

2007 Poster Session

Moderator: Elizabeth Titus, Northeast Energy Efficiency Partnerships, Inc.

List of Posters

- **Quantifying a Moving Target: Challenges in Measuring Market Share for Market Transformation Programs**, by *Kathleen Hunt and Laura Safrance, Enbridge Gas Distribution, Toronto, Ontario, Canada*
- **Conditional Demand Analysis of Residential Energy Consumption**, by *K. H. Tiedemann, BC Hydro, Vancouver, BC*
- **Back to the Future: Re-integrating demand-side resource planning with open-access software**, by *Paul Meier, Energy Institute, UW-Madison*
- **Taking a Bath on Showerhead Savings**, by *Kathryn E. Parlin, Al Bartsch, West Hill Energy & Computing, Chelsea, VT and Robert Wirtschafter, Wirtschafter Associates, Rydal, PA*
- **It's What You Do With You've Got, That Pays Off in the End: Energy and Demand Savings Estimates with Parsimonious Data**, by *Jim Mapp and Barbara Smith, Division of Energy Services, Madison, WI*
- **Measuring The Impact Of Programmable Thermostats In Gas Heated Homes**, by *Tim Hennessy, RLW Analytics, Inc., Clark Lake, MI*
- **If You Build It, They Will Come: Lessons Learned in Creating an Interactive Lighting Display**, by *Jennifer E. Canseco and Kathleen Gaffney, KEMA Inc.*
- **Duct Soup: Research and Impact Results for Duct Sealing Programs**, by *Elizabeth Titus, Northeast Energy Efficiency Alliance, Timothy Pettit, Nexus Market Research, Robert Wirtschafter, Wirtschafter and Associates*
- **A Framework for Energy Education and Training Program Portfolio Valuation**, by *Kathleen Gaffney, KEMA, Inc., Oakland, California*
- **Failure to Follow-Through: Trends in Completion Rates of Residential Renewable Energy and Energy Efficiency Projects**, by *Eileen Hannigan, Wisconsin Energy Conservation Corporation, Madison, WI*
- **Energy Efficiency and Energy Education for Low-Income Households**, by *Jamie Drakos, M. Sami Kawaja, and Anne West, Quantec, LLC, Portland, OR*
- **Predicting Naturally Occurring Energy Efficiency – Development and Application of a New Tool to Obtain Expert Input**, by *Allen Lee and M. Sami Kawaja, Quantec LLC, Portland OR and Nicholas Hall, TecMarket Works, Oregon, WI*
- **NEBS from the Societal Perspective: Methods, Results, Patterns and Implications**, by *Lisa Skumatz, Skumatz Economic Research Associates, Inc. Superior, CO*
- **Mapping Software as a Program Management and Evaluation Tool**, by *Heidi Ochsner et al, Itron, La Jolla, CA, Shel Feldman, Shel Feldman Management Consulting, Madison, WI and Judy Mathewson, We Energies, Madison, WI*
- **Solar Incentive Structures and the Impacts of PV Performance and Costs**, by *George Simons et al, Itron Inc., La Jolla, CA and Pierre Landry, Southern California Edison, Los Angeles, CA*
- **CO₂ Trading Program Assessment: Recommendations for Kosovo**, by *Dafina Gashi, Rochester Institute of Technology, Rochester, NY*
- **Willingness to Pay for a Clear Night Sky: Use of the Contingent Valuation Method**, by *Stephanie Simpson, Rochester Institute of Technology, Rochester, NY*

Summaries:

Quantifying a Moving Target: Challenges in Measuring Market Share for Market Transformation Programs presents Enbridge Gas Distribution's experience in measuring the success of the company's first Demand Side Management (DSM) market transformation program, to increase the market share of ENERGY STAR® windows. Post program research included surveying industry manufacturers. The poster reviews the multi-faceted marketing activities and market research completed since 2006 as well as the research challenges encountered.

Conditional Demand Analysis of Residential Energy Consumption summarizes the methodology and results of two residential end-use studies for electricity and natural gas for British Columbia to estimate Unit Energy Consumption (UEC) values for 14 electricity 0 natural gas residential end-uses, with results weighted to the customer population. Primary electric space heating at 5,037 kWh per year, electric water heating at 3,186 per year, and primary gas space heating at 67.80 GJ per year, and water heating at 20.76 GJ per year were among the results.

Back to the Future: Re-integrating Demand-side Resource Planning with Open-access Software presents a cost-benefit analysis of energy efficient technologies based on a simple integrated resource model. Avoided electrical generation is estimated in four time periods peak and off-peak seasons, and peak and off-peak hours and the benefits are estimated by evaluating an efficient scenario against a baseline scenario. Results from the end-user, IOU, and societal perspective are reviewed, as well as the technical challenges and limitations of the assessment, including data availability and characterization of wholesale electricity markets.

In **Taking a Bath on Showerhead Savings**, showerhead savings were derived as one component of an impact evaluation for a low income program, when it was virtually impossible to isolate these savings from other hot water measure savings in a regression mode, by combining bench testing with on site data collection. The results challenge current assumptions about showerhead replacements and provide valuable insights into possible modifications to field implementation.

It's What You Do With You've Got, That Pays Off in the End Energy and Demand Savings Estimates with Parsimonious Data: Annual electrical energy and demand savings from refrigerator turn ins were estimated using an incomplete sample and householder reported or field collected data.

The research shows that reliable energy usage estimates for turn-in and replacement programs can be made without monitoring data for the five major types of refrigerators and three types of freezers manufactured between 1940 and the present.

Measuring The Impact Of Programmable Thermostats In Gas Heated Homes: A survey-supported billing analysis on a large sample of participants in the GasNetworks ENERGY STAR® Qualified Thermostat Rebate Program used a test-control experimental design to help control for extraneous variables yielding net program impacts from the analysis. Savings of 80ccf, or 6.2% of total household annual natural gas consumption, at a relative precision of $\pm 23.7\%$ were estimated. This yields a 90% confidence interval from 61ccf to 99ccf or a percent savings ranging from a low of 4.7% to a high of 7.7% of normalized annual total household consumption.

If You Build It, They Will Come: Lessons Learned in Creating an Interactive Lighting Display: Many challenges remain with wider-spread adoption of CFLs, as found when the authors set out to build an interactive lighting display to showcase current compact fluorescent lamp (CFL) technologies. Bulbs required for the display were difficult to obtain and, once obtained, posed implementation challenges.

Duct Soup: Research and Impact Results for Duct Sealing Programs shows that a recipe for good duct sealing programs considers: 1) facts and figures about how leaky and/or poorly designed duct systems affect potential energy savings; 2) the menu of programs throughout the nation, factors that impact the types of

programs that are provided, the level of participation by contractors and customers; and 3) necessary ingredients to delivering a successful duct sealing program based on recent regional research efforts.

A Framework for Energy Education and Training Program Portfolio Valuation: Evaluators' toolkits are still missing effective strategies for assessing the value of energy education and training programs. To fill that gap, a systematic way of characterizing and valuing the education and training courses "portfolio" akin to investors' financial portfolio frameworks is presented; it was developed based on results of a recent evaluation of California's Statewide Education, Training and Services (ETS) Program.

In Failure to Follow Through: Trends in Completion Rates of Residential Renewable Energy and Energy Efficiency Projects, insights into declining completion rates and barriers to participation in two residential programs in Wisconsin are provided, based on an analysis that combined program survey and U.S. Census data.

Energy Efficiency and Energy Education for Low-Income Households presents the potential qualitative and quantitative household and utility benefits of low-income programs based on a comparison of various programs in the U.S..

Predicting Naturally Occurring Energy Efficiency- Development and Application of a New Tool to Obtain Expert Input: An interactive web-based graphical display is at the heart of this innovative process to estimate energy savings net of naturally occurring market adoption of efficient building and appliances. It combines a Delphi approach and logit-based estimators of product adoption rates.

NEBS from the Societal Perspective: Methods, Results, Patterns, and Implications provides an overview discussion of many different non-energy benefits, such as job creation, reduced power plant emissions or wastewater, and how they can be credited by energy efficiency cost-benefit analysis if they can be quantified.

Examples of how **Mapping Software as a Program Management and Evaluation Tool** supports tracking and evaluation are provided from applications of Geographic Information System (GIS) software in two utility programs, one that installs CFLs in low income households and one installing efficient dairy farm equipment.

Solar Incentive Structures and the Impacts of PV Performance and Costs reports baseline information on PV performance and costs in California and results of 39 prototype PV market scenarios to aid policymakers in designing market transformation program incentive structures.

CO₂ Trading Program Assessment: Recommendations for Kosovo presents the methodology and results from academic research to assess Kosovo's future potential for establishing a CO₂ trading program, including results of an international comparative analysis of CO₂ emission trading programs and auction system along with an assessment of Kosovo's current energy policies and political, economic, and environmental conditions, all of which can contribute to plans for Kosovo's future potential for establishing a CO₂ trading program.

Willingness to Pay for a Clear Night Sky: Use of the Contingent Valuation Method presents the results of academic research that demonstrates the use of the contingent valuation method to place an economic value on light pollution, based on results of students surveyed regarding their willingness to pay for a clear night sky, with the expectation that a measured value of clear, unobstructed night sky, can become an input into a cost-benefit analysis for use by policy makers in making informed decisions regarding light pollution.