

عنوان مقاله:

Energy Scheduling of Low-Carbon Self-sufficient Smart Home

محل انتشار:

هشتمین کنفرانس انرژی پاک (سال: 1402)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

In recent years, with the increase in population and the growing trend of construction and urbanization, the amount of demand for energy use has increased significantly, and therefore programs for energy management, its use, and excess energy storage have been considered. A large part of the produced energy is spent on household loads, and energy-self-sufficient smart buildings can supply all or a significant part of their electricity consumption throughout the year by using renewable energy sources, and even if possible, they can deliver the excess energy to the grid. In this research, scheduling with a ۲۴-hour time horizon has been done for the optimal performance of each home appliance to minimize the cost of the smart home bill. The smart home studied in this research can exchange electrical energy with the upstream network. The studied MILP model has evaluated the impact of the presence of renewable sources and electricity storage on the cost of the house's electricity bill and the electrical energy sales profit in different scenarios. The simulation results show the significant effect of the presence of scattered production sources in .reducing the cost of the house's electricity bill and increasing the profit from the sale of electrical energy

کلمات کلیدی:

Energy management, self-sufficient smart home, distributed generation resources

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