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| **Title:** | EVOCATION AND EXPEDIENT OF AN ASSEMBLE OF ROOFTOP SOLAR PV AND VEHICLE TO GRID TECHNOLOGY: ON PERSPECTIVE OF BANGLADESH | | |
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| **Abstract:** |  |
| Demand response systems have become a big draw  for reducing peak demand in the electrical power sector as a  smart grid enabler. The household consumer will add  significantly to the capacity for peak-hour energy demand  mitigation. The aim of this paper is to discuss the energy  usage of a single household with multiple properties, including  household appliances, an electric vehicle (EV), and a battery  energy storage device (BESS). A rooftop solar photovoltaic  (PV) generation system on a small scale is also a component  of a smart household. The BESS and PV are used to charge  household equipment, and any excess electricity produced can  be pumped back into the grid. The optimization problem of  intelligent home energy management is formulated as a mixed  integer linear programming problem (MILP). The load serving  body registers the energy user for real-time price-based  demand response programs (LSE). The simulation results  demonstrated the LSE's major contribution to achieving usage  cost gains and minimizing peak to average ratios. An  algorithm has been proposed to reduce the conversion losses.  Eventually then, the whole system analyzed by MATLAB  software | |