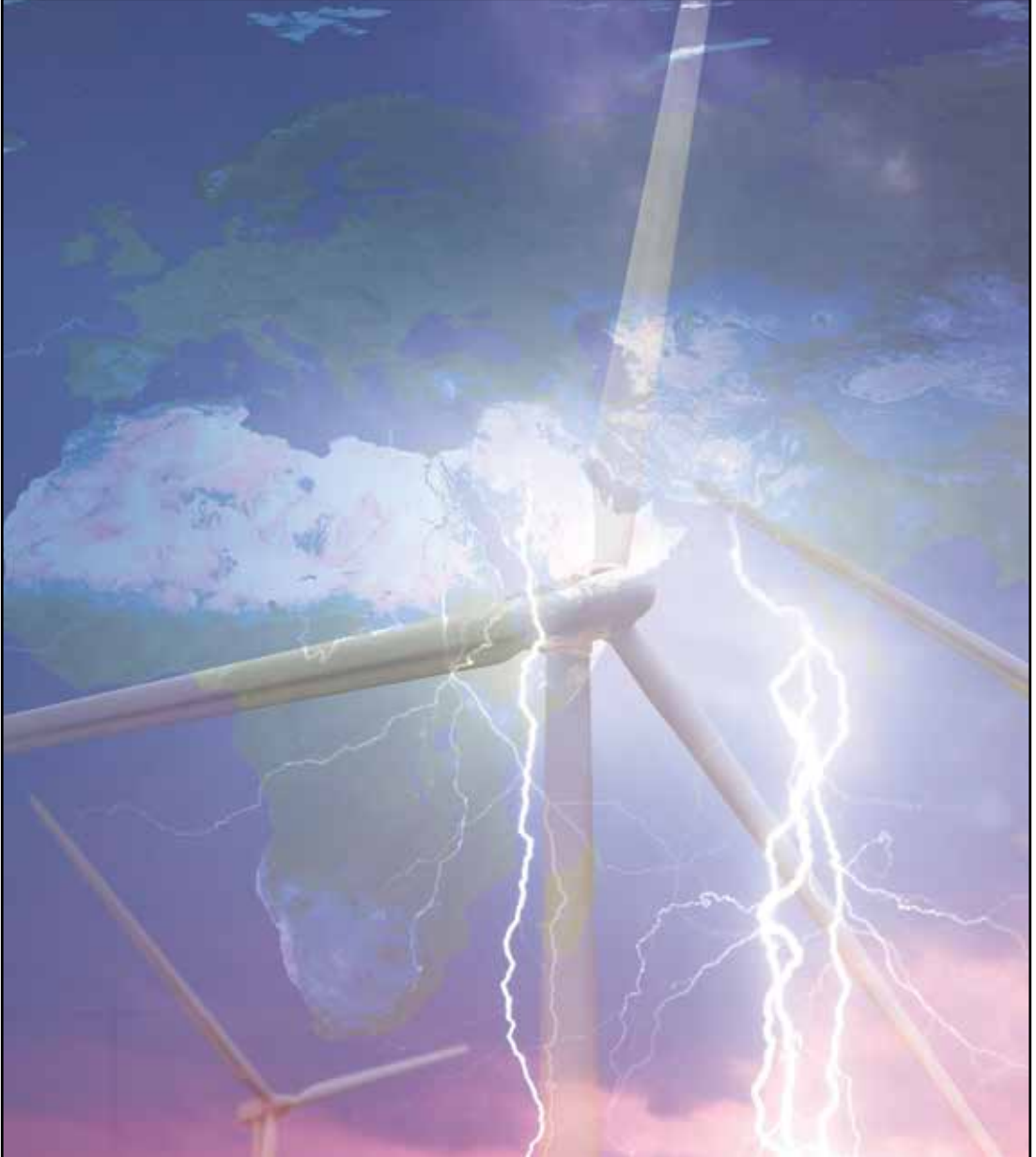


COMPANY PROFILE

GLOBAL WEATHER CORPORATION

By Stephen Sisk



A technology company provides vital weather forecasts for increased efficiency and cost savings.

BORN OUT OF THE NATIONAL CENTER for Atmospheric Research (NCAR) in 2009, Global Weather Corporation is a technology transfer company that provides precision weather forecasts to industry decision makers who need accurate, up-to-the-minute weather information in daily business operations.

NCAR, as the world's largest research and development facility for atmospheric science, makes a portion of its intellectual property available for the commercial market under the University Corporation for Atmospheric Research Foundation (UCARF), of which Global Weather Corp. is a spinoff company.

Through its pinpoint forecasting technologies, GWC is able to provide its end-users, such as transportation companies and wind farm operators, with timely, accurate information that can be used to tune operations for increased efficiency and cost savings.

GWC offers a portfolio of forecasting products and services for a range of industrial applications. Of particular interest to the wind energy industry is the WindWx product, which forecasts the amount of power generated by a wind farm four times each hour, 24 hours a day.

"Wind power production is difficult to forecast due to its variability, and inaccurate forecasts are costly," said Global Weather founder and CEO Mark Flolid.

Occurrences such as changes in atmospheric temperature or pressure, as well as landscape and man-made objects, often cause large variance in wind speed and direction. An additional obstacle is the fact that most wind forecasting provides wind data near ground level – far too low for optimizing wind turbine performance.

With the WindWx service, wind data is collected at the turbine's hub altitude, giving operators a more precise, real-world scenario. Operators are then able to use the data that is generated to fine-tune turbines for efficiency as varying conditions dictate.

"In short, forecast uncertainty costs millions and reducing forecast error reduces these costs," Flolid said. "Energy markets are forward-looking and penalize utilities when they do not deliver power promised the previous day by charging more in the spot market, or by lowering the price when unexpected excessive power is sold in the same market."

WindWx, according to GWC, greatly reduces errors in the wind forecast, thereby allowing an energy company to adjust output at its conventional power generation plants.

Minneapolis, Minn.-based Xcel Energy, has seen the benefits of the WindWx solution first hand. Xcel initially partnered with NCAR to implement a wind forecasting solution in 2008, and GWC took over the project beginning in 2011.

Using the WindWx technology for precision site wind forecasting, Xcel — which manages more than 4.5GW of wind power — has saved nearly \$18 million since its implementation in 2010 and has reduced forecasting error by nearly 30 percent.

"For every one percent improvement in the wind forecast, we can save an energy company about \$50,000 to \$70,000 per year per 100MW," Flolid said.

GWC has plans to expand in the wind energy market. Future generations of WindWx and other products are currently under development.

"We are bringing more advances to the system this year that will improve our wind ramp detection, power conversion, and forecast of potential turbine blade icing. This will bring further reduction in forecast error," Flolid said.

In addition, GWC is currently deploying the WindWx system to wind farms in Europe, and are making headway in Asia and other countries. This expansion is expected to take place within the next two years.

Other product offerings by Global Weather Corporation:

- **SensorWx** – gives a precise hourly forecast including data from sensor locations across the globe. Forecasting from these weather stations allows for increased accuracy resulting from comparison of the forecast to condition observations at the sensor sites. Tuning of the forecast model provides the most accurate and timely weather information available. This data is used in a wide scope of industrial applications.
- **PointWx** – is a web-based service that allows users to drop a pin at any location on the earth and get precise, timely, localized weather information. Clients can enter a specific geographic location (e.g. city, ZIP code, address or latitude/longitude) to get current weather conditions. PointWx data is updated hourly. This product is also useful in a number of industrial applications. For example, a transportation company can use PointWx to learn weather conditions at a destination point or at multiple locations along a route. This product allows these companies to be aware of critical weather, potentially allowing for route changes, etc., aiding in efficiency and improving productivity.
- **RoadWx** – is currently in use in the public sector by departments of transportation, but also has industrial and commercial applications. This product is a forecasting service that deals specifically with atmospheric and pavement conditions at road locations. RoadWx helps clients determine when conditions are optimal or potentially hazardous, requiring road closure due to icing or possible flood conditions. ↴