

## Reduction of Energy Consumption Using Smart Home Techniques in the Household Sector

**Authors :** Ahmed Al-Adaileh, Souheil Khaddaj

**Abstract :** Outcomes of exhaustion of natural resources started influencing each spirit on this planet. Energy is an essential factor in this aspect. To restore the circumstance to the appropriate track, all attempts must focus on two fundamental branches: producing electricity from clean and renewable reserves and decreasing the overall unnecessary consumption of energy. The focal point of this paper will be on lessening the power consumption in the household's segment. This paper is an attempt to give a clear understanding of a framework called Reduction of Energy Consumption in Household Sector (RECHS) and how it should help householders to reduce their power consumption by substituting their household appliances, turning-off the appliances when stand-by modus is detected, and scheduling their appliances operation periods. Technically, the framework depends on utilizing Z-Wave compatible plug-ins which will be connected to the usual house devices to gauge and control them remotely and semi-automatically. The suggested framework underpins numerous quality characteristics, for example, integrability, scalability, security and adaptability.

**Keywords :** smart energy management systems, internet of things, wireless mesh networks, microservices, cloud computing, big data

**Conference Title :** ICSEMEE 2020 : International Conference on Smart Energy Management and Energy Efficiency

**Conference Location :** Paris, France

**Conference Dates :** August 27-28, 2020