhs?

This will depend upon how WIN Energy REMC and possibly Hoosier Energy REC (the cooperative's G&T) have calculated the avoided costs according to federal regulations.

31. Do I have to pay any taxes, such as property taxes, if I install a wind turbine?

Depending on the particular situation, the wind generator may be subject to some replacement taxes. This question should be directed to the wind generator's tax accountant and/or tax lawyer.