

Analysis of Energy Consumption Based on Household Appliances in Jodhpur, India

Authors : A. Kumar, V. Devadas

Abstract : Energy is the basic element for any country's economic development. India is one of the most populated countries, and is dependent on fossil fuel and nuclear-based energy generation. The energy sector faces huge challenges and is dependent on the import of energy from neighboring countries to fulfill the gap in demand and supply. India has huge setbacks for efficient energy generation, distribution, and consumption, therefore they consume more quantity of energy to produce the same amount of Gross Domestic Product (GDP) compared to the developed countries. Technology and technique use, availability, and affordability in the various sectors are varying according to their economic status. In this paper, an attempt is made to quantify the domestic electrical energy consumption in Jodhpur, India. Survey research methods have been employed and stratified sampling technique-based households were chosen for conducting the investigation. Pre-tested survey schedules are used to investigate the grassroots level study. The collected data are analyzed by employing statistical techniques. Thereafter, a multiple regression model is developed to understand the functions of total electricity consumption in the domestic sector corresponding to other independent variables including electrical appliances, age of the building, household size, education, etc. The study resulted in identifying the governing variable in energy consumption at the household level and their relationship with the efficiency of household-based electrical and energy appliances. The analysis is concluded with the recommendation for optimizing the gap in peak electrical demand and supply in the domestic sector.

Keywords : appliance, consumption, electricity, households

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