

Session 8C

QUICK TAKES: EVOLVING METHODS

Moderator: Marjorie McRae, Research Into Action, Inc.

Co-Moderator: Jim Mapp, Dark Energy Associates

PAPERS (in order of appearance):

Setting Net Energy Impact Baselines: Building Reliable Evaluation Approaches

Nick Hall, TecMarket Works, Oregon, WI

David Ladd, TecMarket Works, Oregon, WI

M. Sami Khawaja, Cadmus Group, Portland, OR

What do they know? Strengths and Limits in Survey Data Collection about Residential Structures and Equipment

Ingo Bensch, Energy Center of Wisconsin, Madison, WI

Karen Koski, Energy Center of Wisconsin, Madison, WI

Patrick Michalkiewicz, Peoples Gas & North Shore Gas, Chicago, IL

Annualization of Results of Residential Lighting Meter Data

Brian Shepherd, The Cadmus Group, Boulder, CO

Eric Rambo, The Cadmus Group, Madison, WI

Madison Busker, The Cadmus Group, Boulder, CO

Revisiting Double Ratio Estimation for Managing Risk in High Rigor Evaluation

Justin Spencer, Navigant Consulting, Boulder, CO

Dan Greenberg, Navigant Consulting, Boulder, CO

Terese Decker, Navigant Consulting, Boulder, CO

Evaluating Impact of Retrofit Programs on Commercial Buildings: Results from the Energize Phoenix Project

Karthik Thalappully, Arizona State University, Tempe, AZ

Agami Reddy, Arizona State University, Tempe, AZ

Oscar Nishizaki, Arizona State University, Tempe, AZ

Marcus Myers, Arizona State University, Tempe, AZ

Michael Dalrymple, Arizona State University, Tempe, AZ

Patrick Phelan, Arizona State University, Tempe, AZ

Assessing Energy Savings from Building Commissioning

Steven Keates, ADM Associate, Inc., Sacramento, CA

Taghi Alereza, ADM Associate, Inc., Sacramento, CA

Beyond Elephants and Donkeys: Methodology Lessons from Election Polling for Energy Research

Carla Jackson, Abt SRBI, Inc., Ft. Myers, FL

SESSION SUMMARY:

This session – a “lightning” session, with each presentation limited to five minutes – focuses on evolving methods for collecting and estimating data necessary for evaluation or design of energy efficiency programs. Particular attention is on situations having limitations on data collection or prior estimates for use.

Setting Net Energy Impact Baselines discusses the importance of selecting an appropriate baseline and the baseline's implications for the choice of methods used to calculate free riders and net savings. Baseline selection needs to be determined by the condition of the market and the way the program impacts the market.

What do they know? discusses the accuracy of survey data, what data can be reliably collected by customer self-reports, and what data require a field visit. The authors discuss sources of errors in self-reports, highlight potential improvements, and discuss inherent limits for data collection on building and equipment data through telephone surveys.

Annualization of Results of Residential Lighting Meter Data presents a method for annualizing residential lighting hours of use by extrapolating results from metering studies spanning as few as twelve weeks. The authors discuss the sensitivity of the findings to the period of time during which the metering is done and the observed effect on changes in the hours of daylight on the use of lighting in the home.

Revisiting Double Ratio Estimation discusses the double ratio estimation methodology where the evaluator measures the ratio between measured values and some prior estimate of the values on a site-specific basis, rather measuring the mean savings. The authors present the equations to derive savings and discuss uncertainty estimates.

Evaluating Impact of Retrofit Programs on Commercial Buildings presents results from a contractor-driven energy efficiency program in which participants receive incentives based on amounts of kilowatt-hour savings. The authors discuss how they addressed issues such as incomplete data, spurious data behavior, multiple upgrade projects in the same facility, weather normalization and baseline model uncertainty. Results are presented on differences between measured and predicted savings and follow-up investigations into differences.

Assessing Energy Savings from Building Commissioning discusses two major challenges energy impact evaluators face when evaluating the savings due to building commissioning measures and present solutions for overcoming those challenges. The first challenge relates to the identification of what constitutes commissioning versus building maintenance; the second is the difference between savings associated with building commissioning and savings due to whole building performance. The authors present ways to overcome these challenges.

Beyond Elephants and Donkeys presents lessons for energy-related data collection derived from the 2012 presidential election polling. The paper discusses four important lessons: Timing Matters, Method Matters, Data Matters, and Aggregation Matters. The discussion includes simple questions to be asked to finalize data collection efforts, such as the right time to conduct a survey, sufficient sample size, data collection methodology, and use of other available information.