

*Session 1A**Salons 1 - 3***Energy Efficiency as a Distributed Energy Resource: Implications for Program Design, Customer Engagement, National Platforms, and EM&V**Moderator: **Vazken Kassakhian**, Smart Electric Power AlliancePanelists: **Laura Petrillo-Groh**, Air-Conditioning, Heating, and Refrigeration Institute
John Taylor, Consortium for Energy Efficiency
Anne Hampson, ICF International
Taylor Jantz-Sell, US Environmental Protection Agency

As voluntary efficiency programs are called upon to deliver a wider array of goals (including grid benefits), the deployment of distributed energy generation, storage, demand response, and energy efficiency programs is increasingly coordinated. In response, program administrators are addressing these objectives through new delivery models, customer engagement, marketing (i.e., ENERGY STAR®), and methods for evaluation program impacts. In the private sector, manufacturers are increasingly developing products that deliver an integrated value proposition consistent with the objectives of IDSM. This session will explore enhancements to current market transformation programs through the eyes of utility program administrators as well as water heating and HVAC industry stakeholders.

*Session 1B**Salons 5 - 7***Transforming Utility Energy Efficiency Strategies through Regulatory Opportunities**Moderator: **Maggie Molina**, American Council for an Energy-Efficient EconomyPanelists: **Vicki Kuo**, Con Edison
JR Tolbert, Advanced Energy Economy
Dian Grueneich, Stanford University, Precourt Energy Efficiency Center

This session will explore utility regulations and policies to encourage energy efficiency such as changes to business models, energy efficiency targets, and performance incentives. In this session, leading experts will provide insights into their experiences from states across the country on the role of regulations on energy efficiency in the utility sector. Speakers will also discuss new opportunities and obstacles for energy efficiency programs deployed through regulatory changes, against a backdrop of the evolving “utility of the future.”

12:00 - 1:15 pm**LUNCH & KEYNOTE***Salon 4*Keynote Speaker: **Suzanne Shelton**, President and CEO of Shelton Group**1:30 - 3:00 pm****BREAKOUT SESSIONS***Track A: MT in Residential**Studio D***A1: Making Quality Installation Mainstream**Moderator: **Harvey Sachs**, American Council for an Energy-Efficient EconomySpeakers: **Jonathan Passe**, US Environmental Protection Agency, ENERGY STAR®
Glenn Hourahan, Air Conditioning Contractors of America
John Taylor, Consortium for Energy Efficiency

The typical residential HVAC installation performs 25–30% less efficiently than expected from its federal ratings. The most important difference between lab-certified versus field performance is poor installation. This session’s objectives are to summarize the technical and program state of the art for quality installation (QI), and to discuss ways to make these practices mainstream.

*Track B: MT in Commercial**Studio E***B1: Mapping the Path to a Systems-Efficient Market**

Moderator: **Kateri Callahan**, President, Alliance to Save Energy

Speakers: **Itzhak Maor**, Johnson Controls
Pete Horton, Legrand
Rodney Sobin, National Association of State Energy Officials
Henry Green, National Institute of Building Sciences

Many building energy experts believe that improving the efficiency of the building systems is increasingly necessary to achieve cost-effective energy savings within the built environment. A systems approach considers the interactions of components within and among various building systems, as well as among multiple buildings, and between the building and the electric grid. The Systems Efficiency Initiative (SEI)—a collaboration of more than 50 entities involved in building research, design, construction, operation, and policy—is developing a “Systems Efficiency Roadmap” to move the market toward a systems focus. This session will provide a discussion of the key findings from the roadmap development process, with emphasis on opportunities for improving the energy efficiency of systems *within* a building. Topics will include strategies for saving energy from HVAC, lighting systems, multi-system integration, and miscellaneous electric loads. In addition, the discussion will address the potential for direct current (DC) power distribution systems to increase energy efficiency in buildings, and the potential transition paths to building DC networks. The panelists will discuss specific recommendations for actions by both government and private sector actors to promote the transition to a systems focus, as well as opportunities for collaboration.

*Track C: Evaluation, Measurement, and Verification**Studio B***C1: Energy Savings Plus: Examining the Non-Energy Benefits of Energy Efficiency**

Moderator: **Marty Kushler**, American Council for an Energy-Efficient Economy

Speakers: **Lisa A. Skumatz**, Skumatz Economic Research Associates
Jonathan Wilson, National Center for Healthy Housing
Robin LeBaron, Pearl Certification

Energy efficiency measures and programs often produce benefits beyond the direct energy savings. In this session, leading experts will discuss how to use these benefits to assess the cost-effectiveness of energy efficiency. The panel will provide an overview of the state of current practices regarding the evaluation of non-energy benefits (NEBs) and highlight one particular area that is receiving growing attention: the health-related benefits of energy efficiency. Finally, we will discuss a new approach to energy efficiency cost-effectiveness testing currently in development that includes an improved framework for incorporating NEBs of all types.

*Track D: Program Approaches**Salons 1 -2***D1: Paving the Way with Pay-for-Performance**

Moderator: **Emily Levin**, Vermont Energy Investment Corporation

Speakers: **Evelyn Lundhild**, Independent Electricity System Operator
Damei Mahama, Con Edison
Julia Szinai, University of California, Berkeley

Most energy efficiency programs offer prescriptive rebates and incentives to promote smarter energy use through measures like efficient appliances and weatherization. A new analysis published by NRDC and VEIC finds that pay-for-performance (P4P) may encourage additional energy savings. Broadly speaking, these programs track and reward energy savings as they occur, usually by examining data from a building’s energy meters—as opposed to the more common approach of estimating savings in advance of installation and offering rebates and incentives up front. This session will

review the recent analysis on P4P programs and highlight individual case studies of current approaches in the market. Speakers will share their experience to date, lessons learned, and insights with respect to future policy recommendations.

3:00 - 3:30 pm

NETWORKING BREAK

Salon 4 Prefunction

3:30 - 5:00 pm

BREAKOUT SESSIONS

Track A: MT in Residential

Studio D

A2: Transforming Consumer Product Markets with Market Data: Cutting-Edge Applications

Moderator: **Jennifer Amann**, American Council for an Energy-Efficient Economy

Speakers: **Anne Arquit Niederberger**, Enervee
Cristina Coltro, Con Edison
Paul Campbell, Sears Holding Corporation
Lisa Davidson, San Diego Gas & Electric

Advanced market intelligence is helping to overcome the lack of consumer transparency on energy efficiency while new data sources are providing improved insights into consumer behavior. Cutting-edge programs combine product market insights with carefully designed behavioral interventions to align with and even shape how people shop for consumer products, including appliances and electronics. In this session, the panel will address advances in market intelligence, emerging tools and platforms, and ways that programs and policymakers are leveraging intelligence and behavioral insights to transform markets.

Track B: MT in Commercial

Studio E

B2: Zero Energy Roadmaps: How to Chart the Path to Success

Moderator: **Amy Cortese**, New Buildings Institute

Speakers: **David Epley**, District of Columbia, Department of Consumer and Regulatory Affairs
Laura Rodormer, National Grid
Ben Heymer, Seventhwave

Many communities with aggressive climate goals are establishing roadmaps to zero net energy (ZNE) buildings. These plans start with big, bold goals, a strong baseline energy code, a roadmap for energy code adoption over several cycles, and a regulatory framework for achieving ZNE. Some methods include outcome-based approaches that address individual building types or third-party zero energy certification equivalent pathways. To bolster these efforts, utilities are providing financial incentives through pilot programs paired with market education highlighting keys to successful design, construction, and operations, as well as strategies for increasing code compliance. This session will explore a variety of practices and approaches that utilities and policymakers are using to transform the market to ZNE.

*Track C: Evaluation, Measurement, and Verification**Studio B***C2: Turning Policy Data into Actionable Information: How Local Governments' Efforts are Creating New Markets**Moderator: **Erin Beddingfield**, Institute for Market TransformationSpeakers: **Ali Levine**, New York City Mayor's Office of Sustainability
Richard Freeh, City of Philadelphia, Mayor's Office of Sustainability
Hewson Baltzell, Helios Exchange

As jurisdictions nationwide adopt local benchmarking and transparency ordinances, there is an ever-growing dataset on the characteristics and energy use of buildings covered by these laws. Local governments, utilities, and private companies are tackling the question of what to do with this information, and how to use it to help building owners make energy efficiency a priority. This session will explore how city governments are using city-gathered information to help bring private-sector solutions to building owners, thereby expanding market share for private vendors.

Speakers will discuss their experiences dealing with various challenges in the use of whole-building energy data to help their constituents and customers factor energy consumption into their choices at the building level. Panelists include experts in city government who are using benchmarking data, combined with other data sources, to help building owners in their cities make energy efficiency decisions. This session will also include an expert from a software company that uses a broad range of data to help its customers comply with local laws and make their buildings more energy efficient.

*Track D: Program Approaches**Salons 1 - 2***D2: Bringing Low-Income Programs to Scale**Moderator: **Lauren Ross**, American Council for an Energy-Efficient EconomySpeakers: **Maritza Estremera**, The United Illuminating Company
Andy Caler, Energy Outreach Colorado
Valeria Bullock, PECO
Tasha Perreault, Eversource

Low-income and multifamily households are often underserved when it comes to investments in energy efficiency, yet increasing evidence suggests that these households live in less efficient housing and face disproportionately higher energy costs. Customer-funded energy efficiency programs can be important pathways for increasing the efficiency of this housing stock. These programs are well positioned to work alongside other state and local programs and partners to deliver effective energy-saving measures and services that best meet the unique needs of the sector. The best strategies for taking low-income energy efficiency to scale will involve coordination, collaboration, and flexibility, presenting a host of opportunities and challenges along the way. This panel will address innovative strategies for ratepayer-funded, low-income energy efficiency programs including maximizing program dollars, leveraging other local and state funding, and offering flexibility in program design and delivery.

5:30 – 7:30 pm	RECEPTION	<i>Salons 1 – 3 Prefunction</i>
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Tuesday, April 4

7:00 am - 4:00 pm	REGISTRATION OPEN	<i>Registration Desk</i>
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7:30 - 8:30 am	NETWORKING BREAKFAST	<i>Salon 4</i>
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8:30 – 8:45 am	WELCOME ADDRESS	<i>Salon 4</i>
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Welcome address by **United States Congressman Peter Welch**, state of Vermont

8:45 - 10:15 am**PLENARY SESSION***Salon 4***Regional Roundup**

Moderator: **Ed Wisniewski**, Consortium for Energy Efficiency

Panelists: **Stacey Paradis**, Midwest Energy Efficiency Alliance
Susan Stratton, Northwest Energy Efficiency Alliance
Marie Abdou, National Grid
Samantha Caputo, Northeast Energy Efficiency Partnerships
Lisa Davidson, San Diego Gas & Electric
Mike Stockard, Oncor

This perennial session will explore notable changes to program funding, impacts, approaches, and policy across various geographies of significance throughout the United States. It also will present summary results of CEE's 10th consecutive annual budgets and impacts report for the US and Canada. Assembled panelists will include a range of perspectives, from those having the full spectrum of obligation and responsibility for program administration to those advocating for favorable state and regional efficiency policies. Panelists will comment on emerging trends, recent successes, and developing challenges facing their respective organizations. The session will be an opportunity to learn more about the emergence of the program administrator industry, policy, and program developments.

10:15 - 10:45 am**NETWORKING BREAK***Salon 4 Prefunction***10:45 am - 12:15 pm****CONCURRENT SESSIONS***Session 2A**Salons 1 - 3***The Future of the ENERGY STAR® Program**

Moderator: **Lowell Ungar**, American Council for an Energy-Efficient Economy

Panelists: **Paul Campbell**, Sears Holding Corporation
Scott Thigpen, Booz Allen Hamilton, formerly with US EPA
Lauren Urbanek, Natural Resources Defense Council
Mark Wagner, Johnson Controls

In view of proposals to move, privatize, or defund the ENERGY STAR® program, we have assembled a group of NGO and industry folks who know the program well. The panel will discuss the status of ENERGY STAR® and provide insights into the various paths that have been proposed for the future of the program.

*Session 2B**Salons 5 - 7***Prioritizing Emerging Technologies for Market Transformation: A Look Behind the Curtain**

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

Panelists: **Amy Jiron**, US Department of Energy, Building Technologies Office
Edwin Hornquist, Southern California Edison
Kim Erickson, Consortium for Energy Efficiency

Innovators are constantly dreaming up new products, systems, services, and program delivery approaches—emerging technologies (ETs) that have the potential to achieve greater and more widespread energy savings. Recognizing this potential, many MT organizations have developed programs to support development, commercialization, and early adoption of ETs. However, with more ETs than resources to support them, these organizations are first challenged to prioritize and identify those opportunities with the greatest potential to advance their MT mission or mandate. During this session, participants will take a look behind the curtain of multiple organizations' ET programs to understand the criteria and processes used to select priority ETs for investment, as well as consider what the priorities resulting from those criteria and processes represent.

12:15 - 1:15 pm NETWORKING LUNCH Salon 4**1:30 – 3:00 pm BREAKOUT SESSIONS***Track A: ET in Residential**Studio D***A3: Next Generation Residential Retrofit Programs**Moderator: **Ely Jacobsohn**, US Department of EnergySpeaker: **Gabrielle Stebbins**, Energy Futures Group
Johnathan Wilson, National Center for Healthy Housing

New whole-home retrofit program approaches are leveraging state and local energy policy priorities and the growing interest in healthy homes to build demand for home retrofits and deliver additional benefits. This session will focus on next-generation retrofit program opportunities. Vermont's Zero Energy Now program is a comprehensive approach designed to move existing homes towards zero net energy and help the state meet its lofty goal of meeting 90% of statewide energy demand with renewable energy by 2050. Other efforts seek to integrate energy efficiency and healthy homes assessments to identify and address issues that impact home energy performance as well as occupant health.

*Track B: ET in Commercial and Industrial (C&I)**Studio E***B3: Current and Future Opportunities for Advanced HVAC Systems**Moderator: **Alanna Torres** and **Bjorn Jensen**, Consortium for Energy EfficiencySpeakers: **Ryan Kerr**, Gas Technology Institute
John Sheff, Danfoss

Commercial HVAC represents 44% of total energy consumed by commercial buildings in the US. Over the last decade, there has been steady progress on improving commercial HVAC efficiency and market penetration of high efficiency equipment, but there are still opportunities for advanced HVAC systems through market transformation efforts. In this session, participants will explore the future of advanced HVAC, including perspectives from technology research and development experts and manufacturers. Specific topics include recent research and field tests for condensing gas-fired rooftop units, connected variable capacity HVAC systems, and fault detection and diagnostics. Participants will discuss outstanding research needs, market barriers, and roles for market transformation programs and new business models to support development and adoption of advanced HVAC systems.

*Track C: Product Innovations**Studio B***C3: A Lightning Round of Emerging Technologies**Moderator: **Rebecca Foster**, Vermont Energy Investment CorporationSpeakers: **Amy Jiron**, US Department of Energy, Building Technologies Office
Edwin Hornquist, Southern California Edison
Kim Erickson, Consortium for Energy Efficiency

Speakers from the morning concurrent session "Prioritizing Emerging Technologies for Market Transformation" will highlight the top three to five ETs they are working on. Mapping back to the prioritization criteria discussed in that session, speakers will explain the basis for each selection and their plans for assessment or advancement.

*Track D: Industry and Infrastructure**Salons 1 - 2***D3: Transforming Business Practices in Buildings and Industry**Moderator: **Jess Burgess**, Consortium for Energy EfficiencySpeakers: **Greg Baker**, Vermont Energy Investment Corporation
Jay Wrobel, US Department of Energy, Advanced Manufacturing Office
Walt Tunnessen, US Environmental Protection Agency

Strategic energy management (SEM) programs have demonstrated that buildings and industry can improve their energy performance by 5–15% without significant capital investment through business, operations, and maintenance practice changes. To date, energy efficiency programs have served more than 750 industrial sites and a growing number of buildings with SEM implementation and support. But in order to address the massive energy and cost savings opportunity across the industrial and buildings sectors, the private market must begin to demand and deliver SEM services on a much greater scale than we observe today.

3:00 - 3:15 pm**NETWORKING BREAK***Salon 4 Prefunction***3:15 - 4:45 pm****BREAKOUT SESSIONS***Track A: ET in Residential**Studio D***A4: HEMS: The Market Transformation Potential of a Broader Ecosyst-HEM**Moderator: **Lieko Earle**, National Renewable Energy LaboratorySpeakers: **David Wells**, Bidgely
Chris Ebert, People Power
Susan Mitchell, Apogee Interactive
Noel King, Sense

This lightning-round session will feature home energy management system (HEMS) providers speaking to their vision of the HEMS future. They will offer various perspectives about the market transformation potential of HEMS beyond connected thermostats.

*Track B: ET in C&I**Studio E***B4: Making the Case for Control Technologies in C&I**Moderator: **David Dobratz**, EversourceSpeakers: **Gerard Darville**, Lutron Electronics
Michael Doty, Eversource
Chris Van Horn, Constellation

Three key panelists will discuss how they integrate new and disruptive energy technologies into their core businesses. Their goal will be to share perspectives from the manufacturer, implementer, and utility involved in the product development and delivery cycle. The utility will discuss how to create incentives and assign savings for new technologies. The implementer will explain how to market new technology through the product lifecycle and manage workforce education when integrating new technologies. The manufacturer will provide insight not only from the R&D and market value perspective, but also from the perspective of US manufacturing in a global economy.

*Track C: Product Innovations**Studio B***C4: Window Shopping: Fenestration Options and Applications**Moderator: **Alice Rosenberg**, Consortium for Energy EfficiencySpeakers: **Steve Selkowitz**, Lawrence Berkeley National Laboratory
Jenna Pugliese, Efficiency Vermont

Doug Anderson, US Environmental Protection Agency
Marc LaFrance, US Department of Energy
Emily Phan-Gruber, Attachments Energy Rating Council

Windows account for roughly 30% of a home's heating and cooling energy needs. The opportunity to save energy by addressing the fenestration in residential buildings is significant, especially for the vast quantity of older housing stock across the country. This session will focus on a myriad of applications and approaches that can be implemented to address cost-effective savings. Technologies and products to be discussed include: triple-glaze windows, blinds, cellular shades, roller shades, low-e storm windows, interior storm windows, and glass inserts.

Track D: Industry and Infrastructure

Salons 1 - 2

D4: Reducing Infrastructure Costs with Efficiency and Private Capital

Moderator: **Chris Kramer**, Energy Futures Group

Speakers: **Keith Welks**, Pennsylvania Deputy State Treasurer
Jesse Feinberg, Con Edison
John Durrant, American Society of Civil Engineers

The investments needed to improve our infrastructure continue to increase well beyond available public funding. How do we close the infrastructure gap? Energy efficiency and private capital may play important roles. Within the electric industry, targeted efforts to reduce peak demand may help defer the need for millions of dollars of ratepayer investments in additional supply-side infrastructure. Energy efficiency investments may also decrease infrastructure costs in other areas, such as clean water, by reducing impurities that derive from energy use. As efficiency projects primarily take place within privately owned buildings, they can open the door to leveraging private capital in ways that other public infrastructure investment strategies cannot. This panel will bring together leading infrastructure advocates with energy efficiency and clean water programs to explore how such ideas can optimize infrastructure investment costs going forward.

4:45 pm

SYMPOSIUM ADJOURNS

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