CONFERENCE SPONSORS

PLATINUM

Pacific Gas & Electric Company
Southern California Edison
TecMRKT Works
United States Department of Energy
United States Environmental Protection Agency

GOLD

California Energy Commission
Energy Center of Wisconsin
Hagler Bailly Services
Northwest Energy Efficiency Alliance
New York State Energy Research and Development Authority
The NEES Companies
Western Area Power Administration
Wisconsin Energy Bureau

SILVER

ACEE
Electric Power Research Institute
Marketpower, Inc.
Quantum Consulting
Regional Economic Research, Inc.
Seattle City Light

CONTRIBUTORS

Research Into Action

EVALUATION IN TRANSITION: WORKING IN A COMPETITIVE ENERGY INDUSTRY ENVIRONMENT

1999 INTERNATIONAL ENERGY PROGRAM EVALUATION CONFERENCE

August 18-20, 1999
Denver, Colorado

PROGRAM SESSIONS

The Ninth International Evaluation Conference

SESSION I A

HITTING THE BASELINE: What to say when they ask: "Compared to What?"

Moderator: Ben Bronfman, Northwest Energy Efficiency Alliance

PAPERS:

Methods and Measurement Issues for a DSM Evaluation versus a MT Market Assessment and Baseline Study

Dr. Lori Megdal, Megdal & Associates, Richard Spellman, GDS Associates, and Bruce Johnson, Boston Gas Company

Tracking Market Shares of High Efficiency Measures for Evaluating Market Transformation Initiatives in California

Dr. Frederick Sebold, Alan Fields and Jennifer Smead, Regional Economic Research, Mary O'Drain, Pacific Gas and Electric Company, and Joe Eto, Lawrence Berkeley National Laboratory

SESSION SUMMARY:

As more Market Transformation initiatives are launched, and as the focus of energy efficiency shifts from individual effects to market effects, the need to establish market baselines has become increasingly important. Unless baselines are solidly established, the full effects of MT initiatives cannot be estimated. And, since many market actors may be only indirectly involved in the initiative, acquiring reliable baseline information, in the absence of a "stick", requires planning, innovation and triangulation in measurement techniques.

This session provides two examples of innovative thought action in the measurement of baseline and market conditions for Market Transformation initiatives. Lori Megdal, et al, lay out a paradigm for measuring market baselines, using DSM evaluation as a starting point, and examples of work done for Boston Gas. Fred Sebold, et al, describe the planning process that went into the development of tracking initiatives for the California Board for Energy efficiency. This involved a needs assessment, a methods assessment and a feasibility assessment.

SESSION I B

HOW MUCH IS IT WORTH ?
VALUING ENERGY PRODUCTS AND SERVICES

Moderator: Liz Hicks, New England Power Service Co.

PAPERS:

Retail Competition in The Electric Industry: A View From the Real World
William P. Saxonis, New York State Department of Public Service, Albany, NY

Bundled Services Evaluation: Using Leading Edge Techniques in New Product & Service Evaluation
Mark Camack, Market Strategies, Inc., Southfield, MI

From Programs to Products: Evaluation's Contribution And Future Direction in a Deregulated Energy Market
Roberta W. Walsh, Florida Gulf Coast University, Ft. Myers, FL

Developing a Customer Value Driven Program Strategy
Richard A. Wight, Energy Market Solutions, Atlanta, GA

SESSION SUMMARY:

This session contains four papers related to energy products and services in the unbundled era. The Wright paper presents a methodology to develop new energy products and services based on an understanding of the customers value proposition. The Camack paper examines customer interest in bundled energy products. This research includes focus group results, perceptual maps and conjoint analysis. The paper on the New York retail market experience by Saxonis provides an excellent road map of two of the New York retail access pilots and what products and services were offered from an evaluation perspective. This paper includes results of interviews with energy service providers, utilities and customers. Lastly, the Walsh paper provides some recommendations for enhancing the tools of evaluation to make them applicable to the marketing of energy products and services.

SESSION I C

ENERGY EFFICIENCY ABROAD AND MARKET TRANSFORMATION IN THE USA: PAST, PRESENT, AND FUTURE TRENDS

Moderator: Edward Vine, Lawrence Berkeley National Laboratory

PAPERS:

Evaluating Mexican and Brazilian Residential Compact Fluorescent Lamp Programs: Progress and Unresolved Issues
Rafael Friedmann, Energy Consultant, Berkeley, CA
Gilberto De Martino Jannuzzi, Universidade Estadual de Campinas, Brazil

Performance Monitoring for Energy Efficiency Programs: Defining the Canadian Experience
Glenda Taylor and Tim McIntosh, Office of Energy Efficiency, Natural Resources Canada

Market Transformation Evaluation: A Tale of Four Regions
Steven Nadel, American Council for an Energy-Efficient Economy, Washington, DC

Market Transformation Initiatives: Successes and Remaining Challenges
Margaret Suozzo and Jennifer Thorne, American Council for an Energy-Efficient Economy, Washington, DC

SESSION SUMMARY:

This session covers comprehensive evaluations of energy efficient programs abroad (Brazil, Canada, Mexico) and market transformation programs in the United States. The papers examine past performance of these programs, as well as recent developments in these programs. Their future will be addressed with respect to utility restructuring and country commitments to reduce global warming.

SESSION II A

COMPETITIVE INTELLEGENCE : DATA NEEDS OF 2000 AND 2010

Moderator: Liz Hicks, New England Power Service Co.

PAPERS:

Assessing the Commercial/Industrial Markets for On-Site Generation and Renewable Energy: Results from the National Business Energy DataMart Study
Lynn Hoefgen, Ph.D., Opinion Dynamics Corporation, Cambridge, MA

Integrated Market Analysis: Linking Competitive Intelligence to Customer Research for Powerful Decision Making
Suzanne L. Sell, Marketpower, Inc., Lakewood, CO

It's Here: Retail Convergence of Fuels from a Single Provider
Robert Zieme and Tom Michelman, Xenergy, Inc., Burlington, MA

SESSION SUMMARY:

This session is comprised of three papers related to customer information in a restructured electric and gas energy market. The Sell paper provides a good overview of what competitive intelligence can enable an organization to do and the benefits that can be derived from that information. The Ziemer paper provides some early examples of how some energy suppliers are bundling fuels to customers and how they are using this to position themselves as a company. The paper also discusses other new entrants to the market that offer energy combined with telecommunication services. Lastly, the Hoefgen paper assesses customer interest in two energy related producers-on-site generation and renewable energy using a data warehouse of over 10,000 business customers.

Session II B

New Twists On An Old Problem: Trying Some Innovations In Low-Income Programming

Moderator: Martin Kushler, ACEEE

PAPERS:

Evaluation of a Low-Income Weatherization Loan Pilot Program
Bobbi Tannenbaum, Energy Center of Wisconsin
Richard Hasselman, Energy Center of Wisconsin

Evaluation of a Low-Income Shared-Savings Pilot
Scott Pigg, Energy Center of Wisconsin
Jo Anne Sturiale, Sturiale and Company
Barbara Smith, Wisconsin Energy Bureau

An Innovative Approach to Low-Income Energy Education: Helping Customers Help Themselves Through Aggressive Energy Education
Rick Morgan, Morgan Marketing Partners
Van Needham & Kathy Ruthen, Cinergy Services Inc.
Nick Hall, TecMRKT Works
Jeff Riggert, TecMRKT Works

SESSION SUMMARY:

As the title suggests, this session focuses on some interesting and innovative approaches to delivering low-income energy efficiency services. In this era of utility industry restructuring and declining governmental support, budgets for such services are under increasing pressure. As a result, policymakers and practitioners are searching for strategies to leverage greater effects out of available resources. While new approaches are not always successful, the design and testing of new alternatives is an important contribution to the public policy debate.

Two of the papers in this session explicitly examine service delivery approaches which some feel could potentially be used to stretch the reach of available funding for low-income energy efficiency services. The paper by Tannenbaum and Hasselman evaluates an interesting approach based on providing zero interest loans, rather than direct free weatherization services, to low-income households. The paper by Pigg, Sturiale and Smith presents a pilot project designed to investigate some of the operational aspects of using a shared savings approach for low-income weatherization. Finally, the third paper (by Morgan, Van Needham, Ruthen, Hall, and Riggert) examines a unique utility-based program featuring a very intensive package of in-home energy education.

SESSION IIC

ENHANCING PROGRAM DESIGN AND PERFORMANCE

Moderator: Les Baxter, The Pew Charitable Trusts

PAPERS:

Using the Program Logic Model to Increase the Relevance and Use of Evaluation Finds of Market Transformation Projects
Dune Ives-Peterson, Northwest Energy Efficiency Alliance

SMUD Shade Tree Program: A Unique Application of Evaluation Tools
Misha Sarkovich, Sacramento Municipal Utility District

Freerider and Freedriver Effects from a High-Efficiency Gas Furnace Program
Ken Seiden, Quantec and Helen Platis, Union Gas Limited

SESSION SUMMARY:

In recent years, public dollars for energy efficiency programs have grown scarcer while the demands for concrete, measurable results from these programs have grown louder. In this environment, program managers and evaluators must bring their best talents to the task of putting public dollars to their most effective long-term use.

This session provides three example of how evaluation tools can enhance the design and performance of efficiency programs. The paper by Ives-Peterson describes how a focus on the underlying logic of a program's design can identify the program's key evaluation needs and clarify where program dollars are needed most. Sarkovich documents the interaction between one of the country's largest shade-tree programs and the planning and evaluation efforts that helped shape its growth. Seiden and Platis illustrate how a hard look at customer behavior can dramatically change the perceived cost effectiveness of an efficiency program.

Session III A

Market Transformation Evaluation: Moving Through Theory To Advanced Practices

Moderator: Nick Hall, Principal, TecMRKT Works

PAPERS:

Beyond Market Transformation: Some Perspectives on Energy Evaluation and Research and the Energy Efficiency Movement

Rick Kunkle, Washington State University Energy Program
Loren Lutzenhiser, Washington State University

Why Can't We All Just Get Along? A Reconciliation of Economic and Innovation Diffusion Perspectives of Market Transformation

Bruce Mast, Pacific Consulting Services

The Dimensions of Perceived Market Barriers: Factor-Analysis of Information Needs, Risks, and Hassles for Customer and Other Market Actors

Phil Willems, Quantum Consulting
Shel Feldman, Shel Feldman Management Consulting
Katherine V. Randazzo, KVDR

SESSION SUMMARY:

This session will look at market transformation evaluation theory and practice and discuss ways to improve research methods and strengthen the usefulness of the results. The session will identify gaps in the "*Scoping Study*" framework and discuss methods for filling these gaps with an improved understanding of market transformation concepts and a corresponding ability to guide and evaluate market transformation services. The session will start with a paper that takes a broad brush approach to improving the scope and focus of market transformation evaluation. This paper will be followed by papers that look at alternative approaches for evaluating market transformation programs with specific suggestions for combining and strengthening evaluation methods.

SESSION III B

NET ANALYSIS: MORE THAN JUST GROSS

Moderator: M Sami Khawaja, Quantec LLC

PAPERS:

Using Multiple Lines of Evidence to Evaluate Residential Energy Conservation Programs
K.H. Tiedemann, BCHydro, Vancouver, BC

Any Way You Slice It: Issues of Behavior and Influence in Net Impact Analysis
Christie Torok, Quantum Consulting, Inc., Berkeley, CA
John Cavalli, Quantum Consulting, Inc., Berkeley, CA
Mary O'Drain, Pacific Gas & Electric Co., San Francisco,CA

Recent Declines in Wisconsin Residential Gas Use – Reality or Artifact?
Scott Pigg, Energy Center of Wisconsin, Madison, WI
Richard Hasselman, Energy Center of Wisconsin, Madison, WI
Jim Mapp, Wisconsin Energy Bureau, Madison, WI

SESSION SUMMARY:

This session examines various issues related to measurement issues related to net versus gross impacts. One of the papers examines average gas consumption of the residential customers of the eight gas utilities in Wisconsin (1980 to 1998/1999). The results show gas consumption declining at rates not seen since the energy crisis. The findings have important implications for establishing gas consumption baselines in the residential sector, as well as measuring the impact of energy efficiency programs. The second paper examines commercial program impacts using three approaches: billing analysis, survey data, and a discrete choice model. The three approaches provide different alternatives for the measurement of net and gross program impacts. The third paper presents "multiple lines of evidence to obtain credible, valid, and appropriate gross and net impact evaluations at relatively low cost.

SESSION IIIC

HOW MUCH IS IT WORTH? METHODS FOR VALUING PROGRAMS AND PRODUCTS

Moderator: Marilyn Brown, Oak Ridge National Laboratory

PAPERS:

Multi-Level Evaluation of a Residential Windows Market Transformation Project
Scott Dimetrosky and Connie Hall Colter, Quantec, and Philipp Degens, Northwest Energy Efficiency Alliance

High Efficiency Clothes Washers: Whiter Whites with less Energy?
Stephen Grover and Christie Torok, Quantum Consulting Inc., and Bill Babiuch, National Renewable Energy Laboratory

SESSION SUMMARY:

Market transformation programs and energy efficiency standards are generally considered to be two highly effective means of accelerating the market penetration of energy-efficient equipment and appliances. Quantitative proof of their effectiveness and impacts, however, requires carefully designed evaluation methods. In market transformation programs, estimating changes in market share due to a programmatic intervention can be difficult. In standards programs, assessing the value of product features that are altered by a standard can be challenging. Both of these issues, and others, are addressed in this session.

This session provides two examples of innovative program evaluation methods. The paper by Dimetrosky, Hall, and Degens presents a compelling argument for the use of collecting and analyzing data from multiple market segments (e.g., home-buyers, remodelers, manufacturers, and builders) in evaluating a project aimed at transforming the market for high efficiency window products. The paper by Grover, Torok, and Babiuch uses conjoint analysis to evaluate the relative importance placed by consumers on a set of clothes washer features in order to forecast how demand for washers might change with an efficiency standard.

SESSION III D

HITTING THE BASELINE: WHAT TO SAY WHEN THEY ASK "COMPARED TO WHAT?"

Moderator: Bill Prindle, Alliance to Save Energy

PAPERS:

Baseline Study for Assessing the PG&E Daylighting and Lighting Exchange Programs
Chin-I Lin, Pacific Gas & Electric Company
John H. Reed, TecMRKT Works
Andrew Oh, TecMRKT Works
George Loisos, Pacific Gas & Electric Company
Marc Fountain, Building Science Resource Group
JimChace, Building Science Resource Group
Nick Hall, TecMRKT Work

Evaporative Cooling in California: Assessing the Market and Establishing Baselines for Evaporative Cooling Technologies in the Residential and Commercial/Industrial Sectors
Bruce Mast, Jennifer McCormick, and Patrice C. Ignelzi, Pacific Consulting Services
Jane S. Peters, Research Into Action
Lisa Skumatz, Economic Research Associates
Shel Feldman, Shel Feldman Management Consultants
Cliff Gustafson, Taylor Systems Engineering
Mary O'Drain, Pacific Gas & Electric

Impact Evaluation of Commercial Construction Using Alternative Engineering Simulation Tools
David Robison and Howard Reichmuth, Stellar Processes
M Sami Khawaja, Ph.D., Quantec LLC
Brian Hedman, PacifiCorp

SESSION SUMMARY:

This session goes into depth on baseline-related issues on three programs: a commercial daylighting program, a residential evaporative cooling program, and a commercial new construction program. Techniques discussed range from survey and interview methods to comparisons of building simulation methods.

SESSION IV A

DIFFERENT APPROACHES TO EVALUATING MARKET TRANSFORMATION

Moderator: Marc Hoffman, Consortium for Energy Efficiency

PAPERS:

Transforming the Motor Market – Lessons Learned from New Jersey
Nikhil Gandhi, Strategic Energy Technologies, Inc., Acton MA
Sharon Baggett, Ph.D., Portland, OR

It All Comes Down To the Baseline – Estimating Market Transformation Effects
Rod Ehler, Quantum Consulting
Tom Talerico, Quantum Consulting

Measuring Market Effects in the Supermarket Industry
Katherine Johnson, KJ Consulting, Gaithersburg, MD
Mary O'Drain, Pacific Gas & Electric Co., San Francisco, CA
Shel Feldman, Shel Feldman Management Consulting, Madison, WI
Katherine Randazzo, KVDR Inc., Coronado, CA
Philipus Willems, Quantum Consulting, Berkeley, CA

SESSION SUMMARY:

This session attempts to illuminate the contributions of various methodologies by contrasting three different evaluations. Ehler and Talerico develop a quantitative technique for measuring the market transformation impacts from Florida Power & Light's residential and commercial/industrial energy efficiency incentive programs. Johnson et al take a qualitative approach to measuring the market effects of Pacific Gas & Electric's programs on the supermarket industry by examining changes in the efficiency potential of the whole sector rather than specific technologies. Lastly, Gandhi et al use a combination of qualitative and quantitative methods to assess the initial program design of Public Service Electric and Gas' energy efficient motors program. All papers contribute valuable lessons learned for various objectives of market transformation programs and their evaluations.

SESSION IV B

Environmental and Non-Energy Benefits: Beyond Kilowatts

Moderator: Jane S. Peters, Research Into Action, Inc.

PAPERS:

What Do Customers Value? What Benefits Utilities? Designing To Maximize Non-Energy Benefits From Efficiency Programs In the Residential Sector
Lisa Skumatz, Skumatz, Economic Research Associates Inc., Seattle, WA
Chris Ann Dickerson, Pacific Gas & Electric Co., San Francisco, CA

The Environmental Benefits of Low-Income Weatherization
David Hill, Vermont Energy Investment Corporation, Burlington, VT
David Nichols and Hannah Sarnow, Tellus Institute, Boston, MA

The Impact of Climate Change on the Conduct of Evaluation: The Establishment of New Evaluation Guidelines
Ed Vine and Jayant Sathaye, Lawrence Berkeley National Laboratory, Berkeley, CA

SESSION SUMMARY:

This session includes three papers discussing different issues of environmental and non-energy benefits. The session is organized to ensure the listener gains an understanding of the progress in the measurement of non-energy benefits for conservation measures. The earliest efforts in the United States focused on what other benefits accrue from utility demand side management and conservation programs. In 1999, we have increasing interest in non-energy benefits for other reasons. For utility programs there is the recognition that the programs provide other benefits that participants respond to and care about and that policy makers can use to justify the programs. The first paper provides an up-date on steps to address non-energy benefits to meet these needs. On the horizon, there is a growing awareness of the need to address global warming. The 1997 Kyoto Protocol sets the stage for new measurement issues surrounding the reduction in greenhouse gas emissions that contribute to global warming. The various issues associated with environmental benefits of air emissions reductions are address by the second and third paper.

SESSION IV C

TECHNOLOGY ISSUES

Moderator: Dottie Conant, New England Power Service Company

PAPERS:

Removing Free-Ridership through Adaptive Technology Use: An Evaluation of Georgia Power Company's GoodCents Energy Management System
Joe Hayes, Quantum Consulting Inc., Berkeley, CA
Dr. Derrick Rebello, Quantum Consulting Inc., Berkeley, CA

Deep Well Agricultural Pump Repair Evaluation Using Pre and Post Pump Efficiency Tests
Mary C. Sutter, Equipoise Consulting Inc., Oakland, CA
Mary G. Dimit, Pacific Gas & Electric, San Francisco, CA

SESSION SUMMARY:

You should find this session interesting if you are interested in energy efficiency pumping programs in the agricultural sector or increasing the potential of residential load control programs. Two papers will be presented in this session. The first by Hayes and Rebello describe how use of an adaptive load control algorithm can increase the potential impacts of programs based on direct control of appliances and virtually eliminate free-ridership. The second by Sutter and Dimit covers the first agricultural sector pumping evaluations within the state of California based on direct field measurements.

Session VA

Marketing in a Competitive World

Moderator: William P. Saxonis, New York State Department of Public Service

Papers:

Evaluating Unregulated Energy Efficiency Programs in Competitive Energy Services Markets
William R. Prindle, Alliance to Save Energy, and Kirk Brown, Center for Resource Solutions

The Link Between Program Participation and Financial Incentives in the Small Commercial Retrofit Market
Philip H. Mosenthal, Optimal Energy, Inc., and Michael Wickenden, Citizens Utilities Company

Choice, Expectation, Satisfaction: Measuring Customer Attitudes in a Changing World
Suzanne L. Sell, MarketPower, Inc.

Session Summary:

The emerging competitive electric and natural gas markets are forcing the energy industry to undertake a fundamental reexamination of how energy is marketed. It is an era of new and exciting challenges. This session offers valuable marketing insights from three diverse papers.

The first paper (Prindle, Brown) looks at promoting energy efficiency in partnership with green marketing strategies. The primary data sources are key stakeholders including energy marketers, government agencies and trade associations. The certification/brand identity concept for energy efficiency is probed in detail, including defining and discussing evaluation needs, objectives and methods.

The second paper (Mosenthal, Wickenden) analyzes the impact of various levels of financial incentives on the adoption of C&I energy retrofits. This research offers insights for marketing programs at incentive levels that minimize the cost of program delivery, but maximize energy saving potential. The primary data source is a single program in which virtually all the implementation procedures were held constant, except the incentive levels.

The third paper (Sell) examines how to measure customer opinions in a deregulated environment. Using real world examples, Sell probes critical marketing issues including understanding customer expectations. The paper concludes with specific ideas on creating a measurement framework and encouraging customer loyalty.

Session V B

Renewables – Green Programs and Pricing

Moderator: Barbara Farhar, National Renewable Energy Laboratory

PAPERS:

The Fort Collins Wind Power Pilot Program: Who Subscribed and Why
Nancy Collins, Q4 Associates
John Reed, TecMRKT Works
Lori Clements-Grote, Fort Collins Utilities

A Comprehensive Analysis Of A Utility-Sponsored Solar Water Heating Program
Anne Minor West, West & Company Research
Howard Reichmuth, Stellar Processes
David Robison, Stellar Processes
Jane Peters, Research Into Action

Green Pricing Case History: MGE's Story
Jeff Ford, Madison Gas and Electric Company
Laura Williams, Madison Gas and Electric Company

SESSION SUMMARY:

This three paper session begins with a paper on the Fort Collins Wind Power Program. In one of the first studies of its kind, the paper distinguishes among three groups: (1) people who choose to pay a premium for green power; (2) people who request information about subscribing, but do not; and (3) other utility customers. Subscribers have very specific reasons for doing so, related to environmental beliefs and a combination of education, professional careers, and higher income. Interested non-subscribers are deterred primarily by the cost. Of the 28,000 households served by Fort Collins, about 25% expect to continue their subscriptions or to subscribe in the near future.

The second paper summarizes a comprehensive evaluation of a Northwest utility's solar water heating program, which installed 650 systems over 9 years. The evaluation included customer and contractor surveys, program trend timelines, pre/post billing analyses, and solar engineering applied to the aggregate sample. Research shows clear evidence of 1600 kWh/yr annual savings for the most prevalent system type, and a levelized cost on the order of 35-45 mills/kWh nominal.

The third paper discusses a selection of the market research used to design and develop an operational wind energy program provided by Madison Gas and Electric Company. This paper presents a selection of the market research used to design the program and discusses the "key lessons learned" about the product, the market and selling wind energy to MGE's customers.

SESSION V C

HANDS ON MARKET TRANSFORMATION: DO'S AND DON'TS FOR THE NEXT GENERATION

Moderator: *Mary O'Drain, Senior Project Manager, Pacific Gas and Electric Company*

PAPERS:

Rethinking Performance-Based Measurement: Implications for Market Transformation Programs

Robert M. Wirtshafter, President, Wirtshafter Associates, Inc.
Robert D. Bordner, Energy Market Innovations, Inc.
Chris Ann Dickerson, Pacific Gas & Electric
Virginia Kreitler, Kreitler Research & Consulting

Transforming Markets To Get Efficiency Into the Residential Sector: Where Are The Contractors And What Do They Want And Need?

Lisa A. Skumatz, Ph.D., Principal, Skumatz Economic Research Associates, Inc.
Robert D. Bordner, Energy Market Innovation
Chris Ann Dickerson, Pacific Gas & Electric

Transforming Routine Air Conditioner Maintenance Practices to Improve Equipment Efficiency and Performance

John Proctor, Proctor Engineering Group
Tom Downey, Proctor Engineering Group

SESSION SUMMARY:

The papers in this session discuss results and applications of recent market transformation evaluation activities in California's residential contractor sector. The first paper addresses the market policy framework and discusses how new definitions of performance must be consistent with market transformation objectives. The second paper describes a program evaluation in which participants, non-participants and contractors were interviewed for feedback on current program design, their needs and preferences and future program elements for use in program planning. The third paper describes research undertaken to identify factors that would motivate consumers, HVAC contractors and technicians to use and accept a computer expert system to transform routine air conditioner maintenance practices.

SESSION VI A

CUSTOMER RESEARCH: THE WINNING EDGE

Moderator: Sharyn Barata, Xenergy

PAPERS:

From Needs-Based Segmentation to Objectives-Based Segmentation
George H. Leon, National Analysts, Philadelphia, PA

Determining Customer Value: Evaluating How Your Customer Compares You to Your Competitors
Gail Bundy, Marketpower Inc., Lakewood,CO

An Investigation into Public Attitudes Toward Energy Efficiency
Valerie Richardson, Pacific Gas & Electric Company, San Francisco, CA
Kathleen McElroy, Hagler Bailly Services, Madison, WI

SESSION SUMMARY:

From competing for customer sign-ups - to offering the right mix of products and services – knowledge of customer needs and wants is crucial in today's new competitive energy environment. This session will focus on how customer needs are evolving; customer attitudes towards energy efficiency; and how to segment your customers in order to offer successful products which meet the needs of a competitive market.

SESSION VI-B

MEASURING INTERVENTION IN NEW CONSTRUCTION: BASELINE ASSESSMENT, PROGRAM MODELING, AND MARKET EFFECTS

Moderator: Roberta W. Walsh, Florida Gulf Coast University

PAPERS:

Measuring New Construction Baseline Building Practices for Commercial Facilities in FPL Service Territory

Mr. Kris Bradley, Quantum Consulting

Modeling Program Participation and Choice of Efficiency Level in a New Commercial Construction Program

K.H.Tiedemann, BC Hydro

Market Effects of Residential New Construction Programs in Southern California

Dr. Frederick Sebold, Regional Economic Research, Inc.
Alan Fields, Regional Economic Research, Inc.
Jennifer Smead, Regional Economic Research, Inc.
Athena Besa, San Diego Gas & Electric Company

SESSION SUMMARY:

This session addresses a variety of evaluation measurement issues affecting new construction in residential, commercial, and industrial sectors. The topics range from obtaining baseline measures to estimating program participation and market transformation potential.

Bradley poses some interesting questions on the impact of Florida's state energy code on the implementation of a pilot commercial and industrial new construction program. Tiedemann offers an approach to deal with the methodological challenges in estimating both the decision to participate and the efficiency levels chosen in a new commercial construction program. Focusing on the residential sector, Sebold, *et al.* note the importance of including an analysis of the behavior of other market actors in the long run before drawing conclusions about market effects of the programs targeted toward builders.

Session VI C

M&E = Measurement and ESCOs

Moderator: Ken Keating, Bonneville Power Administration

PAPERS:

Auditing Performance in a "Standard Offer" Efficiency Program
Hannah Sarnow, Tellus Institute, Boston, MA
David Nichols, Tellus Institute, Boston, MA

Measurement and Verification System (M & V) For a DSM Bidding Program
David Sumi, Hagler Bailly Services, Madison, WI
Doug O'Brien, Wisconsin Electric Power Company, Milwaukee, WI
Waiman Mok, Hagler Bailly Services, Madison, WI

It's a Jungle Out There: A Preliminary Attempt to Understand the Opportunities and Competition for Ecological Niches among ESCO'S
Shel Feldman, Shel Feldman Management Consulting, Middleton, WI
Cory Stone, Easton Consultants, Stamford, CT
Craig Schepp, Energy Center of Wisconsin, Madison, WI
John Ahearn, New York State Energy Research and Development Authority, Albany, NY

SESSION SUMMARY:

Verification is the crossroads where Energy Service Companies interact with evaluation. This session features a paper that categorizes ESCO business approaches (Feldman, et al.). Verification is not always a core activity of some ESCO business plans. However, when DSM bidding programs or performance contracting are involved, the verification is crucial. Two examples of interesting approaches to verification are provided in the other two papers. Sumi et al. uses verification activity to provide ongoing and real-time feedback to program operation, whereas the Nichols and Sarnow paper uses a more typical *ex post* analysis, but incorporates many factors not traditionally addressed in verification plans.

SESSION VII A

CONSERVATION STAYING POWER: DO NON-RESIDENTIAL MEASURES LAST?

Moderator: Jean Shaffer, Seattle City Light

PAPERS:

Commercial High Efficiency Air Conditioners – Savings Persistence
Rob deKieffer and John Proctor, P.E., Proctor Engineering Group, and Mary O'Drain and Amalia Klinger, Pacific Gas and Electric Co.

A Longitudinal Study of Non-Residential DSM Measure Retention
Martin H. Morse and Marian V. Brown, Southern California Edison Co., and Donald R. Dohrmann, ADM Associates, Inc.

Retention of Industrial Sector Energy Efficiency Incentive Program Measures
Karen Smith, XENERGY Consulting, Inc., Elsia Galawish and Amalia Klinger, Pacific Gas and Electric Co., and Fred Coito and Miriam Goldberg, XENERGY Consulting, Inc.

Lessons Learned in Retention Analysis: Recipes for Success
John Cavalli and Yon Lee, Quantum Consulting, Inc., and Mary O'Drain, Pacific Gas and Electric Co.

SESSION SUMMARY:

The four papers in this session share a common quest to assess retention vs. degradation of commercial and industrial energy efficiency measures. Information on measure "staying power" is critical to DSM cost effectiveness and, therefore, to program success. All of these papers were conducted in California where measurement of DSM persistence has been a major theme.

The first paper, authored by deKieffer et al., looks at the performance degradation of efficient commercial air conditioners compared to standard air conditioners. The remaining three papers report on evaluation studies conducted in accordance with the California DSM Measurement Advisory Committee's Protocols and Procedures for the Verification of Costs, Benefits, and Shareholder Earnings from Demand-side Management Programs. The Morse and Dohrmann paper examines measure retention for a wide variety of commercial, industrial and agricultural measures installed through Southern California Edison's programs. Smith et al. describe the methodological procedures and results from pursuing a similar retention study for Pacific Gas and Electric's industrial efficiency programs. This is followed by a paper from Cavalli et al. reporting on the retention of commercial lighting and HVAC measures installed through Pacific Gas and Electric's commercial efficiency incentives programs.

Session VIIB

Evaluating Federal and State Programs: Doing More with Less?

Moderator: Fred Sissine, Congressional Research Service

PAPERS:

Innovations in Performance Management: Integration of Strategy & Planning

Paul A. DeCotis, New York State Energy Research and Development Administration

Nancy W. Perry, New York State Energy Research and Development Administration

Establishing Baselines and Measuring Performance on Military Installations

Donald F. Fournier, U.S. Army Construction Engineering Research Laboratories

Elisabeth M. Jenicek, U.S. Army Construction Engineering Research Laboratories

Aide A. Uzgiris, University of Illinois at Champaign

Evaluations Help Demonstrate Impacts and Improve the Performance of the Federal Technical Assistance Programs

Nick Hall, TecMRKT Works – Oregon, Wisconsin

Gretchen Jordan, Sandia National Laboratories

Anne Sprunt-Crawley, U.S. Dept. of Energy – Federal Energy Management Program

SESSION SUMMARY:

In the early 1990s, state and local fervor aimed to "reinvent" government to increase performance and "do more with less" by privatizing or otherwise emulating private sector management practices. By the mid-1990s, this ethic had worked its way into the federal government through the Government Performance and Results Act. The practice of energy program evaluation is adapting itself to this re-invention of government programs as well as to the calls for increased focus on market transformation, and the massive changes due to restructuring of the electricity industry. Further, the practice of evaluation itself is now also expected to do more with less.

DeCotis and Perry discuss their effort to assess economic benefits, market transformation for energy efficiency, and other results of public benefit programs funded through a system benefit charge under New York's restructured electricity industry. In order to measure and verify privately contracted energy savings, Fournier, Jenicek, and Uzgiris apply standardized national and international protocols to a quantitative analysis of a master-metered multi-building federal military facility. Hall, Jordan, and Sprunt-Crawley report on a multiple survey study of training and technical assistance to improve federal (civilian and military) agency performance in meeting energy efficiency goals.

SESSION VII C

NEW FRONTIERS IN NET SAVINGS ESTIMATION

Moderator: Miriam Goldberg, Xenergy

PAPERS:

Self-Reports and Market Transformation: A Compelling New Approach
John Cavalli, Quantum Consulting Inc., Berkeley, CA
Christie Torok, Quantum Consulting Inc., Berkeley, CA
Valerie Richardson, Pacific Gas & Electric Co., San Francisco, CA

Instrumented Decomposition: A Two-Stage Method for Estimating Net Savings
Adrienne Vayssières Kandel, California Energy Commission, Sacramento, CA

Evaporative Cooler Rebate Program Cuts Load Significantly, and May Overcome Class Barrier
Adrienne Vayssières Kandel, California Energy Commission, Sacramento, CA

SESSION SUMMARY:

Two methods of developing net savings estimates using billing analysis are presented in this session. One utilizes self-report analysis, verified by billing regression results. The other uses formal decision analysis.

John Cavalli and his co-authors present a procedure that provides explicit estimates of five components of net savings: gross impacts, persistence, free ridership, participant spillover, and nonparticipant market transformation effects. Their methods employs a broad bank of participant and nonparticipant surveys together with billing analysis spanning several years. Alternative methods of determining the net savings components are examined. The procedure is applied to several lighting technologies and program years.

Adrienne Kandel presents a new method, Instrumented Decomposition, to adjust for self-selection in billing analysis for net savings. Her decision analysis method estimates and adjusts for free ridership, but not spillover. While similar to self-selection corrections that have been used in the past, her method recognizes three different types of self-selection, and provides separate adjustments for each. In a separate paper, she applies her method to a residential cooling rebate program.

SESSION VIII A

INFORMATION PROGRAMS: DO THEY REALLY CHANGE THINGS? AND HOW CAN WE TELL?

Moderator: Faith Lambert, United States Department of Energy

PAPERS:

Cinergy's Home Energy House Call (HEHC) Program: An Information Program that Changes People's Lives

Jeff Riggert, TecMRKT Works; Nick Hall, TecMRKT Works; Rick Morgan, Morgan Marketing Partners, and Kathy Ruthen, Cinergy

How Can We Tell if Free Information is Really Transforming Our Market?

Thomas Conlon, GeoPraxis, Inc.; Glen Weisbrod, Economic Development Research Group, and Shahana Samiullah, Southern California Edison

Transforming Markets Through Education and Information: A Study of the Pacific Energy Center

J. M. Reed, TecMRKT Works; M. O'Drain, and J. Chace

SESSION SUMMARY:

Information programs present inherent challenges to the evaluator. They are among the longest running and most popular of energy efficiency/renewable initiatives, and almost any program carried out by a government agency, utility, local organization, business or consumer group has an information component. However, as the "softest" of all energy efficiency/renewable energy measures, their results are the most difficult to accurately attribute and quantify. The three papers in this session are excellent examples of how to go about doing that.

In-home energy audit programs are a central part of many energy efficiency program portfolios in States and at utility companies across the country. In the first paper, Jeff Riggert *et. al.* present the results of an evaluation of Cinergy's Home Energy House Call program, an in-home energy audit program which provides homeowners with an 8-page report on potential energy measures for their home, with costs and benefits.

The second paper deals with the impact of free information on market transformation. Thomas Conlon *et. al.* present the results of a market effects study of Southern California Edison's Hydraulic Services Program, which is the country's oldest continuously operating industrial energy efficiency program. The study analyzes how the program may have affected a wide range of barriers to the adoption of energy efficient water pumping equipment and services.

The session's third paper assesses the impacts of one of the newer types of information programs, the "energy center," serving professionals involved in the design of buildings and building equipment. John Reed *et. al.* present the results of an evaluation of Pacific Gas & Electric's Pacific Energy Center.

SESSION VIII B

SEE TWO SHINING C'S: CONTRACTING PROGRAMS ON TWO COASTS

Moderator: Pierre H. Landry, Southern California Edison Company

PAPERS:

Market Transformation Through Nonresidential Standard Performance Contract Programs – What Drives the Participation Decision?
Lisa A. Skumatz, Ph.D., Skumatz Economic Research Associates, Inc., Seattle, WA
Robert L Bordner, Energy Market Innovations, Inc., Seattle, WA
Michael Rufo, Xenergy, Inc., Oakland, CA
Pierre Landry, Southern California Edison, Rosemead, CA

Evaluation of the 1998 California Non-Residential Standard Performance Contracting Program: A Theory-Driven Approach
Mike Rufo, Xenergy Inc., Oakland, CA
Ralph Prahl, Prahl and Associates
Pierre Landry, Southern California Edison , Rosemead, CA

Lessons From Granddaddy: Observations From The Evaluation Of The New Jersey PSE&G Standard Offer Program
Marty Kushler, ACEEE, Washington, DC
George Edgar, Wisconsin Energy Conservation Corporation, Madison, WI

SESSION SUMMARY:

This session provides a comparison between two successful contracting programs in different market environments. On the West Coast, Standard Performance Contractig (SPC) is the largest component of California's energy-efficiency efforts, and two of the papers in this session come from the recently-completed major evaluation of the 1998 Nonresidential SPC program. One is an overview of the unusually-thorough evaluation design, some process recommendations and preliminary impact results. The other paper focuses on the reasons that customers and energy services providers chose to participate or not.

Before California, and on the other side of the country, there was New Jersey, and the third paper examines how well the "standard offer" program worked in New Jersey, how it could be improved, and what role should standard performance contracting play in the restructured industry. These studies of two fine examples of contracting programs can inform the implementation of other similar programs in their respective markets and elsewhere in the restructured world.

SESSION VIII C

Moderator: Bobbi Tannenbaum, Energy Center of Wisconsin

PAPERS:

Percentage of Income Program: How Well Do They Work?
Robert Wirtshafter, Wirtshafter Associates

Persistence of Savings from a Comprehensive, Low-Income Energy-Efficiency Program
Elizabeth Titus, NEPSCO
Ken Seiden, Quantec
Jane Peters, Research Into Action

Assessment of Non-Energy Benefits of Low-Income programs: The Indiana REACH Program
M. Sami Khawaja, Quantec
Patricia Koss, Quantec
Sonja Rice-Powers, State of Indiana

SESSION SUMMARY:

This session deals with three important aspects of low-income programs.

The first paper examines five percent-of-payment-programs (PIP) in the northeast, examining program benefits and costs, and assessing program impacts on customer payment patterns and amounts. This paper addresses the questions: Can PIP programs ever be cost-effective? Do PIP programs help a few low-income customers at the expense of harming the rest?

The second paper takes a billing analysis approach to examining the persistence of savings from a low income program implemented in the northeast, providing both low-cost and high-cost measures as well as a customer education component.

The third paper presents the methodology used to assess non-energy benefits of an Indiana Residential Energy Assistance program. The authors describe their approach for quantifying water savings, reduced mobility, lower arrears, better health, increased safety, increased housing value, increased comfort, decreased shut-off costs, lower emergency costs and environmental benefits among others. The authors will present a sample of the early results during the conference.