World Academy of Science, Engineering and Technology
International Journal of Energy and Power Engineering
Vol:11, No:01, 2017

Evaluation of Energy Supply and Demand Side Management for Residential Buildings in Ekiti State, Nigeria

Authors : Oluwatosin Samuel Adeoye

Abstract : Ekiti State is an agrarian state located in south western part of Nigeria. The injected power to the Ado-Ekiti and the entire state are 25MW and 37.6 MW respectively. The estimated power demand for Ado Ekiti and Ekiti state were 29.01MW and 224.116MW respectively. The distributed power to the consumers is characterized with shortcomings which include: inadequate supply, poor voltage regulation, improper usage, illiteracy and wastage. The power generation in Nigeria is presently 1680.60MW which does not match the estimated power demand of 15,000MW with a population of over 170 million citizens. This paper evaluates the energy utilization in Ado Ekiti metropolis, the wastage and its economic implication as well as effective means of its management. The use of direct interviews, administration of questionnaires, measurements of current and voltage with clamp multimeter, and simple mathematical approach were used for the purpose of evaluation. Recommendations were made with the view of reducing energy waste from mean value of 10.84% to 2% in order to reduce the cost implication such that the huge financial waste can be injected to other parts of the economy as well as the management of energy in Ekiti state.

Keywords : consumers, demand, energy, management, power supply, waste
Conference Title : ICRETA 2017 : International Conference on Renewable Energy Technology and Applications
Conference Location : Singapore, Singapore
Conference Dates : January 08-09, 2017