Session 9C

CUSTOMER'S RATIONALE FOR LED BULBS

Moderator: Greg Lovett, Ameren Missouri

PAPERS:

Break on Through to the Other Side: How to Help LEDs Emerge in the California Residential Lighting Market
Tyler Mahone, DNV KEMA Energy & Sustainability

Taking LEDs to Market: Designing a Comprehensive Market Trial that Examines Incentive Levels and Consumer Preference
Dr Katherine V. Randazzo, Opinion Dynamics

Why the Light Bulb is No Longer a Textbook Example for Price Elasticity: Results from Choice Experiments and Demand Modeling Research
Andrew Stryker, DNV KEMA Energy and Sustainability

SESSION SUMMARY:

This session will focus on an in-depth study on how Light-emitting diode (LED) lamp saturation levels have changed over the last three years in California, the results of a first-of-its-kind LED lamp market pricing trial, along with an extensive intercept survey describing the customer decision criteria for LED lamps.

LED lamps have arrived and are among the options consumers have for general purpose lighting. While LED penetration in residential household saturations is still miniscule compared to established technologies, there has been a noticeable increase in the last few years. Questions of customer awareness, product availability, pricing disparities and baseline assumptions need to be understood for energy efficiency programs to help LEDs gain market share.

A market pricing trial (MPT) with a quasi-experimental design, including three major big-box retailers, and a latent class discrete choice (LCDC) study as well as some qualitative components will be described. Multiple models, retail chains, and income levels of store catchment areas were included in the MPT, and many product attributes were addressed in the LCDC study, as well as both experienced and inexperienced consumers in using ambient lighting LED lamps.

Recent research from California suggests that the demand for light bulbs has become increasingly more complex, as new lighting technologies serving multiple applications with varying efficiency levels have become more readily available due to changes in policies, standards, supply side business models, and ultimately consumer demand. While changes in light bulb purchases remain largely influenced by price, there are a number of other factors that explain consumer choice. Understanding and quantifying the influence of these other factors can help inform lighting policy and program design to more effectively address non-price barriers.

LED bulbs are being investigated by utilities as additional measures to be included in their suite of programs. However, understanding market is very complicated following a very successful CFL bulb program deployments. Consumers are interested in LEDs but are affected by negative experiences of CFLs. Several customer segments are identified that can help guide targeting and messaging for future programs. As this emerging lighting technology begins to gain a foothold in the residential lighting

market, now is the time for program intervention to help LEDs make a real savings impact over the next five to ten years.