SMALL WIND TURBINE CERTIFICATION

In the United States, the Small Wind Certification Council (SWCC) certifies performance for small and medium-size wind turbines to the American Wind Energy Association performance standard. By late 2015, there were nine wind turbines certified by SWCC in the United States. SWCC publishes both a certificate summarizing the data most useful to consumers as well as provide detailed technical reports on performance and noise measurements (see SWCC Certification for Bergey Excel 6).

Great Britain's Microgeneration Certification Scheme (MCS) certifies performance for wind turbines up to 50 kW in the United Kingdom. In 2014, 31 wind turbines had qualified for certification. MCS also certifies installation companies to ensure the microgeneration products have been installed correctly.

British manufacturers, such as Ampair, publish the MCS certificate as well as detailed technical reports on performance and noise testing.

There are equivalent certification programs in other countries, notably Japan.

NEVER BUY A SMALL WIND TURBINE WHOSE PERFORMANCE HAS NOT UNDERGONE TESTING AND CERTIFICATION.

It has taken three decades of struggle for standardized testing and certification of small wind turbines to arrive. Don't subvert it. Never buy a small wind turbine whose performance has not undergone testing and certification. This is the bare minimum necessary to assure a reasonable probability that the wind turbine will perform as advertized. Standardized testing and certification are the only way we can eliminate the shysters and bozos who plague the small wind turbine industry.

SWCC certification for Bergey Excel 6. Small Wind Turbine Certification Council certificate for Bergey Windpower's 6-meter diameter turbine. The certificate lists power form, rated annual energy production (9,920 kWh/yr) at an average annual wind speed at hub height of 5 m/s, rated sound level (47.2 dbA), and rated power (5.5 kW) at 11 m/s. The current version of all certificates and labels can be found on the SWCC website, www.smallwindcertification.org. (Small Wind Certification Council)

Wind turbines using components that are in compliance with an electrical standard, such as those with a UL label, are not necessarily in compliance with any of the other standards. Some fast-talking promoters have tried to falsely link compliance with electrical standards to a broader approval or endorsement of the wind turbine's basic design. Compliance with electrical standards only suggests that when used in the manner prescribed the equipment won't cause a fire.

Standards and certification for small wind turbines have been a long time coming, but they're finally here. In early 2008, the British Wind Energy Association (BWEA) adopted a certification requirement for small wind turbines. AWEA followed in 2009.

The absolute minimum a consumer should demand of any manufacturer are the results of performance tests conducted in accord with standard international practice. This information should be available either in product literature or on the manufacturer's website. The manufacturer should clearly state whether the tests were done to the international standard. The resulting data can be presented in tabular form, as a power curve, or as a curve of estimated annual energy production (AEP).

Most importantly, data collected on the performance of a wind turbine must be "averaged" over a period of time—10 minutes for large wind turbines, and often 10 minutes for small wind turbines, though 1-minute averaging periods may be acceptable.

It is the averaging of test data that winnows the chaff from the grain in wind turbine testing.