

Challenges and Opportunities in Modelling Energy Behavior of Household in Malaysia

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Abstract : The residential sector in Malaysia has become the single largest energy sector accounting for 21% of the entire energy usage of the country. In the past 10 years, a number of energy efficiency initiatives in the residential sector had been undertaken by the government including. However, there is no clear evidence that the total residential energy consumption has been reduced substantially via these strategies. Household electrical appliances such as air conditioners, refrigerators, lighting and televisions are used depending on the consumers' activities. The behavior of household occupants played an important role in energy consumption and influenced the operation of the physical devices. Therefore, in order to ensure success in energy efficiency program, it requires not only the technological aspect but also the consumers' behaviors component. This paper focuses on the challenges and opportunities in modelling residential consumer behavior in Malaysia. A field survey to residential consumers was carried out and responses from the survey were analyzed to determine the consumers' level of knowledge and awareness on energy efficiency. The analyses will be used in determining a right framework to explain household energy use intentions and behavior. These findings will be beneficial to power utility company and energy regulator in addressing energy efficiency related issues.

Keywords : consumer behavior theories, energy efficiency, household occupants, residential consumer

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