

WINDLETTER

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SMALL TURBINE COLUMN:

Net Metering and Zoning Issues

--Mick Sagrillo, Sagrillo Power & Light

Many wind turbine owners have systems that are connected to the utility, as are their homes. The system's grid-interactive synchronous inverter interfaces the wind system's output with standard utility line voltage and frequency. In this configuration, the "priority" for the wind-generated electricity is the home, with the utility acting as a "dump load," absorbing any excess generation. One advantage of this configuration is that the grid acts as a backup, providing electricity to the home when the wind is not sufficient to generate electricity.

Currently, 34 states provide for net metering of renewable energy systems. Under a net metering tariff, the utility must "net out" on a monthly or annual basis the excess power generated at periods of high wind with the system power used at times of low wind. Each state has different interconnection requirements for net metering, different technologies that are allowed to net meter, and different upper limits for total installed capacity. Information on each state's net metering programs can be found on the Database of State Incentives for Renewable Energy (DSIRE) at <http://www.dsireusa.org/>.

In most states, net metering takes the form of simply running the meter for the house backwards. This effectively means that the homeowner with a grid-connected renewable energy system is credited with the retail value of their electricity. In a few states, two kWh meters are utilized, one for electricity consumed from the utility, and the second to record any excess generation that is stored on the grid.

Some utilities have resisted net metering on grounds that any excess electrical generation fed into the utility system constituted a "sale" of electricity, and therefore, the homeowner should be paid only the wholesale value of the electricity, if anything at all. However, in 2001, the Federal Energy Regulatory Commission (FERC), which regulates wholesale electricity markets in the U.S., clearly stated that: "no sale occurs when an individual homeowner or farmer (or similar entity such as a business) installs generation and accounts for its dealings with the utility through the practice of net metering." FERC further stated that an individual who generates power for his/her own use is, in effect, "banking" the excess generation on the utility system for later use.

With this background in mind, let's now jump to several zoning hearings held around the country for applicants interested in installing wind systems. I have worked with one homeowner who wants to install a wind turbine that will actually generate about twice the amount of electricity that his family now uses on a monthly basis. Their house is currently heated with natural gas, the pricing of which has been a bit volatile over the last few years. Their plans call for using the excess electrical generation to heat their house, essentially relegating the natural gas furnace to use as a backup.

The zoning committee involved had other ideas, since they were not interested in allowing this individual to install the wind system in the first place. They ignored the applicant's stated intention to use all excess electrical generation to heat his house. The zoning committee asserted instead that, since the generator would be producing about twice the amount of electricity currently consumed by the house, all of the excess would be sold to the utility. This, they rationalized, meant that the wind turbine would be used for business purposes, and since the applicant lived in an area zoned residential, such an activity was prohibited.

To put this logic in perspective, the wind turbine would be generating an additional 1,200 kWh per month over the winter, about six months of the year. The applicant currently pays \$0.08 per kWh. This comes to less than \$600 of electricity per year if it were all sold. No business worth its while generates a mere \$600 per year in income. If anything, this situation is more akin to a hobbyist who, say, collects coins, and sells any duplicates on eBay. A zoning committee would be hard pressed to argue that such common everyday dabblings constituted a business. After all, how far will that meager amount of money go towards a household's annual expenses, and how many households in the U.S. engage in such minor transactions?

In my home state of Wisconsin, the Public Service Commission (PSC) recently revised its process for interconnecting distributed generators, such as wind turbines, to the utility system. The interconnection guidelines and application forms that will be used statewide (collectively called the PSC 119 Rules and Guidelines) streamline the utility application procedure for homeowners. Similar rules and guidelines are used by other states.

The PSC 119 rules make a clear distinction between systems installed by homeowners, who generate electricity primarily for their own consumption, and businesses, that generate and sell electricity for profit. One area of distinction is the requirement for very different levels of insurance. Businesses are required to carry a minimum of \$1 million in business liability insurance. In contrast, a homeowner need only have the minimum insurance required to secure a mortgage--\$300,000 in a homeowner's policy. This regulatory distinction clearly contradicts the assertions of the above-mentioned zoning committee.

I have heard zoning committees ask applicants why they want to generate their own electricity when perfectly good electricity is available from the local utility. During a zoning hearing for another wind turbine permit, one neighbor who supported the wind turbine project likened such committee logic to restricting a homeowner from having a garden on their property because produce is available at the local grocery store.

Zoning authorities need to view a residential wind system as a means to "growing your own electricity" and not as a business venture. Rather than assuming the small wind system owner is trying to turn a profit with the money from excess generation, it would be more reasonable to assume that any such proceeds would be used to help pay off the cost of the wind turbine, over and above the electrical savings.

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[Editors Note: The opinions expressed in this column are those of the author and may not reflect those of AWEA staff or board.]