**Take-Home Assignment: Energy Consumption Forecasting Using Weather Data  
(**Preferred Language: Python — however, feel free to use any other programming language if you prefer)

**Objective:** Forecast 7 day ahead (2008-06-01 - 2008-06-07) hourly energy consumption for a given region using historical load and weather data. The goal is to assess your ability to explore data, engineer features, and build a forecasting model.

**Dataset:** Please use the dataset from zip file given. This dataset includes:

* *Load Data:* Historical hourly load data for a zones.
* *Weather Data:* Corresponding hourly weather data, including temperature.

**Task Overview:** Data Exploration & Preprocessing, Feature Engineering, Model Development, Evaluation and Reporting (Summarize your approach and key insights, Include visuals, Discuss limitations and possible improvements)

**Evaluation Criteria:** Your submission will be evaluated based on:

* *Exploratory Data Analysis:* Depth and insights derived from EDA.
* *Feature Engineering:* Creativity and relevance of engineered features.
* *Approach & Methodology:* Clarity and justification of the chosen methods.
* *Communication:* Quality of the report, including visualizations and explanations.

**Submission Guidelines:**

* *Deadline:* 3 days
* *Format:* Submit a code with reproducible results and a PDF/doc report.