Analyses of Change in Energy Consumption by Difference between Behaviors in Living Life
: Through Experimental Dwelling at KEIO Co-Evolving House

Summary

As people convert into low-carbon society and be keen on energy saving, the studies and efforts for increased use of low energy house are required in architecture field. Many housing manufactures in Japan put emphasis on improving "Eco-ability"; installing solar panels or storage batteries, improving body of house. But, if the residents cannot understand and use the eco-systems in his house effectively, the low energy house or Eco-lifestyle are not completed, because the effects is not displayed. Therefore, he must live in Eco-lifestyle.

The purpose of this study is to clarify "how does the difference between behaviors the burden on the environment at home". Through experimental dwelling at "KEIO Co-evolving House" which introduces a high environmental performance, the year-long data have been get by various sensors. To combine between the data and the record of schedule, change in energy consumption by difference between behaviors in living life is analyzed. As one of the study method, the amounts of electric power, which individual behavior in living life (Sleeping, Cooking, Taking a bath etc…) consumes, are calculated and compared each other. As second, amplitudes of amount of electric power to each behavior in living life by the monitors are calculated and compared each other.

By the result of this study, if the residents want to reduce the energy consumption, he can get some hint. And the result help to develop some energy saving tool with automatic control device as HEMS, and to make up a panel interface control device which show information leading to energy saving to the residents.

Keywords
1. Behaviors in living life, 2.Residential energy consumption,
3. Residential experiments, 4. Low energy house, 5. Eco-lifestyle

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