

Abstract #: 231

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Abstract Title: Engaging with a Thermostat: Using Seasonal and Connectivity-based Differences in Residential Thermostat Use to Maximize Savings

Abstract Text:

Technology advances are moving the lowly residential thermostat from simple temperature control to command central for the “smart home” of the future. But how do program design, marketing and customer communication need to evolve with this technology? And how do utilities serving smaller and potentially more rural population get to play? WECC has recently completed a two-year pilot program with Wi-Fi connected, utility-ready, residential programmable thermostats in cooperatives and municipal utilities in Michigan. Thermostats were installed directly and programmed, and participants were educated on their use. The participant group was diverse geographically, and in terms of heating and air conditioning system type, home size and energy use. Some participants were not given Wi-Fi access to their thermostats in order to study the effects of connectivity on thermostat interaction by homeowners. Analysis incorporates hourly AMR data, local hourly weather, time-stamped thermostat data, and participant attributes to estimate energy efficiency and demand savings and characterize participant behaviors. Response to program marketing and the impact of educational messaging is also analyzed. In this presentation WECC will share observations of participant behaviors taken directly from recorded thermostat data, as well as from customer surveys. We will also share conclusions on opportunities to apply lessons learned to both existing and new residential thermostat programs.