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Achieving Household Electricity Saving Potential Through Behavioral Change

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Abstract : The rapid growth of Indonesia population is directly proportional to the energy needs of the country, but not all of Indonesian population can relish the electricity. Indonesia's electrification ratio is still around 80.1%, which means that approximately 19.9% of households in Indonesia have not been getting the flow of electrical energy. Household electricity consumptions in Indonesia are generally still dominated by the public urban. In the city of Padang, West Sumatera, Indonesia, about 94.10% are power users of government services (PLN). The most important thing of the issue is human resources efficient energy. User behavior in utilizing electricity becomes significant. However repair solution will impact the user's habits sustainable energy issues. This study attempts to identify the user behavior and lifestyle that affect household electricity consumption and to evaluate the potential for energy saving. The behavior component is frequently underestimated or ignored in analyses of household electrical energy end use, partly because of its complexity. It is influenced by socio-demographic factors, culture, attitudes, aesthetic norms and comfort, as well as social and economic variables. Intensive questioner survey, in-depth interview and statistical analysis are carried out to collect scientific evidences of the behavioral based changes instruments to reduce electricity consumption in household sector. The questioner was developed to include five factors assuming affect the electricity consumption pattern in household sector. They are: attitude, energy price, household income, knowledge and other determinants. The survey was carried out in Padang, West Sumatra Province Indonesia. About 210 questioner papers were proportionally distributed to households in 11 districts in Padang. Stratified sampling was used as a method to select respondents. The results show that the household size, income, payment methods and size of house are factors affecting electricity saving behavior in residential sector. Household expenses on electricity are strongly influenced by gender, type of job, level of education, size of house, income, payment method and level of installed power. These results provide a scientific evidence for stakeholders on the potential of controlling electricity consumption and designing energy policy by government in residential sector.

Keywords : electricity, energy saving, household, behavior, policy
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