65% of U.S. Grid Operators Worry About Keeping the Lights on During Extreme Weather

Meteomatics' New Report Reveals Renewable Energy Is Utilities' Biggest Challenge–and Greatest Opportunity– to Strengthen Grid Resilience Across the Country

MINNEAPOLIS, MN, UNITED STATES, July 17, 2025 /EINPresswire.com/ -- Meteomatics, the weather intelligence and technology company that enables the world's leading companies to accurately forecast the weather's impact on business, has released Part 2 of its 2025 Weather Data Trends in Energy Report. The new report reveals that more than two out of three (68%) of utility and grid operators in the U.S. are experiencing major fluctuations in energy production driven by the increasingly volatile weather. With this uncertainty, 65% are concerned about their ability to meet rising energy demand during extreme weather events and energy supply shortages. If they cannot accurately forecast the weather to effectively manage this spiking demand, nearly 40% say they risk losing customers.

"Between the power needed to run new and emerging technologies and support communities battling extreme heat, the U.S. electric grid is being pushed to its limits," said Martin Fengler, CEO of Meteomatics. "This growing demand has put a spotlight on renewable energy production–and the urgent need for it. While power sources like solar and wind offer significant potential to help close the energy gap, concerns about their reliability continue–largely because they depend on increasingly challenging weather conditions."

Meteomatics' 2025 Weather Data Trends in Energy Report, conducted by market research firm Dynata, explores renewable energy's impact on grid operators, utilities and traders in the U.S., how they are using the source in their day to day operations, and how the weather affects generation. The report also shines a light on other key areas where increasingly extreme weather events are affecting energy executives, as well as what they are investing in as solutions.

According to the two-part report, more than two-thirds (68%) of U.S. utility and grid operators cite unpredictable weather's impact on renewable energy as one of their top challenges. Nearly half (48%) say that weather has the greatest effect on the day-to-day operations of renewable sources, followed closely by factors including energy load (47%), grid demand (41%) and grid resilience (36%). But these challenges are not deterring their shift to renewables with 51% of energy leaders planning to increase reliance on renewables in the next decade. As energy companies continue their investment and reliance on renewables, 49% of utilities plan to invest

in advanced weather forecasting and data to properly manage the impact of extreme weather and everyday conditions.

Additional findings of the report include:

 Volatile weather means unpredictable pricing for energy traders. Most energy traders (64%) say they experience price volatility in the market due to energy supply disruptions. Renewable energy is a main factor in this, with 64% of traders citing unpredictable weather as the cause for their inability to anticipate renewable output. To mitigate these challenges, 78% of traders expect to increase investment in advanced weather forecasting.
 Grid operators are ramping up investment in energy storage. Back-up stores of power are increasingly essential to meet demand, with 52% of utilities looking to invest in energy storage. Operators also plan to invest more into smart grids (42%) and energy infrastructure upgrades (42%).
 Utilities are not ready to meet FERC 881's deadline - even with the extension. While every utility has started the process towards being regulatory compliant, only 35% have already completed the process of upgrading their transmission infrastructure.
 AI models are an essential tool for energy traders. Seventy-nine percent (79%) of the companies' traders work at utilize weather AI models for their day to day operations. Of the companies that have not yet implemented AI weather models, 67% have plans to integrate them into their business in the coming year.

Meteomatics' 2025 Weather Data Trends in Energy Report is based on responses from 272 senior level energy executives across grid operations, utilities and energy trading, in the U.S. Part 1 of the report can be found here; and Part 2 here.

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About Meteomatics

Meteomatics is a weather intelligence and technology company that enables precision forecasts of the weather's impact on businesses anywhere in the world at any time. More than 600 companies, including CVS Health, Swiss Re, McCain, NASA, Honda, Airbus, Stellantis and UK Power Networks, rely on Meteomatics for weather data that can significantly impact everything from energy savings, logistics, and process automation to risk management and product design. The company's robust approach to weather data collection, modeling, visualization and delivery rivals even the most sophisticated government and commercial services. Its autonomous Meteodrone, paired with high-resolution weather models, enables granular visibility (down to a single square km) into weather phenomena that traditional weather sensing technology does not regularly or accurately observe. Meteomatics is headquartered in Switzerland, with local operations in the U.S., the UK, Germany, Norway and Spain.

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