THERMOSTATS—THE MEASURE WITH MANY FACES

Moderator: Jane S. Peters, Research Into Action, Inc.

PAPERS:

SESSION SUMMARY:

This session includes three presentations on smart and/or programmable thermostats. One evaluation challenges the notion that programmable thermostats don't deliver savings, and the other two provide different solutions to effectively evaluate programs using smart thermostats in demand response programs.

Jeremiah Robinson's paper discusses how program design can make all the difference in achieving savings from programmable thermostats. Despites years of findings that programmable thermostats really don't save energy, this evaluation, using a two-stage PRISM, model found that a program with direct-installed thermostats can achieve savings. In the next paper, Olivia Patterson explores how to structure a smart thermostat demand response program to achieve a randomized control trial (RCT). Her team compared the RCT results to a quasi-experimental design to identify the degree of bias in the quasi-experimental design. Finally, Ethan Goldman's paper explores how to use the interval data generated by smart thermostats when advanced metered data are not available. His team used data cleaning and processing techniques, along with nameplate data for a subsample of sites to reveal both the demand reductions of the program and the equipment conditions, which could be modified to improve program results.