

Abstract #: 421

Author Name: Kazuyoshi Hidaka

Author Company: Tokyo Institute of Technology

Second Author's Name: Soichi Nishikiori, Tokyo Institute of Technology

Abstract Title: INFORMATION IMPACT ON CONSUMER BEHAVIOR CHANGE

Abstract Text:

Among three drivers (economic, regulatory, and information driver) which have the impact on energy consumer behavior change, this research focuses information driver because it requires proactive consumers' participation and, therefore, significant to foster the energy efficient society sustainably. Although there are bunch of researches on the information impact including real-time/off-line feedback or recommendations, the detailed analysis on "what kind of information is effective for what kind of people" is not enough. In this research, the relations among the information contents, consumer clusters, and behavior changes are observed and analyzed through filed experiments. The electricity consumption monitoring and information presentation system (using tablet pc) is newly developed and installed into 50 residential houses in Kitakyusyu City, Japan. The electricity consumption data is acquired every 20 seconds, stored into the cloud server, and analyzed. Several information including real-time feedback, average of consumer clusters which that consumer is included in, and average of best practice consumers, are displayed on the tablet. Then, the effect of displayed information is analyzed by monitoring the change of the energy consumption afterward. As results, it is observed that both of over-average and under-average consumer clusters are approaching to the average along the time line. Some dependency is also observed between the degree of behavior change and the distance of the consumption level from the average. This results support that information showing the position of the consumer in his/her cluster can work to control that consumer's behavior, and the information have different effects on each consumer cluster.