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Small-scale wind harvest

Winnebago County company helping families create their own electricity source

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Photos



GARNER - Northwest of this central Hancock County community, on Quail Avenue as you approach the acreage of Mark Newman, if it is a calm day, you will see what appears to be something resembling a five-pointed star at the top of a tall pole.

If it is a windy day, then the five-bladed object will be spinning with the wind like a child's pinwheel.

Due to improved technology and the installation of bigger generators, the wind turbines that have become commonplace across Iowa have grown in size. Each succeeding generation of wind turbines are producing greater amounts of power.

However, the technology from today's wind turbines is being used to offer new wind turbines on a smaller scale and it is one of these smaller wind generators that was erected on the Newman property last May by Bantam Wind of Leland.

The owners of Bantam Wind are Trevor Massie and Mark Stutzman. Bantam Wind offers wind generating systems that can be purchased ranging in size from 1.3 kilowatts to 15 kilowatts.

The turbine at the Newman location is a 3.5 kilowatt model, built by Raum Energy, of Saskatoon, Saskatchewan, Canada. It will handle the power requirements of a modern home reaching full power with a 25-mile-per-hour wind.

The turbine is mounted on a tower 80 feet in height and Trevor Massie said a similar installation could be erected and installed for approximately \$25,000. The installation is expected to have a life of 25 years.



A 3.5 kilowatt wind turbine, on far right in background, erected northwest of Garner in Hancock County, belongs to Mark Newman and was installed by Bantam Wind of Leland.

A 30 percent federal tax credit and a USDA 25 percent grant through the REAP program make it possible to see a payback of all costs in eight years, according to Bantam Wind's Massie.

However, before deciding to buy one's own wind-generated electrical system, Trevor Massie encourages clients to do a thorough investigation of the costs and requirements before making any commitment.

This investigation, he said, should take about 90 days with many resources available to do the necessary research. "It is important people do their research," Massie said.

A good place to start is the website of the Iowa Energy Center and its section titled, "wind calculator."

The web page will have the user choose a county, town, turbine size, and tower height to display an estimated power output for each month of the year for that location.

Other places to research while considering a small-scale wind generating system includes the local utility company and local zoning regulations.

Massie said it is important to talk with the utility company before making any commitment.

When excess power is generated beyond the needs of the owner, that extra electricity is fed into the electrical grid and the turbine owner is credited with those kilowatts under the concept of net metering.

With net metering, the owner receives credit in kilowatts that can be built up in the windy months and applied towards the owner's electrical bill during months of reduced wind generation.

No money will exchange hands as the transaction is done on a kilowatt for kilowatt basis. Credits can expire Dec.31 while some utilities may allow them to roll over, said Massie.

Other sources of wind energy information are the Iowa Renewable Energy website and DSIRE, a website that explains the financing available for wind energy projects.

Massie recommended Iowa small wind advocate Paul Rekow, of Spencer, who serves as a customer watchdog and can answer any questions about the economics of small-scale wind generation.

The Newman installation is covered by a five-year warranty that includes an annual inspection when the tower is laid on its side allowing a going over checking for loose bolts and any potential problems.

The industry is moving toward a 10-year warranty, Massie said.

Massie said insurance coverage should cost about \$1,000 annually for an installation such as Mark Newman's.

In addition to the tower and turbine, the generating system has an inverter mounted inside an outbuilding to convert the output of the turbine to 240 volts AC.

This power is fed to an electrical meter that measures both the output of the turbine and the power consumption of the customer.

Both the inverter and meter can display power usage and consumption.

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