Developing Probabilistic Models for Building Net Load Prediction

Electrified School Districts

Goal: To develop and implement a set of probabilistic models that accurately predict the net load of school district buildings a day in advance, in order to improve energy efficiency and reduce energy waste.

Data Used to calculate building electrification potential
Total # of cars charging per day
Average Capacity of EVs
Capacity of Charging Station
Rate of charging per hour
Miles Per Vehicle driven per day
Max Mile Per Vehicle
Days of Operation per week
Number of Stations

- Data Collection: Collect and analyze data on energy consumption patterns of the school district buildings
- Model Development: Use statistical techniques to develop a set of models that accurately predict the net load of each building
- Model Validation: Validate the models using a sample of the collected data from 10 schools.
- Implementation: Implement the models into the existing energy management systems of the school district buildings.
- Monitoring, Evaluation and Promotion: Continuously monitor the performance of the models and evaluate their impact on energy efficiency and waste reduction. After promote the use of the probabilistic models

Expected Outcomes: The improved energy efficiency, reduced energy waste from school district buildings.