LITERATURE SURVEY

10. Machine Learning Based Vehicle to Grid Strategy for Improving the Energy Performance of Public Buildings (2020)

INTRODUCTION:

Carbon neutral buildings are dependent on effective energy management systems and harvesting energy from unpredictable renewable sources. One strategy is to utilise the capacity from electric vehicles, while renewables are not available according to demand. Vehicle to grid (V2G) technology can only be expanded if there is funding and realisation that it works, so investment must be in place first, with charging stations and with the electric vehicles to begin with. The installer of the charging stations will achieve the financial benefit or have an incentive and vice versa for the owners of the electric vehicles. The paper presents an effective V2G strategy that was developed and implemented for an operational university campus.

ADVANTAGES:

An effective V2G scheme has been developed and implemented into an operational university building, enabling it to be used on a larger scale.

Application of machine learning (ML) for predicting energy consumption and cost have also been conducted.

The energy demand is low, the EVs can be charged, as the electricity can be bought from the grid.

DISADVANTAGES:

Surrounding the growth of EVs and V2G systems, there is some uncertain for both the driver and the building which is a problem.

EV chargers must be installed, and there must be a return on investment.

The replicability of the V2G method is dependent on available space for EV chargers, energy characteristics of the building, initial investment and storage techniques.

CORRESPONDING AUTHOR:

Connor Scott

Mominul Ahsan