

Title: Electricity energy dataset “BanE-16”: Analysis of peak energy demand with environmental variables for machine learning forecasting

Author Names: Imrus Salehin , S.M. Noman , Mohammad Mahedy Hasan

Abstract: The “BanE-16” dataset is a comprehensive repository integrating electricity grid dynamics with meteorological variables for machine learning-based energy forecasting. Featuring peak energy demand, environmental factors (temperature, wind speed, atmospheric pressure), and electricity generation statistics, this dataset enables intricate analysis of weather-energy correlations. Its multidimensional nature facilitates predictive modeling, exploring intricate dependencies, and optimizing energy infrastructure. Leveraging machine learning methodologies, this dataset stands as a catalyst for innovative forecasting models and informed decision-making in energy management. Its diverse variables offer a holistic perspective, empowering researchers to delve into nuanced interrelationships, paving the way for sustainable energy planning and predictive analytics in dynamic energy ecosystems. Its multivariate nature empowers sophisticated machine-learning models, enabling precise energy forecasts and infrastructure optimizations. Researchers leveraging this dataset unlock the potential to delve deeper into intricate weather-energy relationships, driving advancements in predictive analytics for sustainable energy management. The integration of diverse variables lays the groundwork for innovative methodologies, steering the trajectory of informed decision-making in dynamic energy landscapes.

Keywords: Energy Electricity Forecasting AI Machine Learning

<https://www.sciencedirect.com/science/article/pii/S2352340923009988>