

Reducing Bat Kills at Wind Farms



Efforts to reduce the alarming number of bats that are being killed at wind-energy facilities took a big step forward when scientists demonstrated that bat-mortality falls sharply when wind turbines are temporarily stopped during low-wind conditions during the night.

The research was conducted by the BCI-led Bats & Wind Energy Cooperative at partner Iberdrola Renewable's Casselman Wind Power Project in Pennsylvania. BWEC Coordinator Ed Arnett, BCI's co-director of programs, said the study found that bat kills were reduced an average of 73 percent when turbines were left off-line until wind speed reached between 11.2 and 14.5 miles per hour (5 - 6.5 meters/second). That's compared with mortality at turbines that remained fully operational, starting up at a wind speed of 7.8 mph (3.5 m/s).

The low-wind mitigation is recommended at night (when bats are active) and during the bat-migration season from late July through mid-October. The research found that temporarily stopping all Casselman turbines at low-wind periods during these time frames would have resulted in the lost electricity output of just 0.3 to 1.0 percent of total annual power production.

This first U.S. study of reduced fatalities and economic costs of low-wind mitigation was funded by the U.S. Fish and Wildlife Service, BCI, the National Renewable Energy Lab and Iberdrola Renewables. It grew out of previous BWEC research that showed bat kills increased as wind speed slowed and fatalities were greatest during migration season. The Fish and Wildlife Service is funding the second year of this study at Casselman in 2009.

These results could prove critically important by providing developers of wind-power projects in areas of high risk for bats with reliable scientific data for evaluating a documented option for reducing bat mortality.

The risk is great, with tens of thousands of bats dying at wind farms each year, and the number of turbines increasing rapidly in the United States and around the world. The industry reports that installed wind-energy capacity now exceeds 28,000 megawatts, up from about 16,000 just eighteen months ago.

BWEC, a unique alliance of government, industry and conservation groups, was founded in 2004 by BCI, the American Wind Energy Association, the U.S. Fish and Wildlife Service and the U.S. Department of Energy's National Renewable Energy Laboratory to learn why so many bats are being killed at wind-energy facilities and how the deaths can be prevented.

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