Abstract #: 145
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Abstract Title: Engaging Consumers on Energy Efficiency: Data, Delivery & Results
Abstract Text:
Substantial evidence suggests our climate is changing, bringing extended periods of record-breaking heat across much of the U.S. and prolonged drought in the west. Given that weather drives 50% of home energy usage, leveraging real-time weather data to educate consumers and change behavior to adopt Energy Efficiency (EE) is critical to reducing peak loads and minimizing their carbon footprint. Successful EE programs require understanding consumer energy usage patterns, the residential dwelling itself, and weather's impact – and then engaging and educating consumers with personalized, relevant and useful information. WeatherBug Home combines real-time weather data with consumer energy usage information (from smart meters and/or two-way thermostats and connected home devices) to create a thermodynamic profile of each home. Precision modeling enables automated thermostat optimization to manage energy usage depending on whether occupants are at home or away. Pilots in Texas and Massachusetts demonstrated an automatic 4% savings of whole home EE or 8% of HVAC (worth $75-$100/year). To help consumers understand why and how they use energy, home models are also tapped to create a personal, easy-to-understand Energy ScoreCard that shows energy usage compared to neighbors, forecasted usage for the next month, and a virtual home EE audit– with data-driven tips for energy savings. This presentation will provide insight into how real-time, hyper-local weather information is critical in identifying and delivering EE. Program details, results and learnings, both in collaboration with utilities and direct to consumers via WeatherBug apps with a dedicated base of 25 million mobile users, will be shared as well as particulars on Energy Scorecards and other behavior-change engagements.