

# WINDLETTER

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## SMALL TURBINE COLUMN:

### Keep It Spinning!

--Mick Sagrillo, Sagrillo Power & Light

On the Interstate highway linking Milwaukee and Madison in southern Wisconsin, there was a 10-kW 3-bladed wind turbine on an 80-foot tower high atop a hill that ran for over two decades. The system was installed by the owner in the early 1980's, during the Carter-Reagan renewable energy tax credit era. While the turbine had its share of problems, it operated more or less continuously for about two decades, carefully tended by its owner.

A few years ago, in the late fall, a storm passed through the area. The high winds caused one of the blades to clip the tower, which resulted in the blade splitting down its length. The owner climbed the tower and removed the blade so that repairs could be made to it in his shop.

The owner, now in his early 70's, had changed his lifestyle with retirement, and in recent years began fleeing the harsh Wisconsin winters for a warmer climate further south. Scheduled to leave the state for a few months with not enough time to do the necessary repairs and get the turbine back into operation, he secured the turbine so it wouldn't start up with only two blades.

The turbine, with only two blades on it, sat in that condition all winter long. Over the course of that winter, I received numerous phone calls about the status of that wind generator. I began to realize just how visible wind turbines are, especially along one of the most heavily traveled roads across an otherwise mundane countryside. No one seemed to notice it when it was operating, but shut down with only two of its three blades, it seemed as if everyone noticed the wind turbine.

I came to realize that wind turbine owners inadvertently become advertisers for renewable energy, whether they wish to or not. As such, if they are at all interested in renewables as an alternative scenario to generating electricity with coal and nuclear energy, they take on the responsibility of being renewable energy advocates and ambassadors. A wind turbine that is spinning, whether it is generating electricity or not, is seen as doing something useful, as part of the solution. One that is sitting idle calls into question the usefulness of the technology, and even who made the decision to allow the wind turbine to be installed in the first place.

Residential wind advocates and manufacturers have fought an uphill battle for nearly 20 years, trying to re-instill respect in their technology and its possibilities. Much of this comes from the era of tax subsidies for renewable systems in the late '70s, when all manner of companies set up shop manufacturing and selling home-sized wind turbines. Most of these folks, while well intentioned, had no idea what they were doing. This was obvious from the inordinate number of turbine failures in the field, and subsequent business closures that occurred in the early 1980's.

While those of us in the small wind arena understand that that period of renewable energy history was a time of experimentation and looking for options, the general public does not share that view. Many folks felt that the tax credits were a boondoggle and waste of money on untried and unproven technology.

As a result, small wind advocates have been fighting the “legacy of the ‘80’s,” with those entrenched images of decaying equipment dangling from the tops of towers.

It’s not that a high failure rate was unique to residential wind systems. Other technologies shared in this perceived chaos. The solar hot water industry was notorious for its problems with the technology working, even over the short haul, to the point that national standards for the equipment were adopted.

None of these technologies, however, is anywhere near as visible as residential wind turbines. If a solar hot water system, bolted to a house roof, is inoperable or defunct, no one knows, unless you tell them. If a micro-hydro system, sitting in a stream doesn’t work, no one knows, unless you tell them. But if a wind turbine, sitting atop a tower over the neighborhood doesn’t work, everybody knows. It’s just the nature of the technology. You cannot hide a non-functioning wind system.

Which brings us back to the responsibility of wind system owners as being advocates or ambassadors for their technology, or renewables in general. Since residential wind systems are so visible, their owners are acting responsibly by keeping them operating, if not out of personal interest, then at least for ego. That strategy includes:

- If they need repairs, fixing them expeditiously;
- Conducting annual inspections and maintenance to forestall breakdowns; and
- Keeping them looking good by painting them and paying attention to appearances.

The technology available today to homeowners interested in renewable energy is vastly improved from the experiments of the 1980’s. The attitudes of members of the general public still have some catching up to do. By keeping the wind turbine operating at your home, you send the message that your wind system is generating electricity, mitigating pollution caused by conventional electricity generation bought from the local utility, and, therefore, a useful and wise investment.

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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.]