

EVALUATION'S KNOTTIEST PROBLEMS: MEASURING SPILLOVER AND CODES SAVINGS

Moderator: Douglas Mahone, VP Emeritus, TRC Energy Solutions

PAPERS *(in order of appearance)*:

101 Sources of Spillover: An Analysis of Unclaimed Savings at the Portfolio Level

Antje Flanders, Opinion Dynamics Corporation

Spillover – Worth Crying Over: An Innovative Methodology for Quantifying Non-Participant Spillover in California

Chris Murphy, Itron

Dan Buch, CPUC, Energy Division

Vincent Greco, Opinion Dynamics

Mary Sutter, Opinion Dynamics

Cracking the Code: An Approach to Estimating Savings from Energy Codes

Jonathan Strahl, Navigant Consulting Inc.

SESSION SUMMARY:

This session will focus on recent thinking and work on two of the more complex evaluation issues: how to measure spillover and to estimate the savings impacts from codes and standards (C&S) programs. Both types of evaluations present major challenges that were traditionally avoided as being too complex or costly to address. Both types require looking at broad market activities with multiple influences, large populations, diverse effects, and rather long timeframes. Both draw on multiple data sources, and both try to tease out effects that distinguish between natural market activities and program-induced activities. Both have to address double counting issues that are not straightforward. The three papers presented in this session offer new insights into evaluation approaches that address these issues, drawing both on theoretical constructs and on practical evaluation studies.

The three papers to be presented are summarized below:

101 Sources of Spillover: An Analysis of Unclaimed Savings at the Portfolio Level

This paper presents methodologies and lessons learned from a recently completed assessment of various kinds of spillover under the umbrella of Commonwealth Edison's Commercial & Industrial (C&I) portfolio evaluation. The study went beyond the traditional concepts of participant and non-participant spillover and examined sources of spillover not commonly assessed. This paper focuses on two unique aspects of the 2015 study that address study and research planning: (1) development of a spillover logic model to systematically document potential sources of spillover and prioritize among various research activities and (2) efforts to minimize measurement error in our online Trade Ally survey through cognitive interviewing, a survey pretest method designed to assess respondents' understanding of key survey questions.

Spillover – Worth Crying Over: An Innovative Methodology for Quantifying Non-Participant Spillover in California

This paper describes an innovative methodology that is currently being used to estimate non-participant spillover in California for the 2010-2012 program years. Unlike traditional spillover studies which rely on self-reported installations of high-efficiency equipment, this study leverages the equipment inventories of 1,987 residential sites that were conducted as part of the *California Lighting and Appliance Efficiency Saturation Study (CLASS)* and 1,520 commercial sites that were conducted as part of the Commercial Saturation Survey (CSS) and Commercial Market Share Tracking (CMST) studies. This methodology is of interest to other jurisdictions that may be able to leverage residential and

commercial baseline studies in a similar manner.

Cracking the Code: An Approach to Estimating Savings from Energy Codes

Utility energy efficiency programs face an uphill battle to meet accelerating savings targets measured against escalating baselines defined by increasingly stringent codes and standards (C&S). By consistently raising the bar against which traditional energy efficiency program savings are measured, improved codes can inadvertently cannibalize utility program savings claims. To accommodate this situation, some regulatory commissions recognize utility savings claims from C&S upgrades themselves, provided such claims are supported by utility activities and also evaluated, measured, and verified. Evaluating savings from C&S upgrades is a complex undertaking that requires determination of multiple factors: market baselines, unit energy savings, code compliance rates, the normal rate of code adoption absent utility influence, net savings discounts, and allocation of market-wide savings to specific utility service territories. In Arizona, recent upgrades to residential and commercial construction codes presented the author with a unique opportunity to develop a novel approach for estimating potential savings from code upgrades occurring in various jurisdictions throughout the state. Using the methodology presented herein, utilities can develop measurable and realistic goals for both their C&S programs and their traditional energy efficiency programs' influence on C&S adoption. The methodology will minimize the uncertainty associated with quantifying energy code impacts before considering attribution of savings to discrete utility efforts. Furthermore, use of the methodology can provide justification for utilities to engage in code development efforts.