Detailed Energy Analysis of Stever House

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**ABSTRACT**

In this paper, we will be looking at a Carnegie Mellon campus building’s energy consumption, Stever House, for one year and making suitable recommendations based on the dataset. The paper analyzes energy data by hour, week and day to understand occupant consumption patterns by correlating it with temperature data for the same building i.e. Stever House, and then making suitable recommendations which the Facility Management Services group can implement to lower consumption at peak load, thereby reducing costs.

**CCS Concepts**

• **Mathematics of Computing ➝Probability & Statistics** • **Information Systems➝ Data Management Systems**

**Keywords**

Energy; Power; Temperature; Dataset; Data; Regression; Tree

# INTRODUCTION

In the United States, buildings consume about 40% of the total energy generated, which translates to about 39 Quadrillion BTU [1]. To meet future demand, it is necessary for us to understand why, where and how we consume energy in households to reduce peak loads, cut costs and reduce our respective carbon footprint. By understanding consumption patterns, we can predict when demand for electricity will rise and fall based on time of day and then subsequently look at measures which will aid in reducing consumption without depriving consumers for energy or implicitly lowering their current standard of living.

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