

## **Summary Report to DOE on the 2017 ACEEE National Conference on Energy Efficiency as a Resource**

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December 2017

Prepared for the US Department of Energy, Order No.  
DE-OE0000869

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## About the Author(s)

**Seth Nowak** conducts analysis and writes about energy efficiency programs and policies in the electric and natural gas utility sector. Focus areas of his research include exemplary programs, best practices, and program evaluation, measurement, and verification. Seth earned a master of business administration from the Wisconsin School of Business and a master of public affairs from the La Follette School of Public Affairs at the University of Wisconsin.

**Martin Kushler** is a senior fellow at ACEEE, where he previously served as director of the utilities program for 10 years. He has conducted numerous widely utilized national studies of utility-sector energy efficiency policies and programs and has provided technical assistance to help advance energy efficiency policies in many states. Prior to joining ACEEE, he directed the evaluation section at the Michigan Public Service Commission for 10 years. Pertinent to this project, Dr. Kushler has been lead person responsible for organizing the content for all nine of the Energy Efficiency as a Resource conferences, beginning in 2001.

## Acknowledgments

This report was prepared under a contract from the US Department of Energy, Order No. DE-OE0000869.

## Introduction

The American Council for an Energy-Efficient Economy (ACEEE) convened its *2017 National Conference on Energy Efficiency as a Resource (EER Conference)* in Litchfield Park, Arizona, from October 30 to November 1, 2017. This was ACEEE's ninth EER conference, the latest in a series of conferences held every two years since 2001. The EER conferences are dedicated exclusively to the subject of energy efficiency as a utility system resource. As has been the case in recent years, there were a great number of new attendees from utilities, businesses, and government, converging to learn about energy efficiency as a resource and gain insight and knowledge of successful approaches.

This year's conference program continued in the same successful format as prior years, including a mix of plenary sessions and individual presentations in breakout sessions. The conference featured an opening keynote speech by Pat Vincent-Collawn, president and CEO of PNM Resources and recently-elected chairman of the board of Edison Electric Institute; and a second day keynote by Chris Benjamin, chief sustainability officer of Pacific Gas & Electric. The agenda also featured two plenary panels comprised of industry leaders from the regulatory, utility and NGO sectors, as well as 25 different breakout sessions comprised of presentations from more than 90 professionals in the utility energy efficiency field. The breakout sessions were in five tracks: energy efficiency as a resource (IRP, EE potential), energy efficiency programs (residential, commercial, and industrial), utility of the future, measuring the energy efficiency resource, and other utility energy-efficiency delivery channels.

This report gives a chronological summary of the content presented at the conference. The actual presentations are available on the ACEEE web site at <http://aceee.org/conferences/2017/eer#presentations>.

## Conference Proceedings: Tuesday, October 31

### **WELCOME, INTRODUCTIONS, AND KEYNOTE**

Martin Kushler, senior fellow of the utilities program at ACEEE, welcomed conference participants and reviewed the history of the *Energy Efficiency as a Resource* conference. He presented a chart showing the impressive growth of utility energy efficiency annual spending since the inaugural year of the conference, dubbing it “the EER Effect”, to laughs from the crowd. ACEEE fellow Dan York expanded on the welcoming remarks, emphasizing how energy efficiency has shifted the utility landscape, making a measurable difference. Trista Guzman, Policy Assistant for Arizona Governor Doug Ducey, stepped in for Hunter Moore, Policy Advisor on Energy and Natural Resources. She welcomed participants from other states to Arizona and to the fastest growing county in the nation. She highlighted Arizona’s long history of energy leadership and its respectable showing in ACEEE’s 2017 *State Energy Efficiency Scorecard*. Tom Forese, Chairman of the Arizona Corporation Commission, shared remarks on the importance of energy efficiency and the necessity of nonpartisanship. Forese asserted that nothing has a greater impact on the economy and the environment than energy efficiency.

Steven Nadel, executive director of ACEEE, introduced keynote presenter Pat Vincent-Collawn, Chairman, President and CEO of PNM Resources and recently elected Chairman of the Board of Edison Electric Institute. She offered perspectives on the rapidly changing utility sector and the dramatic influence of technological advances and automation on how we use energy. She explained how lower resource costs due to advanced technology have enabled PNM, the New Mexico utility, to be on a path to replacing all its coal generation with energy efficiency, solar, and natural gas by 2031. In addition to rapidly proliferating technological trends such as smart cities, she also addressed the roles of utility customers. Customers say that when a utility provides energy efficiency programs, it means the utility cares about them. She wrapped up her speech noting one of the major economic impacts of energy efficiency: it is associated with two million jobs, including many directly in the electric sector, which has traditionally been a very capital-intensive industry.

### **PLENARY PANEL: REGIONAL ROUND-UP: UTILITY ENERGY EFFICIENCY HIGHLIGHTS FROM AROUND THE UNITED STATES**

Moderator: Maggie Molina, American Council for an Energy-Efficiency Economy

Presenters:

Midwest: Will Baker, Midwest Energy Efficiency Alliance

Northeast: Sue Coakley, Northeast Energy Efficiency Partnerships

Northwest: Susan Stratton, Northwest Energy Efficiency Alliance

California: Michelle Vigen, California Efficiency and Demand Management Council

Southwest: Howard Geller, Southwest Energy Efficiency Project

South-Central: Chris Herbert, South-Central Partnership for Energy Efficiency as a Resource

Southeast: Cyrus Bhedwar, Southeast Energy Efficiency Alliance

Leaders from the regional energy efficiency organizations delivered detailed and informative reports on their areas of the country in their opening remarks, which were then followed by a panel discussion and question and answer session with the audience.

Combined slide presentations are available on the ACEEE website at this link:

[http://aceee.org/sites/default/files/pdf/conferences/eer/2017/Regional\\_Roundup\\_Combined\\_EER17\\_Oct\\_30.pdf](http://aceee.org/sites/default/files/pdf/conferences/eer/2017/Regional_Roundup_Combined_EER17_Oct_30.pdf)

Presenters from the Southwest, Midwest, and Northeast showed graphs illustrating the continued growth of energy efficiency investments and savings year by year for the last decade.

Another trend in multiple areas of the country has been the passage of major state legislation supporting energy efficiency. The California legislature enacted SB 350, putting into law the goal of doubling energy efficiency by 2030. In the Midwest, the State of Illinois has increased energy savings targets through the Future Energy Jobs Act, PA 99-0906 (SB2814 of 2016), and Michigan removed its prior energy efficiency spending caps and added a higher incentive for utilities for savings above the 1% annual savings standard (PA 342 of 2016). In Nevada, Governor Sandoval signed legislation requiring the Public Utilities Commission to set energy savings goals and there is a rulemaking underway to implement the law.

The regional leaders also reported recent developments that are evidence of the evolution of energy efficiency as a resource. Four Midwestern states have regulatory proceedings for the “utility of the future” in an increasingly distributed electric grid. In the Northeast and in California, major developments include the integration of energy efficiency and demand response, geo-targeting, and multiple regulatory proceedings involving the time and locational valuation of energy efficiency

### **POSTER PRESENTATIONS**

Conference participants viewed posters listed below and had a chance to speak with the presenters individually during the lunch period on the first full day of the conference.

*Multifamily New Construction: A Market Divided by the Energy Code* - Eric Bruckbauer, New Buildings Institute

*Net Zero + Low Income + Innovative Thinking = A New Residential Energy Efficiency Resource* - Christine Donovan, Vermont Energy Investment Corporation

*Seeing the Light: Partnering with Local Government to Achieve Significant Savings* - Paul Geary, DNV GL

*Air Abatement: Necessary Evil or Cost Reduction Opportunity?* - Ray Hawksley, Energy Trust of Oregon

*Driving Engagement and Savings by Rethinking How to Incentivize Efficient Products* - Alex Katzman, Enervee

*Low-Income Energy Affordability Data (LEAD) Tool* - Krystal Laymon and Pam Mendelson, US Department of Energy

*System Vision Affordable Housing Program* - Maria Mauceri, Advanced Energy

*Entergy New Orleans, Energy Smart Demand Side Management Program* - Tom Quasius, APTIM

*The Features and Benefits of a National On-line Marketplace for Energy Efficiency Programs* - Ethan Rogers, American Council for an Energy-Efficient Economy

*Leveraging Energy Efficiency to Save Water in Industrial Facilities* - Mohammed Shahini, DNV GL

*Energy Usage Data Access: The Role of State Regulators* - Mary Shoemaker, American Council for an Energy-Efficient Economy

*The First National Survey on Energy Literacy: Insights for Energy Efficiency* - Gary Swan, National Energy Foundation

*Consumers Energy Industrial Energy Management (IEM) Program* - Jerry Zolkowski, DNV GL

*Exploring Opportunities for Energy Generation and Efficiency within Wastewater Services: Perspective from a Developing Country* - John Zvimba, South African Water Research Commission

## **TUESDAY BREAKOUT SESSIONS, 1:30 – 3:00PM**

### **Session 1A: IRP Key Concepts and Examples**

Presenters outlined and discussed several approaches to assuring fair consideration of energy efficiency in integrated resource planning.

Moderator: Manish Rukadikar, DTE Energy

*Modeling DSM Resources in the Southwest: Evolution of the “Bottom-Up” Approach*

Jeff Schlegel, Southwest Energy Efficiency Partnership

*Energy Efficiency as a Supply-Side Resource in Electricity Modeling*

Etan Gumerman, Duke University

*Integrated Resource Planning: Giving a Fair Shake to the Lowest Cost Resource*

Nick Dreher, Midwest Energy Efficiency Alliance

### **Session 1B: Strategies for Large Industrial**

Experts described strategies for utility managers to address the challenge of large industrial customers seeking to “opt out” of paying for and participating in utility energy efficiency programs. Strategies focused on better serving customer needs in order to increase interest in program participation.

Moderator: Toben Galvin, Navigant

*Putting Large Energy Users in the Driver’s Seat: Giving Customers More Control with Self-Direct Programs*

R. Neal Elliott, American Council for an Energy-Efficient Economy

*Addressing Customer Energy Concerns through Strategic Utility Engagement*

Cole Granrath, Franklin Energy Services

*Should Large Customers Stay or Should They Go? A Solution to the Opt-Out Dilemma*

Sean McCoy and Crystal DeCocker, DNV GL

### **Session 1C: Key Issues for Utilities of the Future**

Presenters described the multiple roles energy efficiency plays in the evolving utility sector, each with a different degree of emphasis on economics, policy, energy, and politics.

Moderator: David Nemptow, *US Department of Energy*

*The Role of Energy Efficiency in the Utility of the Future: Getting Los Angeles to 100% Renewable and Zero Carbon by 2025!*

Ted Flanigan, EcoMotion

*Integrating Power Markets and Public Policy, and the Case for Considering Energy Efficiency in the Discussion*

Cheryl Jenkins, Vermont Energy Investment Corporation

*Energy Efficiency: Cornerstone Resource in the Utility of the Future*

Leslie Malone, Dunsky Energy Consulting

### **Session 1D: Energy Efficiency Evaluation, Key Issues and Examples**

Three evaluation experts spoke on three separate and distinct current issues in evaluation, including: a compilation and comparative analysis of technical reference manuals in the Midwest; a national survey examining the relationships of free riders, spillover, and gross and net energy savings estimates; and an analysis of the value components of distributed energy resources, including energy efficiency.

Moderator: Sharyn Barata, Opinion Dynamics

*Review and Categorization of TRMs in the Midwest*

Greg Ehrendreich, Midwest Energy Efficiency Alliance

*From Gross to Net: The True Impact of Energy Efficiency Resources*

Erin Malone, Synapse Energy Economics

*Turning Locational Value to Real Dollars*

Haider Khan, ICF

### **Session 1E: Natural Gas Energy Efficiency Programs**

The three presentations in this session all demonstrated benefits of natural gas demand-side management through its application in different contexts: energy efficiency marketing, utility decision-making and integrated resource planning.

Moderator: Ed Carroll, Franklin Energy

*Natural Gas DSM – Harder Sell But Can Be Done*

Michael Pascucci, Xcel Energy

*Using Demand-Side Resources to End a Moratorium on New Customers for a Local Natural Gas Company in Massachusetts*

Kenji Takahashi, Synapse Energy Economics

*Integrated Resource Planning: The Role of Climate Change Policy and Energy Efficiency on Natural Gas Distribution System Design*

Suzette Mills, Enbridge Gas Distribution

## **TUESDAY BREAKOUT SESSIONS, 3:30 – 5:30PM**



**Session 2A: Energy Efficiency Potential**

Experts in this session addressed energy efficiency potential from multiple angles, including DOE estimates of state energy efficiency potential; NREL databases, modeling software, and computing technology; recommended methods for conducting energy efficiency potential studies; and a systematic comparison of what potential studies had forecast with the amount of energy savings achieved.

Moderator: Dick Spellman, GDS Associates, Inc.

*New National Estimates of State-by-State Energy Efficiency Potential*

Danielle Sass Byrnett, US Department of Energy

*Energy Efficiency Resource Planning Tools for the 21st Century*

Eric Wilson, National Renewable Energy Laboratory

*Potential Studies: Don't Maximize...Optimize!*

Philippe Dunsy, Dunsy Energy Consulting

*Raising the Bar: At What Cost? A 20 State Review of Savings and Spending on EE Programs versus Potential*

Toben Galvin, Navigant

**Session 2B: Lightning Session: Residential and Commercial Programs**

This session was comprised of short “highlight” presentations on a variety of specific programs and program categories.

Moderator: Teresa Davies, DNV GL

*Smart Thermostats for the Small Business Gap*

Charlie Richardson, Consumers Energy

*Tariff-Based Utility Financing of Energy Efficiency Measures behind the Meter*

Walter Nixon, Arkansas Public Service Commission

*Tuning Programs, Tracking Contractors, and Targeting Inspections with Near Real-Time Data*

Sarah Norris, EnergySavvy

*Optimizing ENERGY STAR® Retail Products Platform through Field Services*

Alice Liddell, ICF

*Residential Energy Efficiency: New Technologies and Data to Enable Value-Added Savings*

Steve Dunn, US Department of Energy

*Geo-Blitzing Direct Install Program: Engaging Underserved Rural and Urban Small Business Customers*

Jason Berry, Willdan Energy Solutions

*Keeping Ahead of the Code: Innovation in Commercial New Construction Programs*

Claire Cowan, Seventhwave

*Beyond Incentives: Using ENERGY STAR® to Support the Utility as Trusted Energy Advisor*

Erin Zayko, Lockheed Martin Energy

*A Customer Portfolio Approach Overcomes Lack of Resources and Drives Results*

Maged Kafafy, DNV GL

*From Crickets to Cash Crops: How to Grow Customer Satisfaction and Savings in the Agriculture Market*

Duane Watson, Franklin Energy

**Session 2C: Energy Efficiency and Distributed Energy Resources (DER) Integration**

Speakers shared expertise on multiple aspects of the relationships between energy efficiency and other distributed energy resources. Given recent developments in the industry, there is a great deal of interest in these issues.

Moderator: Susan Stratton, Northwest Energy Efficiency Alliance

*Using the Whole Toolbox: Integrating Demand-Side Potential Studies*

John Agan, US Department of Energy

*Energy Efficiency Lighting the Way for New DER*

Patty Cook, ICF

*Timing is Everything: Understanding the Future of EE Capability for Utility Operations*

Mark Bielecki, Navigant

Tom Hines, APS

*ComEd Sets the Foundation for the Utility of the Future with Smart Thermostat Program*

Jacob Stoll, ComEd

**Session 2D: Environmental and Health Effects of Energy Efficiency**

The three experts on this panel presented evidence of and context for the health and environmental benefits resulting from energy efficiency. Presentations addressed health benefits both for the public from reduced air emissions and for program participants from healthier homes.

Moderator: Julie Michals, E4TheFuture

*Championing Energy Efficiency to Improve Air Quality*

Nancy Seidman, Regulatory Assistance Project

*Health Benefits of Energy Efficiency*

Robyn DeYoung, US Environmental Protection Agency

*Exemplary Programs that Benefit the Health of Energy Efficiency Program Participants*

J.R. Denson, American Council for an Energy-Efficiency Economy

**Session 2E: Natural Gas Energy Efficiency Programs**

This session featured descriptions and stories of successful natural gas energy efficiency programs and technologies.

Moderator: Carl Nelson, Center for Energy and Environment

*"Three Times a Combi" – Unique Approaches to Natural Gas Combination Systems*

Aaron Winer, Northwest Energy Efficiency Alliance

*Holistic Natural Gas Programs: How New Mexico Gas Company is Positively Affecting Its Residential Customers*

Steve Ellison, ICF

Dru Jones, New Mexico Gas Company

*More Bang for Their Buck: Massachusetts' Natural Gas Customer-Wide Advantages*

Elyse Doyle, DNV GL

*Energy Advantage Program: Creating Small Medium Business Market Lift*

Patsy Dugger, APTIM

## Conference Proceedings: Wednesday, November 1

### **PLENARY PANEL: ENERGY EFFICIENCY AND THE UTILITY OF THE FUTURE**

ACEEE executive director Steve Nadel moderated the morning panel of three state utility commissioners and one utility executive to open the second day of the conference. While it was under the title of “utility of the future”, each panelist expressed explicitly or implicitly in their opening remarks that the traditional utility, its business model, and the traditional state regulatory structures that were prevalent during the last century have already changed. Commissioner Nancy Lange (Minnesota) listed numerous dynamic processes underway including non-wires alternatives, DER integration, grid modernization, optimization of renewable distributed generation, strategic electrification and several other areas within her commission’s purview. Val Jensen (ComEd) observed that utility of the future has already begun to emerge as a distributed, decentralized, democratic platform. Commissioner Marion Gold (Rhode Island) said the utility of the future has three major objectives: low cost electricity, being nimble and responding to updated regulations. Commissioner Andrew McAllister provided a California policy overview, and spoke of the California Energy Commission’s overarching focus on existing buildings and the necessity of employing private capital as a key part of the solution.

Moderator: Steve Nadel, American Council for an Energy-Efficient Economy

#### Presenters:

Marion Gold, Commissioner, Rhode Island Public Utilities Commission  
 Val Jensen, Senior Vice President, Customer Operations, ComEd  
 Nancy Lange, Commissioner, Minnesota Public Utilities Commission  
 Andrew McAllister, Commissioner, California Energy Commission

### **WEDNESDAY BREAKOUT SESSIONS, 10:15 – 11:45 AM**

#### **Session 3A: Meeting Aggressive Energy Efficiency Goals**

Each presentation in this session included exemplary, effective strategies and program designs for hitting energy savings targets.

Moderator: John Mayernik, National Renewable Energy Laboratory  
*Successful Strategies for Meeting Aggressive Goals Year after Year: The Solution Lies within the Next Generation of Energy Efficiency Programs*

Christine Donovan, Vermont Energy Investment Corporation

*Next Generation Energy Efficiency: Identifying Highly Successful Programs and Strategies for Cost-Effective Energy Efficiency Resource Acquisition*

Kevin Andrews, E Source

*Trends in Utility Energy Efficiency Program Design and Performance in the Southwest*

Howard Geller, Southwest Energy Efficiency Partnership

#### **Session 3B: Combined Heat and Power (CHP)**

We could have titled this session, “CHP as a Resource.” Presenters examined CHP as a utility, state, and grid resource.

Moderator: Patsy Dugger, APTIM

*CHP as an Effective EE Resource for Utilities and States*

Neeharika Naik-Dhungel, US Environmental Protection Agency

*Utility Packaged CHP Programs*

Gita Subramony, ERS

*CHP as a Grid Resource: How CHP Can Support the Transition to a Modern Electric Grid*

Meegan Kelly, ICF

### **Session 3C: Market Transformation**

Utility and program representatives explained the benefits of market transformation efforts and supply chain impacts on energy-efficient products in California, Connecticut, and Massachusetts. In “upstream” energy efficiency programs, the incentive payment from ratepayer dollars goes to the manufacturer of the energy-efficient product or appliance. In “midstream” programs, the incentive payment goes to the distributor or retailer. Since the incentives are directly associated with particular products, this type of supply chain approach is often used for market transformation programs.

Moderator: Derek Okada, Southern California Edison

*The Many Benefits of Upstream Programs*

Lisa Sarubbi, United Illuminating Company

*Utility Energy Efficiency Program Administration in a Statewide Model*

Erin Palermo Brooks, Southern California Gas Company

*Market Effects of Commercial Upstream Programs*

Hector Lefbad, Energy Solutions

### **Session 3D: Cost-Effectiveness**

The first presenter effectively conveyed the complex topic of non-energy benefits, dividing benefits into those that flow to customers, utilities, and society. The second presentation focused on the recently released National Standard Practice Manual for assessing the cost-effectiveness of energy efficiency programs. The presentation provided an overview of the manual and how it is intended to be used by states to develop their own specifically tailored cost-effectiveness test.

Moderator: Andrew Hudson, Energy Trust of Oregon

*Including Non-Energy Benefits in the Evaluation of Energy Efficiency Programs – Where to Start?*

Alireza Bozorgi, ICF

*Reforming Energy Efficiency Cost-Effectiveness Analysis: An Overview of the National Standard Practice Manual*

Tim Woolf, Synapse Energy Economics

Chris Neme, Energy Futures Group

### **Session 3E: Public Power**

This session on public power included three presentations covering methods, tools, and approaches related to energy efficiency in municipal utilities and electric cooperatives.

Moderator: Lakin Garth, *Cadmus*  
*The Whole-House Approach to Energy Savings*  
 Jonathan Coulter, *Advanced Energy*  
 Mike Smith, *Electric Cooperatives of South Carolina*  
*An Integrated Strategic Planning Tool for a Municipal Electric Utility*  
 Jeffrey Loiter, *Optimal Energy*  
*E Planning for Municipal Utility IRP: Lessons and Outcomes*  
 Gabe Caunt, Colorado Springs Utilities

**KEYNOTE PRESENTATION: THE UTILITY SECTOR AS A CLIMATE SOLUTIONS PROVIDER:  
 HARNESSING ENERGY EFFICIENCY**

Chris Benjamin, Director, Corporate Sustainability, Pacific Gas and Electric Company

Chris Benjamin's expansive keynote address to the full conference plenary session demonstrated how energy efficiency is harnessed to deliver solutions, not only on climate, but also on issues for business, sustainability, and public policy. He began by noting some of the operational and business challenges gas and electric utilities face due to climate change impacts. In California, these include wildfires, unpredictable extreme precipitation events, sea level rise, and more hot summer days each year above 100 degrees Fahrenheit. Mr. Benjamin went on to discuss statewide climate policy and its relationship to the state's long-held commitment to energy efficiency. In his presentation, he shared measurable results including how energy efficiency programs have saved over \$12 billion dollars. He then turned to his utility, PG&E, to give even more examples of the benefits of energy efficiency, not only for climate solutions, but for workforce development and training, water savings (PG&E's customers saved about 780 million gallons in 2016 alone through energy efficiency), community partnerships and collaboration.

**WEDNESDAY BREAKOUT SESSIONS, 1:30 – 3:15 PM**

**Session 4A: Time Value of Energy Efficiency**

As the electric grid moves from a one-way flow of power to an interoperable grid, accurate valuation of electricity and of energy efficiency resources matter more than ever. The costs of generating electricity vary by time, particularly relative to peaks, as do the costs of delivering electricity. This session featured four presentations focusing on this increasingly important issue, including related work on the time-varying value of energy efficiency by Lawrence Berkeley Lab and the DOE.

Moderator: Jenny Edwards, Center for Energy and Environment  
*Comparing the Time-Varying Value of Energy Efficiency in Four Regions*  
 Natalie Mims, Lawrence Berkeley National Laboratory  
*Aiming for the Bulls-Eye: Time-Sensitive Valuation of Energy Efficiency*  
 David Nemetzow, US Department of Energy  
*Capacity: The Hidden Treasure in Energy Efficiency*  
 Jennifer Light, Northwest Power and Conservation Council  
 Lakin Garth, Cadmus

*Time to Look beyond the "Hour"*  
Hossein Haeri, Cadmus

#### **Session 4B: Low Income Energy Efficiency Programs**

Presenters in this session summarized strategies, best practices and case studies of energy efficiency programs serving low-income residential utility customers – and one did it in the form of a TV quiz show!

Moderator: Mary Shoemaker, American Council for an Energy-Efficient Economy

*Low Income Best Practices*

Annie Gilleo, American Council for an Energy-Efficient Economy

*It Takes a Village: Energy Efficiency as a Resource for Low-Income Customers*

Elizabeth Parsons, TVA EnergyRight® Solutions

Scott Harrell, TVA EnergyRight® Solutions

*Developing a Stakeholder Synergy to Develop and Maintain Energy Efficiency Programs for Low-Income Customers*

Maida Coleman, Missouri Public Service Commission

*Helping Home Fund: Weatherization and Health*

Maria Mauceri, Advanced Energy

Lorrie Maggio, Duke Energy

#### **Session 4C: State Energy Efficiency Policies**

All speakers in this session presented state policies designed to achieve high utility energy savings. In Minnesota, there is a large potential energy efficiency opportunity made possible by the potential retirement of most of the fossil-fueled power plants in the state. New York has a history of three rounds of energy-efficiency portfolio standards (EEPS). Lessons from that experience have contributed to a framework for scalable energy efficiency. The next presenter explained how the combination of higher energy-efficiency resource standards (EERS) and utility performance incentives in newly enacted Illinois legislation advances the state to among the top ranks nationally. The last speaker recommended state policies based on ACEEE's 2017 *State Energy Efficiency Scorecard* methodology and performance data.

Moderator: Audrey Bragg, E4TheFuture

*A Transformational Opportunity: Putting Clean Energy First*

Mike Bull, Center for Energy and Environment

*Unleashing New York's Energy Efficiency Market Once and for All*

Arjun Saroya, Lime Energy

*A Top Three State from the Midwest? Illinois' Innovative New Business Model for Acquiring Efficiency Resources Makes State a National Leader*

Chris Neme, Energy Futures Group

*Delivering High Levels of Energy Savings for Utility Programs: Strategies from Arizona*

Weston Berg, American Council for an Energy-Efficient Economy

#### **Session 4D: EM&V 2.0**

Advances in energy measurement and verification made possible by more granular data and data analytics, often called "M&V 2.0", can provide more accurate savings information

and faster feedback, among other benefits. Presenters shared multiple ways in which energy efficiency program managers, evaluators, and utilities can use these new methods to expand the energy efficiency resource.

Moderator: Dan York, American Council for an Energy-Efficiency Economy

*Expanding Efficiency Services and Advancing Utility Program Strategies with M&V 2.0*

Ellen Franconi, Rocky Mountain Institute

*Judgement Day: Advances in Evaluation, Measurement, and Verification and the Big Questions Hanging in the Balance*

Julia Friedman, Midwest Energy Efficiency Alliance

*How Do We Measure Something that Doesn't Exist and Call It a Resource? Tales from the Counterfactual Number Crunchers*

John Backus Mayes, EnergySavvy

#### **Session 4E: Local Government/Utility Partnership**

Program administrators and implementers shared successful cases studies and best practices of utility/local government partnership programs.

Moderator: Christine Donovan, Vermont Energy Investment Corporation

*Advancing to Smart and Sustainable Communities*

Sheri Borrelli, The United Illuminating Company (Energize CT)

*Filling the Pipeline with Savings in Public Buildings*

Cathy Higgins, New Buildings Institute

*Realizing Energy Efficiency through Direct Collaboration between Utilities and Communities*

Courtney Weber, APTIM

*Integrating Local Policies with Voluntary Programs to Drive Zero Carbon Communities*

Nate Dewart, Energy Solutions

### **WEDNESDAY BREAKOUT SESSIONS, 3:30 – 5:00 PM**

#### **Session 5A: Future of Lighting Energy Efficiency**

Lighting programs in residential, commercial, and industrial sectors continue to comprise a significant part of electric energy efficiency portfolio savings. As federal lighting standards advance and products in the market become more efficient, the lighting program category is evolving and changing. Four experts explored these dynamics with a focus on the near future.

Moderator: Nick Minderman, Xcel Energy

*Turning Off T12 Lighting...For Good!*

Joe Plummer, Franklin Energy

*From Market to Meter: Effects of Lighting Market Dynamics on Residential Energy Consumption*

Laura Tabor, Navigant

Jessica Aiona, Bonneville Power Administration (co-contributor)

*What's Next after Lighting?*

Jeff Schlegel, Southwest Energy Efficiency Partnership

**Session 5B: Multifamily Programs**

This breakout session looked at opportunities and challenges in diverse types of multifamily programs, including low-income, new construction, and retrofit, and included programs applicable to both commercial and residential portfolios.

Moderator: Ariel Dreihobl, American Council for an Energy-Efficient Economy

*Build It and They Will Come: Hitting an Energy-Efficiency Home Run in the Multifamily Market*

Ken Owens Jr., Franklin Energy

Ken Robertson, Franklin Energy

*Do Energy Efficiency Rebates Help Drive Property Managers in Low-Income Areas to Do Energy Efficiency Projects?*

Crescent Romero, DNV GL

*A Decade of Results: A Retrospective of NYSERDA's Multifamily Performance Program*

Mark Lorentzen, TRC Energy Services

**Session 5C: Other Policy Approaches for Energy Efficiency**

Although traditional utility energy efficiency programs may be more visible from the utility customer point of view, there are other complementary policy approaches to expanding the energy efficiency resource that can be very effective. This session focused on several market-oriented policies that intersect with and have impacts on energy efficiency programs. Three speakers shared their findings and conclusions drawn from research on residential rate design, capacity auctions, and utility resource procurement.

Moderator: Jenah Zweig, US Department of Energy

*Rate Design Matters: The Intersection of Residential Rate Design and Energy Efficiency*

Brendon Baatz, American Council for an Energy-Efficient Economy

*Energy Efficiency in Capacity Auctions*

Grace Relf, American Council for an Energy-Efficient Economy

*All Source Solicitation in Utility Procurement – A How To Guide*

Philip Henderson, Natural Resources Defense Council

**Session 5D: Intelligent Efficiency**

Intelligent efficiency is the deployment of sensor, control, and communication technologies that help gather and use data to improve device, process, facility, or organization performance and achieve new levels of energy efficiency. In this session, panelists examined intelligent efficiency at three levels: at a single California gas utility, a regional perspective from the Midwest, and nationally.

Moderator: Ethan Rogers, American Council for an Energy-Efficient Economy

*Intelligent Efficiency and Utility Programs: Reports from the Midwest*

Mark Milby, Midwest Energy Efficiency Alliance

*SoCal Gas Engaging Connected Home Customers with a Single Click*

Yeye Zhang, Nest Labs

*A National Initiative to Advance Intelligent Efficiency in Energy Efficiency Programs*

Geoff Wickes, Northwest Energy Efficiency Alliance



**Session 5E: Energy Efficiency and Water/Wastewater**

Electric energy efficiency programs save water, and water efficiency programs save energy. Three presenters shared their findings and recommendations for improving programs targeting the water-energy nexus.

Moderator: Weston Berg, American Council for an Energy-Efficient Economy

*Moving Toward More Effective Energy and Water Programs*

Kate Robertson Zerrenner, Environmental Defense Fund

*Come Together: Turning Utility Partnership Collaboration into a Strategic Energy and Water Efficiency Resource*

Mugi Lukito, Southern California Gas Company

*Achieving Energy Efficiency in Water Utilities: A Model for Speed and Scale*

Pranesh Venugopal, The Energy Coalition

Fiela Vu, Lincus, Inc.

**Conclusion**

The 2017 ACEEE National Conference on Energy Efficiency as a Resource provided participants with a comprehensive overview of the recent developments in the U.S. regarding energy efficiency as a utility system resource. There were over 100 presentations by leading professionals, on topics ranging from state policies, to planning and potential studies, to successful program examples. The information documented once again that in comparison to other energy resources, energy efficiency is the lowest-risk, lowest-cost, cleanest resource available.

Throughout the conference, in keynote speeches, panel discussions, and breakout sessions, the energy efficiency leaders demonstrated how energy efficiency can be used to save money, meet public policy goals, and deliver value to customers. In addition to the prime objective of reducing utility system costs, energy efficiency benefits range from saving water, to reducing the energy burdens on low-income utility customers, to improving public health, and many more. We encourage you to read and explore the slide presentations from this conference, which you will find on the ACEEE web site at the link below. You can also navigate to the conferences menu and look at presentations from prior years' conferences.

**How to Access Conference Slide Presentations**

ACEEE has posted slide presentations of breakout sessions and plenary sessions from throughout the conference program, which is on the ACEEE website. Available presentations are individually hyperlinked. To access them, please visit:

<http://aceee.org/conferences/2017/eer#presentations>.