2011 National Symposium on Market Transformation

"Transition and Transformation"

Marriott Wardman Park Hotel ▪ Washington, D.C. ▪ April 10-12, 2011

Sunday, April 10

1:00 to 5:00 pm — **MT 101** — *Harding*

"MT101" is an introductory course for those new to the field who want to learn the fundamentals of market transformation. The session will cover a range of topics including an overview of market transformation as one strategy for driving energy efficient products and services, administrative models for the delivery of market transformation programs, various program models used to serve different market segments, and program evaluation.

Monday, April 11

8:30 am to 10:00 am — **Plenary Session** — *T.M. Ballroom North-East*

Welcome:
Marc Hoffman, *Consortium for Energy Efficiency (CEE)*

Introduction:
Steve Nadel*, American Council for an Energy-Efficient Economy (ACEEE)*

Transition and Market Transformation

Presenters: ***Brett Knox****, President, GreenHomes America*
Randy Moorhead*, Vice President of Government Affairs, Philips Electronics*

The past few years have been tumultuous with many changes in the prominent market forces that impact energy efficiency: a struggling economy, the rise and fall of climate and energy legislation, rapid development in technologies, and a growing awareness about the potential for energy efficiency to help meet our economic and environmental goals. For better or worse, this turbulent time has highlighted an important strategic need for the efficiency community: to look beyond short term opportunities and toward sustainable, scalable business practices. Despite the fickle political landscape, the efficiency community, government agencies, and businesses continue to develop and pursue long-term strategies that push continuous improvement in efficiency. This panel will feature representatives from the home performance and lighting industries to discuss how they are addressing these challenges and developing new tools, business models, and strategies to enable them to advance energy efficiency and meet their business goals for years to come.

10:30 am to 12:00 pm — **Concurrent Sessions**

Session 1A — *T.M. Ballroom North*

Federal Policy Transitions in Play: What Will the 112th Congress Bring Us?

Moderator: ***Suzanne Watson****, American Council for an Energy-Efficient Economy (ACEEE)*

Panelists: ***Neil Brown****, Senior Professional Staff Advisor to Senator Richard Lugar*
John W. Billings*, Chief of Staff to Congressman Charles F. Bass*
Jennifer Schafer, *Cascade Associates, Inc.*

The right energy efficiency policy could promise to be a non-partisan opportunity in this Congress. This panel will provide a brief review of 2010 federal legislative outcomes related to efficiency and then turn to the 112th Congress. The panel will discuss efforts on energy efficiency as well as some insights into what is possible in 2011 and 2012. Will we see large energy efficiency measures pass such as a Clean Energy Standard, smaller pieces of legislation pass such as tax measures, or nothing? What is possible with a Republican controlled House and a Democratic controlled Senate?

Session 1B *T.M. Ballroom East*

Clearing the Next Hurdle: How Program Administrators Are Designing Energy Efficiency Programs in Today's Rapidly Changing Environment

Moderator: ***Les Tumidaj,*** *Strategic Energy Group*

Presenters: ***Fred Gordon,*** *Energy Trust of Oregon*
Athena Besa, *Sempra Energy*
Rebecca Craft, *Con Edison*

Most utility energy efficiency programs are entering a "brave new world" in which many of the energy-efficient products that were the mainstay of their residential and C&I programs have become standard practice. Many state building codes have changed significantly, achieving massive energy savings, but making it difficult for programs to garner additional cost-effective savings. Meanwhile, new federal minimum standards are incorporating equipment efficiency levels that were formerly the focus of programs. As a result, many traditional programs are becoming less cost effective as more efficient products begin to dominate markets. This trend is affecting a wide array of programs that address key end-use markets such as lighting, heating, air conditioning and electric motors.

The good news is that program designers and administrators are rising to this challenge by devising innovative program strategies and approaches. This session will briefly introduce some of the key challenges programs face today and anticipate in the future. A panel of program administrators will then describe how they are positioning efficiency programs in response to this changing environment and comment on the types of resources and support needed for programs to thrive in the future.

12:00 to 1:30 pm **Lunch** *T.M. Ballroom South-West*

Keynote Address: ***Jason Grumet,*** *National Commission on Energy Policy*

1:30 to 3:00 pm **Working Sessions**

Residential Track *Hoover*

R1: **Beyond PACE: Residential Energy Efficiency Finance Mechanisms**

Presenters: ***Ben Taube,*** *Southeast Energy Efficiency Alliance*
Philip Henderson, *Natural Resources Defense Council*
Stockton S. Williams, *U.S. Department of Housing and Urban Development*

Facilitator: ***Cliff Majersik,*** *Institute for Market Transformation*

In the midst of ongoing uncertainty about residential Property Assessed Clean Energy (PACE) financing, efforts are underway to develop alternative residential energy efficiency financing options (especially unsecured or utility-tariffed alternatives) that could help overcome barriers to customer investment in more comprehensive efficiency upgrades. This session will review promising financing mechanisms including the U.S. Department of Energy Better Buildings program, which uses public funds to leverage increased private capital at attractive rates and terms; proposed revisions to the HUD Title I program; and efforts to include energy costs in debt-to-income underwriting, appraisal and loan-to-value calculations for home mortgages such as the SAVE Act. Panelists will review implementation of these new options and experience to date, highlighting the opportunities that these efforts are likely to present and the continued barriers that they are likely to confront.

Discussion Questions:

- How well can alternative, non-PACE, residential retrofit financing programs, together with a robust residential retrofit design, overcome customer barriers to greater investment in comprehensive residential retrofits?
- What are the key attributes of non-PACE residential retrofit financing programs being developed, can these attributes be attained in the real world, and what are the conditions necessary for successful programs?

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- How can financial institutions become engaged in these opportunities, and how can the use of public dollars foster private investments and develop profitable business channels?
- How can we improve our understanding of the risks/rewards of investing in energy efficiency ventures? How can such data support the proposition that a lender or investor treat expected savings as reliable income?

Building Labeling Track *Madison*

L1: **The Basics of Building Energy Rating and Disclosure: A National and International View**

Presenters: ***Joan Glickman,*** *U.S. Department of Energy*
Adam Hinge, *Sustainable Energy Partnerships*

Facilitator: ***Rebecca Foster,*** *Vermont Energy Investment Corporation*

While likely not sufficient on its own to motivate wide-scale building efficiency upgrades, access to reliable information about a building's energy use is one of the necessary conditions to achieving that end. Recently, building energy rating and disclosure (also known as energy certification and building labeling) has been at the center of many efficiency discussions, as the U.S. Department of Energy rolled out the Home Energy Score Program and several jurisdictions are implementing new energy use disclosure laws in 2011. This session will cover the basics of building energy labeling and provide context about rating and disclosure efforts that are relevant for energy efficiency programs in the U.S. and Canada. Both voluntary and mandatory labeling efforts related to residential and commercial buildings will be covered in the presentations and discussion.

Discussion Questions:

- What can the U.S. learn from international experience in building energy rating and disclosure?
- Have international rating and disclosure programs motivated retrofits and other desired outcomes?
- What considerations should managers of U.S. federal programs (Home Energy Score, ENERGY STAR) keep in mind as they develop rating and disclosure tools for energy efficiency programs to use?
- In February 2011, KB Home announced that each new home it builds will carry an Energy Performance Guide. Lennar Corporation, another large home builder, stated that it would follow suit. How can federal efforts and efficiency programs and best work with these market actors to reduce the potential for consumer confusion and increase the chances of achieving real energy savings?
- Under what conditions can building energy rating and disclosure be a driver for efficiency?

Industrial Track *Coolidge*

I1: **Piloting Energy Management Standards for the U.S. and the Globe**

Presenters: ***Aimee McKane,*** *Lawrence Berkeley National Laboratory*
John Wallner, *Northwest Energy Efficiency Alliance*

Facilitator: ***Ted Jones,*** *Consortium for Energy Efficiency (CEE)*

Interest in energy management is on the rise as more businesses focus on cost control, productivity and sustainability. This year, two important developments are expected to heighten interest and activity around energy management: the release of ISO 50001, a global energy management standard, and the launch of Superior Energy Performance, a national program to support energy intensity reductions for industrial plants and commercial buildings. This session will introduce ISO 50001 and Superior Energy Performance, report on one of two regional pilot programs field-testing their application, and assess their implications to market transformation. A representative from the Northwest Energy Efficiency Alliance will kick off discussion by commenting on the opportunity for ISO 50001 and Superior Energy Performance to advance regional market transformation and direct energy savings goals based on their participation in the pilots.

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Discussion Questions:

- What is the market transformation opportunity in energy management?
- Why is energy management a good investment for companies and programs? When is it not?
- What is the interface between energy management and energy efficiency capital investments?
- What is the interface between SEP energy management and energy efficiency programs for industrial and large commercial customers? (e.g., can utilities provide technical assistance for energy assessments (audits) or EM&V? Can the SEP program deliver verified savings suitable for utility DSM incentives or for bidding into forward energy/capacity markets?)
- What have been the successes, challenges and forecasted outcomes of the Northwest pilot project?

Technologies Track *Harding*

T1: **New Opportunities in Outdoor Lighting**

Presenters: ***Gabe Arnold,*** *Optimal Energy*
Jon Linn, *Northeast Energy Efficiency Partnerships*

Facilitator: ***Amanda Lowenberger****, American Council for an Energy-Efficient Economy (ACEEE)*

Recent developments in lighting technology—light sources, controls, and design—have created a wealth of opportunities for increased energy efficiency in exterior lighting applications. New guidelines for outdoor lighting, such as the Model Lighting Ordinance (MLO), recommend lower light levels as a means to reduce energy use and enhance the outdoor environment. Along with energy savings, these developments allow for enhanced safety and security, lower maintenance costs, improved visibility and aesthetics, and reduced light pollution. In this session, presenters will describe advances in lighting technology and design and use case studies to illustrate the energy savings opportunities in common outdoor lighting technologies. Discussion will explore ways to incorporate new technologies and design guidance into programs targeting exterior lighting and to work with a broad range of interested stakeholders to expand program reach and impact.

Discussion Questions:

- Do new lighting strategies include retrofit options or are full equipment replacements required?
- How are programs working with businesses and municipal governments to implement new guidelines for exterior lighting? How can utilities and other stakeholders work together to move more quickly? What can be done to address the challenges with rate cases & tariffs?
- Do all of the new technologies use LEDs? Are there improvements to traditional light sources as well?
- What are the barriers to moving forward with more efficient streetlighting? How can they be addressed?
- What new outdoor lighting technologies should programs be pushing? When?
- How will new guidelines and standards such as the MLO and BUG Ratings impact programs?

Tactics and Strategies Track *T.M. Ballroom East*

S1: **Disruptive Innovation and Market Transformation**

Panelists: ***Nitish Singh,*** *Rheem Manufacturing Co.*
Chris Stone, *Collaborative Labeling and Appliance Standards Program*
Harvey Sachs, *American Council for an Energy-Efficient Economy (ACEEE)*

Facilitator: ***Jeff Harris,*** *Alliance to Save Energy*

Disruptive innovation is the business analogue of *disruptive technology,* and refers to a new approach that fundamentally changes the business model (Christiansen 2003). Historically, market transformation programs have focused on widgets that are incrementally better than commodity products. Increasingly, there are no cost-effective "conventional" improved alternatives. For example, the 2015 federal standards for resistance water heaters leave essentially no room for incentives for better resistance water heaters. In contrast, there are often new opportunities with systems, or with products that offer both higher efficiency and a different value proposition. The horizontal-axis clothes washer not only uses less water, but spins more effectively, reducing dryer energy. The heat pump water heater can be deployed as an effective dehumidifier and auxiliary air conditioner. This session deals with advanced

value propositions to encourage acceptance of emerging—and sometimes disruptive—technologies that offer important energy and non-energy benefits. Disruptive technologies tend to disrupt both markets and market interventions, including the MT interventions we are all familiar with. This panel will address ways that energy efficiency programs can accommodate and encourage disruptive approaches that offer greater benefits.

Discussion Questions:

- What products are running out of "headroom" for incentive programs and require new approaches?
- Are current "emerging technology" programs adequate to keep the program conveyor belt supplied with a rich palette of opportunities?
- How do we establish the value of important energy-saving features of disruptive technologies (part load, demand control, and others) that are excluded from rating methods?
- How can voluntary recognition programs like Energy Star and utility rebates or tax incentives be designed to help reinforce market expectations of not only continuous upgrades but occasional discontinuities (disruptions)?

3:30 to 5:00 pm **Working Sessions**

Residential Track *Hoover*

R2: **State and Local Government Role in Expanding Building Retrofit Markets**

Presenters: ***Randall A. Gilliland,*** *Green Jobs Alliance*
Scott Bernstein, *Center for Neighborhood Technology*

Facilitator: ***Dale Hoffmeyer,*** *U.S. Environmental Protection Agency*

Despite the clear economic benefits from energy efficiency retrofits, several pervasive barriers prevent many home and building owners from undertaking retrofits or delay project implementation. Overcoming these barriers requires advances in financing, marketing (driving demand), contractor recruitment/workforce development, and evaluation and quality assurance. To achieve progress in these areas and expand retrofit markets, state and local governments are engaging on a number of fronts. They are working with private-sector companies, non-profit organizations, and utilities to deliver energy efficiency improvements in the residential and commercial markets in states throughout the country. Key roles for state and local governments range from assessing energy performance (rating and labeling) to creating public-private partnerships to developing conforming loan standards in cooperation with the federal government to making inroads with low- and middle-income families in urban enterprise zones.

Discussion Questions:

- What roles are state and local governments playing to advance residential and commercial retrofit markets? What activities are they pursuing in financing, marketing, workforce development, and evaluation?
- How should other stakeholders in the building retrofit market be partnering with state and local governments? What do organizations such as NGOs, utilities, and private-sector firms see as the most productive role for S&L government agencies? What activities is the federal government funding states/locals to engage in?
- What are some new and innovative examples of how state and local governments have partnered to expand retrofit markets? What can these agencies do to maintain momentum from ARRA and establish a sustainable retrofit market?

Building Labeling Track *Madison*

L2: **Local Experience with Building Energy Rating and Disclosure**

Presenters: ***Jayson Antonoff,*** *City of Seattle, Department of Planning & Development*
Tim Kisner, *Austin Energy*
Jolyn Newton, *Southeast Energy Efficiency Alliance*

Facilitator: ***Andrew Burr,*** *Institute for Market Transformation*

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During this session, attendees will hear from two leading jurisdictions about energy disclosure ordinances for homes and commercial buildings. Presentations will highlight how these ordinances are being implemented, including early challenges and lessons, expected outcomes related to energy savings and economic growth, political considerations and industry support, and best practices that can be shared between states and jurisdictions.

Discussion Questions:

- How can rating and disclosure policies be incorporated into a commercial or residential energy efficiency program portfolio?
- What lessons and best practices are being learned by local policymakers implementing rating and disclosure ordinances?
- What other programs or policies can leverage rating and disclosure ordinances to increase effectiveness and motivate retrofits?
- How have efficiency programs worked to build support for building labeling among external stakeholder groups, e.g., realtors, contractors, building owners?

Industrial Track *Coolidge*

I2: **Whole System Approaches to Improving Efficiency in Industrial Facilities**

Presenters: ***Bruce M. Quinn,*** *Rockwell Automation, Inc.*
Bruce Benkhart, *Applied Proactive Technologies, Inc.*

Facilitator: ***Neal Elliott,*** *American Council for an Energy-Efficient Economy (ACEEE)*

Industrial facilities make up forty percent of the electricity and natural gas load in some states and provinces. Improving industrial energy efficiency has major implications for energy use and greenhouse gas emission. A number of energy efficiency programs have focused on the efficiency of discrete end uses, but there are limits to the efficiency gains that can be made through isolated improvements in motors, drives, fans, pumps and other industrial processes. Aggressively improving energy efficiency in industrial facilities requires a holistic approach which includes energy monitoring devices, hardware, and software, as well as machinery and equipment that interacts with these devices. There are numerous financial and regulatory hurdles to overcome before this whole system approach to efficiency is adopted into the mainstream. This session will evaluate these hurdles and present some real-world examples of how some facilities have overcome these hurdles.

Discussion Questions:

- What are the key objectives for new investment in industrial facilities (eg. improve worker health and safety, increase capacity, improve productivity, reduce costs, etc.)
- How does energy efficiency fit into strategic planning at the facility level?
- What is the whole system approach to energy efficiency in practice?
- What are the barriers to using a whole system approach? What are the drivers?
- What tools are available to facilitate a whole system approach?

Technologies Track *Harding*

T2: **Lighting: A Market in Transition**

Presenters: ***Joe Howley,*** *General Electric Company*
David Sumi, *The Cadmus Group, Inc.*
Chris Badger, *Vermont Energy Investment Corporation*

Facilitator: ***Eileen Eaton,*** *Consortium for Energy Efficiency (CEE)*

Starting in 2012, the Energy Independence and Security Act (EISA) will begin phasing out general service incandescent light bulbs. Through the CEE Comprehensive Lighting Working Group, energy efficiency programs have been considering new strategies and approaches that continue to deliver energy savings given this change in baseline since 2009. To start the session, participants will learn about likely market trends based on recent research efforts and hear about manufacturers plans for the transition. Then Efficiency Vermont will present its thinking on the future shape

of lighting efficiency programs, given current assumptions and information about how EISA will change the market. Participants will have the opportunity to ask questions about the assumptions behind the research, advantages and disadvantages to possible program strategies, and gain insight on how the lighting market will likely behave in the future.

Discussion Questions:

- Are there significant changes in what lighting products consumers will be purchasing in the future?
- What are the possible implications to energy efficiency programs and other industry stakeholders?
- What program approaches appear to be the most promising to manage the uncertainty in the market?

Tactics and Strategies Track *T.M. Ballroom East*

S2: **Measuring Whole Market Transformation Impacts: Current Examples and Looming Issues**

Presenters: ***Doug Mahone,*** *Heschong Mahone Group, Inc.*
Phil Degens, *Energy Trust of Oregon*

Facilitator: ***Elizabeth Titus,*** *Northeast Energy Efficiency Partnerships*

Market transformation programs are based on a market theory and a hypothesis of how the market will be changed through a specific intervention. To tell this story of market transformation a wide array of data is needed, as markets are complex and involve a wide array of market actors in the supply chain as well as on the customer side. Thus, whole market effects are traditionally harder to quantify than energy efficiency impacts associated directly with program incentives. This session will look at the various approaches and tools currently being used within the industry to evaluate market transformation impacts, by organizations like NYSERDA, the California PUC, and the Energy Trust of Oregon. Establishing a standardized approach within the industry or within an organization can help utilities measure whole market impacts, and may also help them support claims for additional savings beyond the direct program impacts, particularly those driven by changes in the supply chain attributable to program activities. But before this can be accomplished, many questions may need to be addressed.

Discussion Questions:

- What are the merits and limitations of each approach?
- What is an appropriate timeline to assume for savings resulting from utility program activities?
- How are "whole program" impacts attributed to utility programs?
- What strategies can be built into program planning to help organizations effectively capture indirect program impacts and to leverage data collection?
- Do current policies support energy efficiency providers' measuring and claiming savings beyond direct program impacts?

6:00 to 8:00 pm **Cocktail Reception** *T.M. Ballroom South-West*

Sponsored by ***ICF International***

Tuesday, April 12

8:30 to 10:00 am **Concurrent Sessions**

Session 2A *T.M. Ballroom North*

Regional Roundup

Moderator: ***Marc Hoffman,*** *Consortium for Energy Efficiency (CEE)*

"Transforming Policy" Segment
Presenters: ***Howard Geller,*** *Southwest Energy Efficiency Project*
Sue Coakley, *Northeast Energy Efficiency Partnerships*
Jay Wrobel, *Midwest Energy Efficiency Alliance*
Jolyn Newton, *Southeast Energy Efficiency Alliance*
Philip Henderson, *Natural Resources Defense Council*

"Implementing the Transition with Programs" Segment
Presenters: ***Duane Larson****, Pacific Gas and Electric Company*
Jillian Mallory, *BC Hydro*
Carol White, *National Grid*
Scot Davidson, *Northwest Energy Efficiency Alliance*

Reflecting the theme of the conference, this session will explore both state policies and promising efficiency programs across the US and Canada for transitioning to a sustainable, all cost effective efficiency marketplace.

Our industry as a whole is transitioning from a time when energy efficiency was one of many policy and utility objectives to a world where all cost effective efficiency becomes the foundation for a successful future economy and low carbon world. Thus, it has become critical to find ways to sustain this transition. This session will explore how that transition is playing out in various regions.

Attend this session to learn more about policy and program developments for meeting this challenge. Policy advocates will address the policy aspects and program administrators will present promising program approaches. Together, they'll paint a fuller picture of what is happening and needed for achieving and sustaining the transition to the market transformation for all cost effective efficiency.

The panel will focus on two questions: 1) What has been started to capture all cost effective efficiency--both policies and programs? and 2) What policies will be needed to sustain these efforts to make this a market transformation?

Session 2B *T.M. Ballroom East*

Transforming the Market with Building Codes and Standards

Moderator: ***Jim Edelson,*** *New Buildings Institute*

Presenters: ***Harry Misuriello,*** *American Council for an Energy-Efficient Economy (ACEEE)*
Puja Vohra, *National Grid*
Isaac Elnecave, *Midwest Energy Efficiency Alliance*

Codes and standards were the ultimate market transformation opportunity in the 1990s. They have recently regained prominence as a significant energy-efficiency strategy at the national and local levels. This concurrent session addresses the emergence of new players and strategies in broadening the base of support for improved codes. Panelists will discuss the large efficiency strides made in the most recent national model code development cycles (90.1 -2010 and 2012 IECC), how innovative code structures such as 'reach' codes are opening avenues for quicker market transformation, and how these rapid code developments are significantly impacting utility new construction programs.

10:30 am to 12:00 pm **Concurrent Sessions**

Session 3A *T.M. Ballroom North*

The American Recovery and Reinvestment Act: Sustaining Momentum for a New Era

Moderator: ***Bill Prindle,*** *ICF International*

Presenters: ***LeAnn Oliver,*** *U.S. Department of Energy*
Kevin McCarty, *The U.S. Conference of Mayors*

Passage of the American Recovery and Reinvestment Act (ARRA) was an extraordinary response to the recent economic crisis. It allocated unprecedented funding levels for energy efficiency grants, tax incentives, and loan guarantees—matched by billions of dollars of private sector investment. ARRA jump-started a process of building a low-carbon, sustainable economy based in large part on achieving dramatic gains in energy efficiency. However, ARRA was designed as a two-year federal stimulus with funds that will run out by 2012. Without a comprehensive climate and clean energy bill in place, efficiency stakeholders need to chart a path forward that extends ARRA's momentum and leverages a longer-term MT strategy. Key issues include identifying the roles for R&D versus commercialization of existing clean technologies, the roles for local/state/regional/federal governments versus the private sector, and the optimal set of new and sustained policy interventions.

Session 3B *T.M. Ballroom East*

Holistic Approaches to Market Transformation

Moderator: ***George Edgar,*** *Wisconsin Energy Conservation Corporation*

Presenters: ***Carol White,*** *National Grid*
Monica Curtis, *Wisconsin Energy Conservation Corporation*

Market Transformation (MT) programs represent long-term, strategic interventions in markets that proceed through different phases in moving up the market transformation curve until efficient goods and services will remain the normal prevailing practice in a market without the need for such continued intervention. This end-state could be the product of changed, sustainable internal market dynamics (including fundamental changes in customer behavior) or "lock-in" policies such as codes and standards. However, the presence of multiple MT program phases over extended times creates the potential for inadequate communication and unclear hand-off processes between emerging technology, market development; marketing/incentive programs, codes and standards initiatives and other programs that can result in out-right competition between such initiatives.

This session will focus on the need for a new approach that uses a longer-term institutional planning framework that effectively integrates, coordinates and empowers such program efforts so that they work in unison in achieving common goals. The presentations will describe how current program administrators are trying and planning to implement such longer term planning to ensure 1) effective internal collaboration among diverse programs and 2) effective market development program design strategies at each stage of the transformation curve so that customers and market providers, as well as technologies, are ready at the same time for codes and standards. This "holistic approach" recognizes that the properties of a market transformation initiative are not determined by its component parts alone, but instead that the initiative as a whole will determine how its parts behave in achieving the ultimate objective.

12:00 to 1:15 pm **Lunch** *T.M. Ballroom South-West*

Keynote Address: ***Kathleen Hogan,*** *U.S. Department of Energy*

1:15 to 2:45 pm **Working Sessions**

Residential Track *Hoover*

R3: **Multifamily Sector: Bringing Whole Building Approaches to Scale**

Presenters: ***Cary Hirschstein,*** *HR&A Advisors*
Heather Larson, *StopWaste.Org- Green Building in Alameda County*

Facilitator: ***Jennifer Amann,*** *American Council for an Energy-Efficient Economy (ACEEE)*

Building owners, program administrators, and other stakeholders confront unique challenges when attempting to improve the energy efficiency, livability and value of multifamily buildings. Program administrators are faced with a diverse multifamily building sector where the economic motivations of building owners and occupants are not always aligned. In many cases, a variety of market barriers hinder private actors' recognition of the benefits of energy efficiency, such as a lack of data concerning the efficacy of energy retrofits. In this session, speakers will present efforts underway to guide the development of programs, policies and practices that meet the unique infrastructure and market realities of the multifamily sector, including coordinated development of standards, professional qualifications, verification procedures, energy savings quantification and tracking, and underwriting guidelines and protocols.

Discussion Questions:

- What are the biggest barriers to expanded retrofit activity targeting multifamily buildings?
- Do differences in ownership structure, building type, resident income, and other factors require different program approaches? How can programs best address the diverse multifamily housing market?
- What mechanisms or outlets are there for sharing best practices in the design and implementation of multifamily energy efficiency retrofit programs?
- To what extent is quantification and tracking of energy performance (and return on energy investment) an opportunity area for further development of multifamily energy efficiency financing programs? Are there specific efforts underway to improve the IT infrastructure to support data analysis in the multifamily sector that could be coordinated?

Building Codes *T.M. Ballroom North*

B1: **Recent Advances and Future Directions for Building Energy Code Compliance**

Presenters: ***Eric Makela,*** *Pacific Northwest National Laboratory*
Cliff Majersik, *Institute for Market Transformation*

Facilitator: ***Harry Misuriello,*** *American Council for an Energy-Efficient Economy (ACEEE)*

In recent years, building energy code compliance has become an important aspect of building energy efficiency policies for many reasons. Technical advances in the model energy codes now approach or equal the energy performance levels of advanced energy design and stretch code programs favored by energy efficiency program administrators. The new model codes also rely on certain performance requirements to achieve higher energy savings, and require measured field verification in some instances. Also, federal ARRA stimulus funding tied to energy code adoptions requires code compliance to be measured and reported to DOE annually, and to meet a 90% compliance rate by 2017. However, new reviews of state energy code compliance and baseline studies have found systemic problems that confound comparison of compliance results without a standardized methodology. A new methodology proposed by DOE and PNNL can address these comparability issues. Going forward, increased code compliance will rely on a variety of best practices that have been used in leading jurisdictions across the US, including use of third-party inspectors where appropriate. Widespread use of these best practices is seen as cost-effective (i.e. 6:1) in recent analyses by efficiency advocates. The future of energy code compliance is likely to involve new players, new techniques and new funding sources.

Discussion Questions:

- What levels of effort for energy code compliance are cost-effective? Are the additional energy savings resulting from improved code compliance worth the cost to jurisdictions, developers and building owners?

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- How does the new DOE/PNNL methodology address the systemic issues found in prior code compliance studies? How is the new methodology working in the pilot field tests?
- What are appropriate roles for third-party code compliance efforts? How extensive is use of third parties for code compliance today? What are key issues to consider?

Commercial Track *Coolidge*

C1: **Institutionalizing Continuous Energy Improvement in Commercial Buildings**

Presenters: ***John K. Scott,*** *Cushman & Wakefield of Florida, Inc.*
Brooke Smallwood, *Program Specialist, Pepco C&I Energy Savings Program*

Moderator: ***Kim Erickson,*** *Consortium for Energy Efficiency (CEE)*

Continuous energy improvement (CEI) is emerging as a strategy to support businesses and energy efficiency program administrators striving to meet energy savings goals. International and U.S. efforts are underway to develop a certification program that provides commercial building owners with a roadmap for achieving continual improvement in energy efficiency. As part of regional and local energy efficiency programs, some program administrators offer CEI and energy management program support based on the principles of process management and continuous improvement. During this session, participants will learn why CEI is significant for some businesses and energy efficiency program administrators, how it is initially being defined and pursued as an approach to generate building energy savings, and considerations and challenges to implementing and evaluating the success of CEI and resources and tools available or under development to support it in the commercial building sector.

Discussion Questions:

- What is continuous energy improvement (CEI) and why is it significant relative to organizational energy efficiency goals and objectives? How does CEI relate to energy management?
- What are the key considerations to implementing a CEI program approach? What are the challenges to CEI that businesses and energy efficiency program administrators must address? What lessons learned may address these challenges?
- What international, national, regional, and local investments, tools and resources are available to support CEI? What additional infrastructure is necessary to support CEI in the commercial building sector?
- How is CEI evaluated? How do CEI program investments get translated into quantifiable energy savings?
- What is the most effective role for energy efficiency program administrators in supporting building owner efforts to institutionalize continuous energy improvement?

Technologies Track *Harding*

T3: **The Road Ahead for Electronics Efficiency Programs**

Presenters: ***Katharine Kaplan,*** *U.S. Environmental Protection Agency*
Steve Koenig, *Consumer Electronics Association*

Facilitator: ***Seth Wylie,*** *Consortium for Energy Efficiency (CEE)*

For program administrators to design and implement successful consumer electronics energy efficiency programs, they must begin with a strong understanding of the products that offer the greatest savings potential and reliable inputs to cost effectiveness calculations. However, this information is hard to come by because the electronics market evolves more rapidly than others, such as lighting and HVAC, and administrators cannot yet leverage the same foundation of expertise and partner relationships that they've built in those industries. This session will feature a conversation between two panelists whose work requires them to track the electronics market, but from different perspectives and using different information. They will share the approaches and types of data sources that they have used to address the above challenges, and describe potential refinements to their strategies.

Discussion Questions

- How can electronics retailers and manufacturers position new products and orient their business strategies to

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leverage support from market transformation efforts?
- What techniques can help assess the energy savings potential of new product categories as they enter the market, or as their popularity declines?
- How can organizations promoting market transformation pursue hard data about electronics energy consumption despite the rapid development of products and consumer usage patterns?

Tactics and Strategies Track *T.M. Ballroom East*

S3: **Crossing the Other Chasm: Successful Transfer of Emerging Technologies into Tomorrow's Programs**

Presenters: ***Sarah Moore,*** *Bonneville Power Administration*
Anne Kraft, *Xcel Energy*

Facilitator: ***Jonathan Livingston,*** *Livingston Energy Innovations, LLC*

Energy-efficiency program administrators frequently need to bring new, energy-saving technologies into their programs, especially as technologies traditionally supported by programs are incorporated into codes and standards. It is also widely recognized that voluntary programs play an important role in introducing new technologies into the marketplace and accelerating their acceptance. Program administrators looking to pursue emerging technologies as new program opportunities need to understand on what basis emerging technologies are successfully transferred into EE programs. This session will consider how program administrators and 3rd party program implementers introduce emerging technologies into their program portfolios. More specifically the session will address the criteria program administrators and implementers are using to qualify emerging technologies as new energy efficiency program measures.

Discussion Questions:

- What emerging technologies of the past have gone on to be successfully promoted by EE programs? What characteristics do they share?
- What emerging technologies have been identified recently and are currently being promoted by programs?
- What role did program support play in helping to mainstream these technologies?
- What criteria are EE program administrators using to accelerate and ease the transfer of emerging technologies into programs?
- What resources are available to program designers and planners to gain meaningful exposure to emerging technologies?
- What can be done at a national or North American level to facilitate collaboration and streamline the process of introducing emerging technologies into EE programs?

3:00 to 4:30 pm **Working Sessions**

Residential Track *Hoover*

R4: **Energy Smart Social Networking: Engaging Ratepayers with New & Social Media**

Presenters: ***Marissa Newhall,*** *Smart Power*
Briana Kane, *Cape Light Compact*

Facilitator: ***Ben Foster****, American Council for an Energy-Efficient Economy (ACEEE)*

Utilities are a key partner in efforts to boost energy efficiency and conserve resources because they are connected to homeowners and represent a "trusted brand". But it can be a challenge for utilities to reach ratepayers in a meaningful, comprehensive way. Recent creative program partnerships between utilities and organizations employing behavioral science insights—including SmartPower, GroundedPower and Efficiency2.0—combine feedback on residential energy use with goal setting and community engagement. Presenters will describe recent pilot programs using these platforms and discuss energy savings and other findings regarding the impact of behavioral interventions.

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Discussion Questions:

- Why add a behavioral component to smart grid programs? Are there additional costs as well as additional benefits to doing so?
- What needs to be done to bring these types of programs to scale?
- Do pilot programs have results to report on the persistence of savings?
- From the utility perspective, what needs to happen for more utilities to "get on board" with behaviorally focused energy efficiency programs?

Building Codes Track *T.M. Ballroom North*

B2: **The Role for Program Administrators with Building Energy Codes**

Presenters: ***Bill Saxonis,*** *New York State Public Service Commission*
Lisa Wood, *Institute for Electric Efficiency*

Facilitator: ***Niko Dietsch****, U.S. Environmental Protection Agency*

Energy efficiency program administrators (PAs)—including utilities, state energy offices, and third parties—can play important roles in improving savings from mandatory building energy code policies. This session will explore the opportunities for utilities and other PAs to play an expanded role as part of aggressive efficiency portfolios, and will identify the key issues and barriers in doing so. It will highlight promising examples and case studies from the field, and will inform the audience regarding perspectives from PAs, utility regulators, and codes officials. The audience will join in a discussion of the issues involved in fostering an expanded and appropriate PA role for the future.

Discussion Questions:

- What specific activities are PAs pursuing to advance code development, adoption, implementation, and compliance?
- How can PA involvement accelerate the time it takes incentivized measures to be folded into mandatory codes? How can policy makers and PAs better integrate existing state efficiency policies with codes activities to maximize overall energy savings?
- How do utility regulators and other PA oversight bodies determine the appropriate roles for PAs in their jurisdiction? Who should they be engagement, and what are the questions they should be asking? What are the issues related to program baselines, attribution, cost recovery, mandatory savings targets, EM&V and other utility policies?

Commercial Track *Coolidge*

C2: **Benchmarking in Specialized Commercial Buildings**

Panelists: ***Mindy Guilfoyle,*** *Wisconsin Focus on Energy*
Alexandra Sullivan, *U.S. Environmental Protection Agency*
Ken Tiedemann, *BC Hydro*

Facilitator: ***Tracy Narel,*** *U.S. Environmental Protection Agency*

The use of energy performance benchmarking has emerged as a key strategy to generate building owner interest in energy efficiency investments and as a fundamental whole building performance program element. Benchmarking allows a building manager or operator to understand how building energy use changes over time and how it compares to other similar buildings. This knowledge can lead toward improved building performance. For many businesses, energy consumption per square foot has become a primary metric used to measure and compare performance across “peer” buildings. For some businesses and building owners (e.g., restaurants, hospitals, shopping centers, data centers, etc.), however, identifying meaningful metrics that allow for comparison to “peer” buildings is more challenging and the benefits of doing so less obvious. This session will focus on understanding the challenges in creating meaningful benchmarks for these buildings and business types, the building or other characteristics that create these challenges, and approaches and tools being used to support the benchmarking of more complex or specialized commercial buildings.

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Discussion Questions:

- What are the benefits of energy benchmarking and how has it been applied in commercial buildings?
- What tools are available to benchmark commercial buildings and how existing benchmarking tools be enhanced to effectively support benchmarking of specialized buildings?
- What are the regulatory challenges for specialized buildings and what is the role of government, industry, and energy efficiency program administrators in developing effective benchmarking systems?
- What national infrastructure – Portfolio Manager or other – investments are in place to address some of these challenges?
- What additional data collection on other metrics/key performance indicators are being tested or used to help enable better comparisons across "tough to benchmark" buildings?
- How can utilities, regulators and energy efficiency organizations support benchmarking and measurement in specialized commercial buildings?

Technologies Track *Harding*

T4: **Breaking out of the Pack: New Efforts to Identify Low-Carbon Products**

Presenters: ***Duane Larson****, Pacific Gas and Electric Company*
Gregg Hardy, *Ecos Consulting*

Facilitator: ***Jacob Talbot,*** *American Council for an Energy-Efficient Economy (ACEEE)*

As the environmental impact of making and operating consumer products has become a larger factor in purchasing decisions, interest in marketing platforms to identify low-carbon products has grown. Historically, ENERGY STAR has served as the marketing platform for promoting energy-efficient, environmentally-friendly products, highlighting the top 25% or so most efficient products on the market. Recent programs developed by TopTen USA and EPEAT aim to hasten market transformation efforts by highlighting the highest efficiency and greenest overall products, respectively, in a variety of categories, including white goods, cars, electronics, and more. By offering lists of the current top products on the market, these programs intend to help consumers make more informed purchasing decisions, aid utility programs looking to provide incentives targeted at the highest savings levels, and offer independently verified recognition of excellence to manufacturers and retail outlets looking to advertise their greenest products.

Discussion Questions:

- How has demand for super-efficiency and green products changed in recent years? How large is the segment of consumers that is likely to pay more for super-efficiency?
- How do TopTen USA and EPEAT segment the market to select the top products?
- What efforts are underway by energy efficiency program administrators to promote super-efficient products?
- How can multiple super-efficiency programs work in concert to hasten market transformation?

Tactics and Strategies Track *T.M. Ballroom East*

S4: **Reaching Net Zero: Transitioning to Building System Efficiency**

Presenters: ***Paul Rode,*** *Johnson Controls Inc.*
Dave Hewitt, *New Buildings Institute*

Facilitator: ***Kristina Skierka,*** *California Public Utilities Commission*

Zero net energy (ZNE) requires rethinking market transformation. It will necessitate moving away from "widget"-based energy efficiency programs and toward a focus on systems and comprehensive savings. Given the limits of current short-term program cycles and constraints of cost-effective portfolios, how can implementers start to work with existing market forces that thrive beyond traditional utility programs to realize more complete solutions today? This panel will discuss a range of tools that will help tap forces beyond regulations and utility programs—including whole-building design, and industry leadership initiatives—to lay the foundation for maximum energy efficiency potential in the longer term. We will examine initiatives in a variety of locations—including California's Energy Efficiency Strategic Plan and the retrofit of the Empire State Building—along with evolving challenges and incentives to help address the way we proceed on the "path to zero." ***Continued on next page***

Discussion Questions:

- What are the primary barriers to addressing energy efficiency at a systematic and whole building level, and how have the CPUC and Johnson Controls, Inc. addressed these hurdles?
- How are states starting to move towards ZNE? What program or polices are helping to make whole building design cost-effective?
- What is the market saying about ZNE and "going deep" with energy savings?
- What are some of the tools to persuade building owners to "go deep"?

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