

Case Study



Balancing supply and demand: The value of accurate weather insights in energy markets

Overview

Founded in 2017, Met-Set provides weather insights to electricity trading and utility firms, focusing on sub-seasonal and seasonal forecasts.

As the energy sector shifts toward renewables, accurate forecasts of wind, solar, and temperature are vital for balancing supply and demand. In the UK, frequent cold spells tend to drive the greatest surge in electricity (and gas) to heat our homes. If conditions are simultaneously calm and cloudy then this can significantly increase reliance on costly energy sources like gas, coal, and imports via interconnectors.

Advance knowledge of extreme spells of certain weather conditions enables utility firms to hedge supply, avoid blackouts, and trade power prices more effectively.

How we help

Met-Set harnesses our Met Office Global Seasonal Forecast System version 6 (GloSea6) to deliver tailored data and visualisations to clients.

Recent studies* have demonstrated GloSea6's skill in forecasting UK seasonal wind speeds and broader European winter weather patterns. By offering access to GloSea6, Met-Set equips clients with accurate, up-to-date guidance on sub-seasonal and seasonal forecasts.

These insights help identify early signals of atmospheric patterns - such as negative NAO (cooler, calmer conditions) or positive NAO (warmer, windier conditions) - enabling better planning and risk management.

Our impact

Seasonal forecasts can evolve rapidly as new observations become available.

GloSea6 is a monthly-to-seasonal ensemble prediction system that uses our coupled model to produce global forecasts up to seven months ahead. While many other seasonal models update only once a month, our GloSea6 forecasts are generated daily using the most up-to-date observations, ensuring the highest possible accuracy. In addition, weekly historical forecasts (hindcasts) are produced to help identify and correct any remaining model biases.

This approach enables users to monitor and quickly respond to changes in the seasonal outlook based on the latest output.

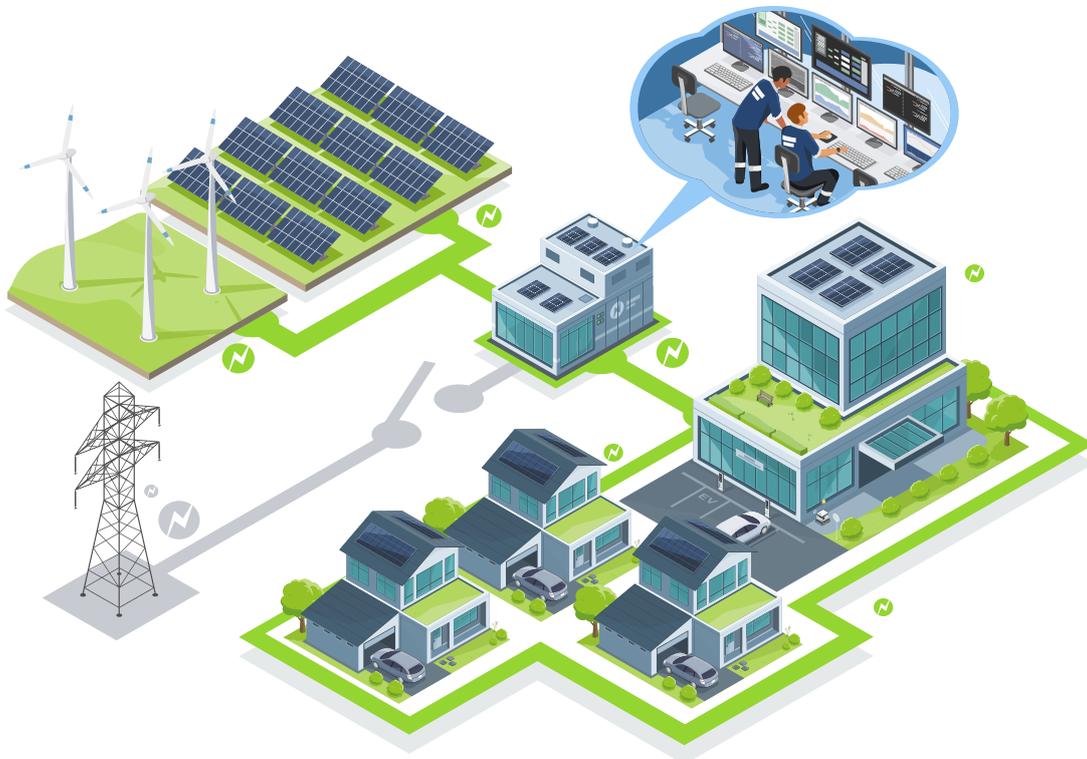
Additionally, we support efficient data transfer via FTP, an essential feature when working with large seasonal forecast datasets.

* Lockwood et al. 2023 in the *Quarterly Journal of the Royal Meteorological Society*; Stringer et al. 2024 in *Atmospheric Science Letters* Volume 25, Issue 12.

“With the atmosphere constantly evolving we find immense added value in receiving daily seasonal forecasts to ensure we are kept up-to-date with the latest risks to the weather outlook.”

Luke Boxall

Director, Met-Set



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