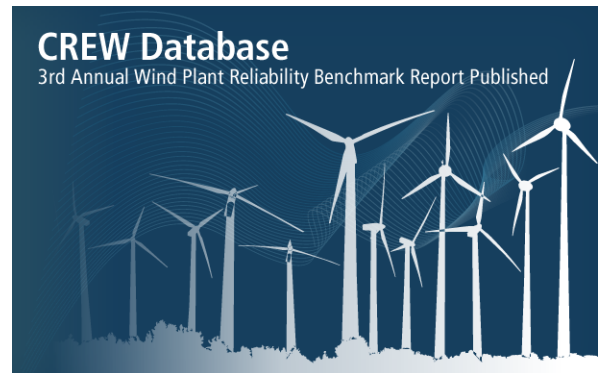


Third Annual Continuous Reliability Enhancement for Wind (CREW) Database Report Now Available

The CREW Database, operated and managed by Sandia, published the third annual wind plant reliability benchmark report to the wind industry. CREW is a U.S. Department of Energy Office of Energy Efficiency and Renewable Energy-funded national reliability database that enables wind plant operation analysis to benchmark the current installed wind fleet's reliability performance.

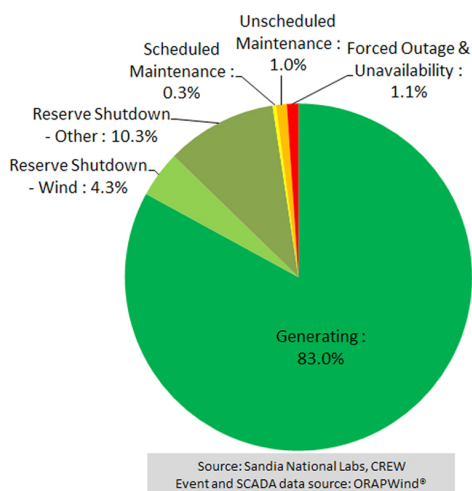
This public benchmark represents analysis of U.S. wind fleet performance based on aggregated fleet reliability data and includes operational statistics, availability time accounting, and top contributors to system and component unavailability. The 2013 technical report provides detailed information regarding the data collection and analysis process used to produce the report.



The CREW database uses both high-resolution supervisory control and data acquisition (SCADA) data from operating plants and Strategic Power Systems' ORAPWind® (Operational Reliability Analysis Program for Wind) data, which consist of downtime and reserve event records and daily summaries of various time categories for each turbine. Together, these data are used as inputs into CREW's reliability modeling.

Sandia acknowledges the guidance provided by DOE Wind Program Office and the contributions of both Strategic Power Systems and the wind plant owner/operators who participated in the development of the CREW database as pilot partners:

- EDF Renewable Energy,
- Shell Wind Energy Inc.,
- Xcel Energy, and
- Wind Capital Group.



CREW Fleet Metrics

	2013 Benchmark	2012 Benchmark	2011 Benchmark
Operational Availability	97.6%	97.0%	94.8%
Utilization	83.0%	82.7%	78.5%
Capacity Factor	36.1%	36.0%	33.4%
Mean Time Between Events	39 hrs	36 hrs	28 hrs
Mean Downtime	1.3 hrs	1.6 hrs	2.5 hrs

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