

ESI

IWAFUNE LAB.

[Sustainable Energy Demand and Supply System]

Energy System Integration Social Cooperation Program

Sustainable Energy Demand and Supply System

Department of Electrical Engineering

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Energy Efficiency & Demand Response

3E & S (Energy security, Economy, Environmentally and Safety) are critical issues for Japanese energy system. Massive introduction of renewable energy resources such as photovoltaics or wind power generation and the flexible power system resources to adjust their intermittent behaviors are essential to realize 3E & S energy system. Demand response on customer sides is one of the prospective flexibility resources. Adjustment of the power consumption on customer sides to better match the demand for power instead of adjusting the supply contributes economical power system operation.

IWAFUNE lab. has investigated energy efficiency and demand response in "residential sector". We figured out the structure of residential electricity consumption using Home Energy Management System (HEMS) data on 2000 households. We also examined the potential energy efficiency and demand response compatible with inhabitant comfort.

