# Energy Load Forecasting and Anomaly Detection Report

Forecast Results (First 10 rows)

timestamp	usage_kwh	forecast	anomaly	load_factor
2024-03-01 00:00:00	10.87	10.87	False	0.0
2024-03-01 01:00:00	10.06	10.47	False	0.0
2024-03-01 02:00:00	10.74	10.56	False	0.0
2024-03-01 03:00:00	6.6	9.57	False	0.0
2024-03-01 04:00:00	13.36	10.33	True	0.0
2024-03-01 05:00:00	9.87	10.25	False	0.0
2024-03-01 06:00:00	12.35	10.55	False	0.0
2024-03-01 07:00:00	11.05	10.61	False	0.0
2024-03-01 08:00:00	7.46	10.26	False	0.0
2024-03-01 09:00:00	10.01	10.24	False	0.0

This table summarizes the forecasted energy usage based on a 24-hour moving average. It includes calculated anomalies and load factor, which help identify risk patterns in load behavior.

Forecast Plot
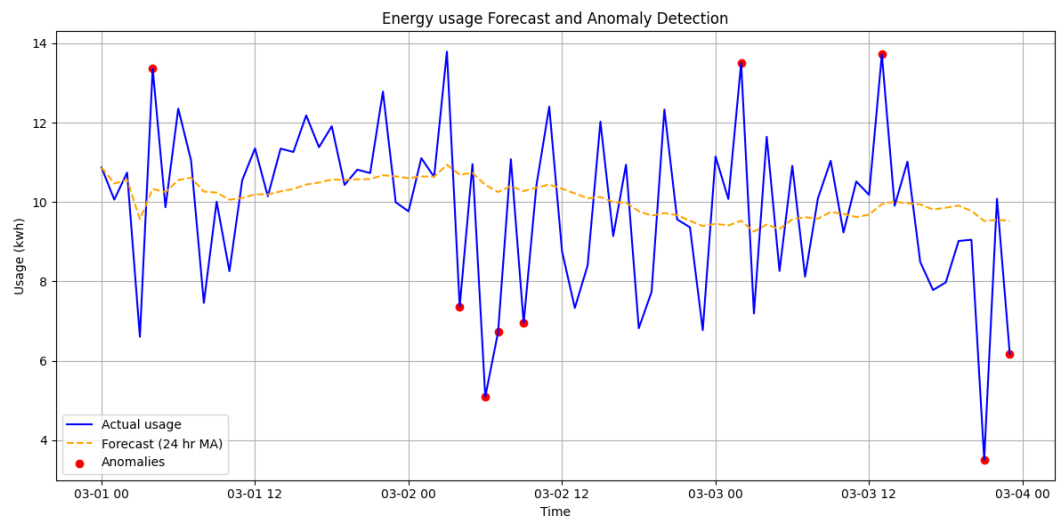
Raw Load Data (First 10 rows)

customer_id	timestamp	usage_kwh	temperature
1	2024-03-01 00:00:00	10.87	68.2
1	2024-03-01 01:00:00	10.06	70.56
1	2024-03-01 02:00:00	10.74	71.05
1	2024-03-01 03:00:00	6.6	69.19
1	2024-03-01 04:00:00	13.36	74.73
1	2024-03-01 05:00:00	9.87	61.39
1	2024-03-01 06:00:00	12.35	65.22
1	2024-03-01 07:00:00	11.05	58.13
1	2024-03-01 08:00:00	7.46	67.72
1	2024-03-01 09:00:00	10.01	63.7

This table shows the original simulated energy usage and temperature data that feeds the forecasting model. It reflects hourly values across a 72-hour period, representing real-time utility monitoring.

Usage Plot