



*Tuesday* August 21, 2018

8:00 AM – 3:30 PM	<p><b>Pre-Conference Training</b> <i>(extra fee)</i></p> <p><b><i>Principles of Demand-side Management</i></b></p>
	<p><b>Trainer:</b> M. Sami Khawaja, Cadmus</p> <p>Provides an overview of important components of program design, implementation and evaluation and is designed for those with 1 – 3 years of experience in DSM and energy efficiency. From program planning and implementation to economics and evaluation, this course delivers what you need now to develop cost-effective, sustainable DSM programs. Complete with case studies, lessons learned, group exercises and best practices. The curriculum provides practical case studies, while engaging attendees in thought provoking exercises that reinforce the principles they have learned and delivers useful information. Primary topics that are covered include: DSM Industry update, Program Planning/Design, DSM Economics, Program Implementation/Management, Program Monitoring and Evaluation.</p>

8:00 AM – 3:30 PM	<b>Pre-Conference Training</b> <i>(extra fee)</i>  <b>Principles of EM&amp;V</b>
	<p><b>Trainer:</b> Sue Hanson, Tetra Tech</p> <p>This course is ideal for individuals working in evaluation, measurement and verification, researchers, implementers, program managers, and anyone who needs information on new trends, methodologies and regulatory requirements in EM&amp;V.</p> <ul style="list-style-type: none"> <li>• Learn how to conduct baseline studies, develop effective data collection methods and perform sampling strategies</li> <li>• Understand the importance of using logic models and how they can be applied to your programs</li> <li>• Discover the differences between process valuations, impact evaluations and market transformation</li> <li>• Collaborate with your peers and colleagues to develop your own sample evaluation program</li> </ul>
4:00 – 5:00PM	<b>UtilitiesConnect</b>
	<p>A special closed-door session for attendees who work in a utility company only.</p> <p><b>“Utility of the Future” Plans Are Driving a Customer Relationship Evolution – Are You Ready?</b></p> <p><b>Speakers:</b> Kara Crohn, EMI; Amy Glapinski, Consumers Energy; Angela Mendoza, Indianapolis Power &amp; Light; and Kendall Reichley, Southern California Edison (SCE)</p> <p>The Utility of the Future is already taking shape. As utilities plan for distributed energy resources and integrated demand-side management solutions, they recognize the need to evolve beyond a transactional customer relationship to a ‘prosumer’ type of relationship. Innovative utilities are leveraging information (data and insights), rethinking customer relationships, and delivering value in new ways as they transform the utility customer experience. The panelists are exploring and testing new ways to rethink customer experiences and relationships to achieve their goals/vision. During the session panelists and attendees will use a discussion framework to think through how their utilities are shifting from standard approaches to innovative ways of interacting with customers. Attendees will leave with a set of questions and topics to consider during their attendance at the rest of the conference.</p>
5:00 – 6:30PM	<b>Opening Reception – Expo Hall</b>

# Wednesday August 22, 2018

7:30 AM – 6:00PM	<b>Registration Desk Open</b>	
7:30 – 8:30 AM	<b>Networking Continental Breakfast - Expo Hall</b>	
8:30 – 9:30AM	<b>Welcome Address &amp; Opening Plenary</b>	
	<p><b>Peyton Holland</b></p> <p><i><b>Next Generation Workforce &amp; Closing the Skills Gap</b></i></p> <p>How do we close the skills gap in our organizations? How do we invest in talent and training that will have an ROI we can measure? Peyton addresses these challenges and presents a framework for finding, creating and nurturing skilled workers for any industry.</p>	
9:30 - 10:15AM	<b>Networking Break - Expo Hall</b>	
<b>Session 1</b>	<b>Session 1A: Community Collaborations/Low Income Programs</b>	<b>Session 1B: Cost-effectiveness – Challenges and Opportunities</b>
10:15 – 11:15AM	<p><b>Moderator:</b> Ersilia Serafini, Summerhill</p> <p><i><b>Working Together to REAP the Rewards</b></i></p> <p>Target Audience: Advanced (over 5 years in industry)</p> <p><b>Speaker:</b> Linda Eddy for PSEG Long Island</p> <p>The Residential Energy Affordability Program (REAP) demonstrates how creating a human connection between the utility and its low-income customers results in greater engagement and success. The main goals of REAP are to transform the perspective of skeptical customers in to engaged</p>	<p><b>Moderator:</b> Katherine Johnson, Johnson Consulting Group</p> <p><i><b>Program Enabled Savings: Toward an Enhanced Understanding of Spillover</b></i></p> <p>Target Audience: Intermediate (3-5 years in industry)</p> <p><b>Speaker:</b> Jake Fuller, EcoMetric Consulting</p> <p>Does conventional spillover measurement really capture all additional energy efficiency (EE) projects enabled by EE programs? Is there any scope to recognize additional non-incented electricity savings generated by program actors? Since 2012, Ontario’s Independent Electricity System</p>

participants and ensure all customers have the opportunity to achieve a healthy, efficient home. The intent of REAP is not necessarily energy savings but leaving a positive continuous impact on the customers and their energy savings behaviors. The utility has the internal resources to develop and design programs, cultivate engaging messages, and support the customers, but an important piece was missing; the influential community partners (i.e., libraries). The concept was that if the community partners trust the utility, and believe in REAP's mission, that trust will transform the customers perspective and achieve the utility's engagement goal.

***Taking a Capacity-Building Approach to Influencing New Construction in the Affordable Housing Sector***

Target Audience: Intermediate (3-5 years in industry)

**Speaker:** Corrie Morton, Enbridge Gas Distribution, Inc.

The presentation's objective is to share Enbridge's experience offering its Affordable Housing New Construction (AHNC) program to the low-income sector in Enbridge's Ontario franchise area. The presentation will take you through the journey of the program from start to finish, and will provide an overview of program approach, results to date, and benefits observed during the first two years of implementation. Enbridge's AHNC program targets both single family and multi-residential housing developments and takes an explicitly market transformational approach to influencing energy use in new buildings. Instead of requiring a checklist of measures or offering fixed incentives for installing particular equipment, the core value proposition of Enbridge's program is a day-long building design charrette focused specifically on the housing provider's project. The charrette brings together the housing provider's design team with a selection of sustainable design experts and energy modelers, who attempt to identify the optimal mix of design elements, technologies, and materials to maximize the energy efficiency of the new housing development. The post-charrette report provides participants with estimated savings in

Operator (IESO) has tried to answer these questions and offered a mechanism whereby Ontario electric utilities, who have a government mandate to meet a six-year energy savings target (2015-2020), can claim "spillover" savings that have been achieved due to their conservation efforts, but for which no incentives have been paid. Titled "Program Enabled Savings" (PES), this mechanism has steadily grown in popularity among utilities, which have made a compelling case that their efforts, on behalf of the IESO's EE programs, are generating savings beyond what has been measured as spillover. With this growth have come numerous challenges, not least of which has been ensuring that PES claims are not double counted as traditional spillover savings. Even more challenging has been determining criteria by which utilities may definitively demonstrate their influence on projects completed without any financial incentives. Finally, the IESO continues to grapple with the issue of when these savings should no longer be considered as enabled by the programs, but as a consequence of a changing marketplace for efficient technologies or behaviors.

***Maximizing Net Benefits Through Targeted Savings***

Target Audience: Intermediate (3-5 years in industry)

**Speaker:** Bryce Dvorak, Michaels Energy

For several years now, cheap natural gas and renewable energy has been added to the grid at an unprecedented pace. This puts a strain on the cost effectiveness of energy efficiency programs. The abundance of cheap fuel for generation is driving down the avoided cost per kWh saved, reducing net benefits for programs. But are we calculating those benefits as accurately as possible? Many jurisdictions use annual average avoided cost values (\$/kWh), or at best an adjusted average avoided cost based upon the load shape of the technology. To combat cost effectiveness atrophy, utilities should explore a strategic shift in focus to target the costliest kWh instead of all kWh. But what if this approach is expanded beyond energy savings projects and includes load shifting? A kWh shifted from 4pm to 9pm certainly provides benefits to the grid. However most regulatory frameworks don't allow for incenting projects that don't save energy. Should that be re-examined if there are net-benefit rich projects out there that don't explicitly save energy? This presentation will examine the potential benefits of "time targeted"

gas, electricity, and money – helping them make the business case to investment in enhancing the building’s energy efficiency. Enbridge also offers post-construction financial incentives to participants whose constructed housing developments achieve enhanced levels of energy efficiency (i.e. ENERGY STAR ®for new homes for single family developments, or at least 7% more efficient than the Ontario Building Code for multi-residential buildings). Multi-residential buildings are also eligible for an additional tiered incentive tied to the energy efficiency at building commissioning.

***Laying the Groundwork for an Advanced Energy Community in a Disadvantaged Neighborhood***

Target Audience: Intermediate (3-5 years in industry)

**Speaker:** Marjorie McRae, Research Into Action

With funding from California Energy Commission, Groundwork San Diego-Chollas Creek developed a master plan to transform a disadvantaged neighborhood in San Diego county into an Advanced Energy Community. The plan was the culmination of detailed technical assessments of distributed energy resource (DER) options, residential and nonresidential bills, electricity rate structures, financing mechanisms, as well as extensive community outreach. Fourteen entities comprised the project team including Groundwork, a not-for-profit community-based organization that led the project; staff and faculty spanning five departments across three universities; the public-school district; and seven environmental, engineering, financing, and consulting firms. Other project stakeholders provided support, including San Diego Gas & Electric (SDG&E), the City of San Diego, a prominent neighborhood nonresidential customer, and a union local. At its essence, the project sought to develop a business model whereby a disadvantaged community could be sustainably served by clean, community- and individually- sited DERs that both met the residents’ energy needs and provided the community with cost savings compared to utility service. A viable business model is a necessary underpinning for a master plan. Communities are increasingly looking to source clean energy and

energy efficiency programs, which can include demand response and load shifting projects, and discuss the barriers to getting them implemented.

***Great Expectations: Comparing Energy Savings from Learning and Non-learning Wi-Fi-enabled Thermostats***

Target Audience: Intermediate (3-5 years in industry)

**Speakers:** Zachary Horvath, Cadmus and Audrey Smith, Vectren

Utilities looking for new residential energy savings among the proliferation of WiFi-enabled thermostats on the market must choose between Tier III (learning) and Tier II (non-learning) models. We will present our findings from a recent Vectren Indiana pilot comparing the savings achieved by WiFi-enabled thermostats with and without learning functions. Our presentation will provide the audience with actionable recommendations for program design and evaluation best practices for smart thermostat programs and will inspire ideas for future research in this space.

	<p>develop DERs, yet planning an integrated, neighborhood-based clean energy system remains a formidable task. As an interactive element, we will engage the audience in brainstorming, first about the conditions constituting a viable business model and secondly about the various components such master planning would need to consider. The interactions will stimulate the audience’s appreciation of the complexity of the endeavor prior to presenting project results.</p>	
<p><b>Session 2</b></p>	<p><b>Session 2A: Integrated Demand Side Management</b></p>	<p><b>Session 2B: Planning and Evaluating Smart Thermostats Programs</b></p>
<p>11:30AM – Noon</p>	<p><b><i>Connecting the dots – embedding DR into energy efficiency</i></b>  <b>Target Audience: Beginners (new to industry)</b>  <b>Speaker:</b> Julie Blackwell, Michaels Energy</p> <p>This session is designed to encourage utilities to incorporate demand response analysis into their energy efficiency program portfolio. Branching out from my Strategies article “Integrating Demand Response into Strategic Energy Management. Learn how DR can be incorporated into existing or modified program offerings. Utilities have historically used energy efficiency programs to curb the growing annual usage demand of customers, which benefits the core utility operations because they can continue to serve customers without increasing fuel purchases (e.g. coal, natural gas) and building plants. Today utility operations have gotten more complicated with renewable energy, smart meters, data exchange, and growing population centers. In response, utilities are increasing their desire to control peak demand and energy usage. There is an opportunity for utilities to embed demand response into existing programs and/or their portfolio, including; incorporating DR analysis into audits, adding demand response to customized rebates, and strategic energy management. This presentation will illustrate how they can fit together to benefit the customer and utility operations.</p>	<p><b><i>What can a smart thermostat do for my portfolio? Planning and Measuring Energy Savings Impacts for Smart Thermostats</i></b>  <b>Moderator:</b> Alan Elliott, Opinion Dynamics  <b>Speaker:</b> Abi Daken, U.S. EPA</p> <p>Smart thermostat programs are gaining momentum across the nation. According to an ENERGY STAR® report, 1.8 billion connected home devices are expected to ship in 2019. As such, there is demand in the industry for a standardized tool for program planning and a need for a common understanding of the role of evaluation. We will provide an overview of the ENERGY STAR® smart thermostat specification and open-source software tools that program managers can modify to estimate the potential equipment run time reduction from their program. Utilities will come away with an understanding of how the tool can refine planning estimates using local data, the proper application of these estimates, and differences between run time reduction and evaluated energy savings.</p>

Noon – 1:30PM	Networking Lunch - Expo Hall	
Session 3	<p align="center"><b>Session 3A: Utility Value Proposition - Transportation and Microgrid Technologies</b></p>	<p align="center"><b>Session 3B: Distributed Energy Resources – A Brand New World</b></p>
1:30 – 2:30PM	<p><b>Moderator:</b> Marissa Paslick Gillett, Energy Storage Association</p> <p><b><i>The Role of CHP in Microgrids and Utility Microgrids</i></b></p> <p><b>Speaker:</b> Neeharika Naik-Dhungel, U.S. EPA CHP Partnership Program (CHPP)</p> <p>Over the past five years, microgrids are a rapidly emerging growth sector as solutions to energy reliability and climate resiliency issues. As of Q2 2018, GTM Research shows U.S. operational microgrid capacity to be at 3.3 GW across 1,770 deployments. Respondents to Utility Dive's survey of 600 North American utility professionals indicated a clear desire to build business models for distributed energy resources (DER). In the 2018 survey, utilities professionals were fairly bullish on all DER technologies, and one of the areas with the strongest overall support was for smart inverters/grid communications where 88% of participants expect their utility's involvement with these technologies to increase. There are several drivers of utility interest in DER ownership, as an opportunity to develop new revenue streams while going through grid modernization resilience is another big consideration. DERs are a key component of microgrids -- an option that is gaining support as a potential reliability hedge against severe weather events, cyberattacks, and physical infrastructure attacks, as well as being useful for grid management. The presentation will provide an overview of CHP technologies, an understanding of the role they play in microgrids and the challenge and opportunities when part of a utility microgrid.</p>	<p><b>Moderator:</b> Cynthia Austin, SMUD</p> <p><b><i>The Future is Here: Electrification, Renewables, and Ducks</i></b></p> <p>Target Audience: Intermediate (3-5 years in industry)</p> <p><b>Speakers:</b> Ed Rutter, The Indiana Office of Utility Consumer Counselor (OUCC) and Sami Khawaja, Cadmus</p> <p>The future is indeed here. Solar panels, batteries, smart appliances, electric vehicles, smart grid and a host of other technologies are upon us. What does this mean to the electric utilities? Can utilities emerge victors by playing a role in distributed energy resources (DERs) and engaging their customers? The speaker will answer the two questions posed above and examine two necessary related fundamental changes in the industry. Change #1, Strategic electrification transitioning buildings, transportation, and some industrial sectors away from direct fossil fuel use to electric-powered technologies and Change # 2 moving the electric grid to utilizing more renewable resources. Both changes bring about new interesting and evolving opportunities to electric utilities including primarily compliance with greenhouse gas reduction requirements, creation of growth opportunities, and the potential to offer new services to customers. That said, the road ahead is paved with challenges as well. High among those is lack of clarity regarding grid impacts, unproven business and investment models, uncertainty regarding allocation of costs and benefits across customer classes, the need for innovative rate design and political and regulatory uncertainty. The timing imbalance between peak demand and renewable production has become known as the duck curve. Storage is the obvious solution. But there are others that are not yet fully developed. On the other hand, electric vehicles may prove to be the best cash cows the industry has seen in decades. But that requires utility intervention to</p>

	<p><b><i>Education and Outreach Strategies for Utilities to Consider when Deploying EV Services</i></b></p> <p><b>Speaker:</b> John Morris, D&amp;R International</p> <p>This presentation will highlight where utilities fall along the continuum of EV offerings and will offer up a strategic plan for introducing the value proposition of electric vehicles to utility customers. The focus will be on residential home owners who have not yet purchased an EV and will be charging primarily at home. We will show examples of utilities using the ChooseEV educational tools and we will share results from successful EV bulk buy purchase campaigns.</p> <p><b><i>Energy Storage: Proven. Ready for Business. Available for Optimization</i></b></p> <p><b>Speaker:</b> Marissa Gillett, Energy Storage Association</p> <p>According to GTM Research and the Energy Storage Association’s U.S. Energy Storage Monitor 2017 Year-in-Review, 100 MWh of grid-connected energy storage were deployed in the fourth quarter of the year, marking 1,080 MWh deployed between 2013 and 2018. Further, the U.S. market is expected to almost double this total in 2018 alone. This presentation will focus on the state of the U.S. energy storage market today, where it is heading, and the ways in which storage resources are deployed to realize a more resilient, efficient, sustainable, and affordable electric grid. Additional insights will highlight the role of storage in enabling emerging technologies like electric vehicles, as well as the role of storage in optimizing resources like CHP.</p>	<p>get owners to create a currently non-existing market off-peak predominantly at night.</p> <p><b><i>New Implementation and Evaluation Paradigms in the World of Distributed Energy Resources</i></b></p> <p>Target Audience: Intermediate (3-5 years in industry)</p> <p><b>Speaker:</b> Olivia Patterson, Opinion Dynamics</p> <p>While disparate demand side management tools, including distributed energy resources (DER), have been implemented by utilities for many years, more recently utilities have leveraged them as a package to address demand, energy and carbon emissions reductions. DER includes energy efficiency (EE), demand response (DR), distributed generation (DG), energy storage, and electric vehicle charging. Any one of these technologies constitutes an entire field of innovation and adaptation. As such, implementing and evaluating the efficacy of DER technologies, both individually and as part of an integrated package, presents challenges and opportunities. If the driving force behind DER is to reduce demand, energy use, and carbon emissions overall, perhaps time and money need not be spent tracing the origin of each kWh saved—a task that becomes incrementally harder with each DER tool added to the mix. On the other hand, in a time of rapid growth and innovation, we see benefits to determining which technologies and programs are driving energy savings, and by doing so, developing a stronger and more informed foundation for the deployment DER. To forego evaluating individual DER tools would be akin to treating a medical condition with five medications without ever knowing which one works—the result would be costly medical bills and compounding side effects. In New York and elsewhere, the speedy adoption of DER has generated questions regarding the effective and equitable distribution of new energy resources.</p>
2:30 – 3:15PM	<b>Networking Refreshment Break - Expo Hall</b>	

<b>Session 4</b>	<b>Session 4: The Future of DSM Programs – The Intersection of Implementation and Evaluation</b>
3:15 – 4:45PM	<p><b>Moderator:</b> Gene Rodrigues, ICF  <b>Speakers:</b> Carmen Best, OpenEE; Brian Ott, Willdan; Bill Kallock, Integral Analytics; and Dylan Batterman, ConEd</p> <p>In this evolving DSM environment, we can no longer look at Implementation and Evaluation as separate activities. Coordination of these disciplines is critical as our industry tackles the proliferation of DERs, optimization of resources, use of normalized meter data and establishment of EE as a reliable grid resource. The proliferation of DERs will drive the need for distribution level resource planning (DRPs) and require more localized and comprehensive program implementation and evaluation. Developing an optimal mix of DERs requires more comprehensive evaluation techniques moving away from program specific evaluations. For energy efficiency to be a reliable and cost-effective resource to address both capacity and system distribution problems, we as an industry have to develop easy and economical ways to evaluate the savings. Is the California Normalized Metered Energy Consumption push the answer to these questions? Will performance be the foundation of energy efficiency procurement as a DER and its ability to align incentives for actors up and down the delivery and oversight chain? Join industry experts to hear about these key concepts and discuss how they may impact the future of DSM programs.</p>
5 – 6:30PM	<b>Networking Reception – Expo Hall</b>

*Thursday* **August 23, 2018**

7:45AM – Noon	<b>Registration Open</b>
7:45 – 8:45AM	<b>Networking Breakfast – Expo Hall</b>

Session 5	Session 5A: Implementing Small Business Programs	Session 5B: Enhancing Programs through Embedded Research and Process Evaluations
8:45AM – 10:00AM	<p><b>Moderator:</b> Karen Germain, DNV GL</p> <p><b><i>Life in the Fast Lane</i></b></p> <p>Target Audience: Advanced (over 5 years in industry)</p> <p><b>Speakers:</b> Meaghan Rush, PSEG Long Island and Evelyn Dean, Lockheed Martin</p> <p>The Fast Track (FT) and Prime Efficiency Partner Programs (PEP) were designed to engage small business customers, achieve savings and ensure a positive customer experience. Listening to our partners led to streamlined processes, robust rebates with quantifiable savings, and alignment of the customers with industry partners. The PEP program established partner vetting and quality control guidelines to protect customers and the integrity of the programs. Learn how this collaborative model of engagement and quality control has proven to be effective in increasing customer satisfaction, participation, quality installations and energy savings.</p> <p><b><i>How to Engage the Unengaged – Strategies for Reaching Rural Small Business Utility Customers</i></b></p> <p>Target Audience: Intermediate (3-5 years in industry)</p> <p><b>Speaker:</b> Rachel Seraspe, Willdan Energy Solutions</p> <p>Across the nation energy efficiency programs have a higher percentage of participation from medium- to large-customers and primarily in urban areas. In more rural areas, this participation rates drop significantly this market segment. When we evaluate small- businesses the participation rates drop yet again, and many locations may not participate at all. And yet, small business customers make up the largest segment of business customers. As energy efficiency programs mature, and increasingly gain urban market share, utilities must find strategies to reach the underserved market segments. Small business customers, specifically in rural markets, have not participated due to several factors: time investment to participate in traditional energy</p>	<p><b>Moderator:</b> Laura Schauer, Illume</p> <p><b><i>Connecting Customers with Trade Allies: A Study of Energy Trust of Oregon’s Find a Contractor Web Tool</i></b></p> <p>Target Audience: Intermediate (3-5 years in industry)</p> <p><b>Speaker:</b> Jordan Folks, Research Into Action</p> <p>Trade allies are important ambassadors of energy efficiency programs and influence customer decisions when they install major equipment, such as HVAC or hot water heating units. Customers looking for contractors for such projects are increasingly using online services. Thus, it is important to connect homeowners and businesses with trade allies that promote energy efficient options. Energy Trust of Oregon’s Find a Contractor (FAC) online tool aims to do just that. Research Into Action evaluated the FAC tool to understand who its primary users were, assess whether the site was meeting its purpose, and identify opportunities for improvement. Our innovative approach to this evaluation included a web intercept survey platform to implement a pop-up survey on pages featuring the FAC tool and conduct follow-up interviews using a screen-sharing service to understand how customers interacted with the tool. Sharing computer screens while speaking on the phone enabled us to learn which features customers noticed, used, and valued. Such a format also enabled us to gather in-depth feedback on the website and better understand the process homeowners use to hire a contractor. During the presentation, we will poll the audience several times to see if their experiences hiring a contractor match with those in the study. In all, 86 people in three target groups completed the survey: 79 residential homeowners, one commercial building representative, and six contractors. We conducted follow-up interviews with 14 residential survey respondents and one trade ally contractor.</p> <p><b><i>From “React” to “Adapt”: Using Developmental Evaluation to Inform Continuous Program Improvements</i></b></p>

efficiency programs; upfront cost to complete projects; and lack of available trade allies in the market.

***A Trade Ally perspective from a hybrid***

**Speaker:** Nathan Baer, Staples Energy

When it comes to trade-ally delivered small business programs we are all looking for the “magic wand” solution. Allies tend to be the solution for program delivery as they provide extensive geographic coverage, a motivated salesforce and local knowledge. But in many programs, program administrators and implementers create unrealistic barriers making participation difficult for allies. Extensive rules, requirements and paperwork require allies to staff up outside of their area of expertise. While there is not one magical solution there are several simple steps that can be followed to recruit, engage and stimulate Trade Allies while still maintaining quality, safety and customer satisfaction.

**Speaker:** Katherine Cary, EMI Consulting

How do you evaluate a program that is still evolving – or where the context is unknown – and support continuous program improvement? In this session, we examine how to use developmental evaluation to provide rapid feedback, address fluctuating needs, and develop actionable recommendations to strengthen a program’s design. Where traditional evaluation allows reactions to summative evaluation results or process evaluation results for pre-determined research questions, developmental evaluation provides a pathway for continuous adaptations that are responsive to changing stakeholder needs. This session will use a case study of an innovative program to illustrate key success factors and challenges of this approach.

***Case Study on Developmental Evaluation: Health Care to Energy Services***

**Speaker:** Kimberly Jaeger Johnson, Illume

Low income health care programs, particularly behavioral health programs, are known for their rigorous evaluations. Given the vulnerable populations they work with and scrutiny around the effectiveness of funding, health programs typically require outcome-based evaluations that focus on the effect of an intervention (also called impacts). However, amidst the priority to measure impacts, there is a need to adapt services as client needs change and the industry environment shifts. By embedding evaluation within the programming, from concept to delivery to final assessment, this need can be addressed. This session will present a case study of an integrated medical and behavioral health program that applied developmental evaluation principles to design a sustainable, high quality, cost-effective, outcome-based, low income program that could be replicated in other states. No easy task! Attendees will learn why developmental evaluation was the best approach for this task, what tools were developed to facilitate an evaluative culture, and what challenges arose and how they were overcome.

10 – 10:45AM	Networking Refreshment Break – Expo Hall	
Session 6	Session 6A: Products that Leverage Data	Session 6B: Advanced Meters + M&V
10:45AM – Noon	<p><b>Moderator:</b> Jolyn Newton, TVA</p> <p><b>Smart Energy Solutions: Leveraging Advanced Metering Functionality (AMF) to Enhance Customer Value</b></p> <p>Target Audience: Intermediate (3-5 years in industry)</p> <p><b>Speaker:</b> Melissa Piper, National Grid</p> <p>National Grid began implementing Smart Energy Solutions - Clifton Park in 2017 to test a variety of services that leverage the interval data available through advanced metering functionality (AMF) leverage. Project offerings include an enhanced customer portal presenting both electric and gas near real-time consumption data, Green Button download capabilities, deep energy insights, and ability to earn points and rewards through behavioral load curtailment. Through this New York REV demonstration National Grid is testing: 1) Customer acceptance of AMF technologies, 2) Volt Var Optimization (VVO) distribution system efficiencies, 3) The ability for enhanced customer engagement tools to increase customers' abilities to manager their energy use, reduce energy consumption and increase satisfaction with National Grid, 4) How price signals and rewards can be used to reduce load at specified times during Peak Time Rewards (PTR) "Conservation Days" and, 5) How increased education and marketing impact adoption of DER opportunities like solar and connected DR. AMI data is presented in the customer portal and used to support customer communications and energy savings tips. It is also used to calculate load curtailment during "Conservation Days" where customers can earn points toward girt card rewards for using less energy than</p>	<p><b>Moderator:</b> Melissa Culbertson, ADM Energy</p> <p><b>Like a "Robo-Suit," can Auto-M&amp;V Tools and Methods Augment Traditional EM&amp;V?</b></p> <p>Target Audience: Advanced (over 5 years in industry)</p> <p><b>Speaker:</b> Jeremy Eddy, Opinion Dynamics</p> <p>The emerging field of automated measurement and verification (auto-M&amp;V) tools and methods is exciting and full of promise. At their highest potential, these tools and methods may present opportunities to commoditize energy and demand savings and turn them into standardized units that can be bought and sold in energy markets with high time- and locational accuracy using AMI data. Indeed, the granularity of AMI creates the prospect of creating load shapes for efficiency measures with time- and location-specific detail and near real-time turnaround on savings estimates. This may allow energy savings to compete on roughly equal footing with other distributed energy resources in resource markets. It may also lead to lowered overall costs for energy efficiency and expand the range of technologies and buildings where energy efficiency measures can be cost-effectively implemented and evaluated. However, these tools face a daunting road of development, marked by challenges regarding the extent to which changes in meter-level energy consumption before and after an energy efficiency intervention can truly be regarded as savings. Automated M&amp;V tools and methods are making progress in idealized circumstances, such as pay-for-performance programs, where customers have agreed to participate in no other programs for multiple years. What are the prospects for automated M&amp;V in the wider world of energy efficiency in more complex and nuanced settings, with stakeholders who have diverse needs for the data? How can</p>

modeled. Initial designs are being developed to use AMI data to educate customers on most appropriate pricing plans.

***Utility AI: Today and Tomorrow***

**Speaker:** Prateek Chakravarty, Bidgely

Using artificial intelligence, utilities can transform meter data (including analog meter reads) into actionable insights for residential customers--allowing them to personalize, optimize, and modernize existing operations today. The output is a customer experience that mirrors that of leading tech giants that have been defining consumer expectations for the last decade. Utilities can offer customers: 1) insights and recommendations that are highly personalized, 2) touch points across any channel from paper to their smart speaker, 3) a feedback loop enabling convenient actions for customers -- whether it's making an energy saving purchase or forming a new habit. Utilities benefit too, with tools to reduce customer call volumes, target programs, and increase customer satisfaction and engagement. This session provides a showcase of real world examples illustrating how utilities are integrating the latest in AI and digital outreach.

***Bring Your Own Thermostat EE. Using 3rd party services to get more energy savings out of already installed connected thermostats***

**Speaker:** Dave Oberholzer, Whisker Labs

Connected thermostats have long been the target of utility Demand Response programs – what if one could retroactively turn on a service to get 10% more HVAC energy savings out of the same devices while driving increased customer engagement? Utilities across the country are piloting a new technology that utilizes data science and set point optimization to do exactly this. In this session, explore the possibility of tapping into the unrealized energy savings in your thermostat program. Thanks to thermodynamic modeling, we can now

program administrators support the development of these tools and methods in ways that serve multiple objectives?

***Promises, Promises - Is M&V 2.0 Ready to Deliver?!***

**Target Audience:** Intermediate (3-5 years in industry)

**Speaker:** Eliot Crowe, Lawrence Berkeley National Laboratory

We've been hearing for several years how smart meter data promises to open a new world of programs. Advanced measurement & verification, or M&V 2.0, is one aspect of that expected paradigm shift. Streamlined real-time measurement of actual whole building savings at the meter is a very attractive proposition, but is M&V 2.0 ready for prime time? Lawrence Berkeley National Laboratory (LBNL) has been working on R&D for several years to lay the groundwork for M&V 2.0 adoption, and you can find out the current state of the art with this presentation. Highlights will include [1] An overview of the recently-developed online portal for testing the accuracy of M&V 2.0 software; [2] An update on industry-wide efforts to develop consistent guidance for accuracy and documentation of M&V 2.0 savings claims; and [3] Recent results from commercial M&V 2.0 pilots. Utilities and regulators now have a range of tools and resources to support the adoption of M&V 2.0 practices within their program portfolios. Presentation will also touch on key factors for utilities when deciding where advanced M&V will work best for them.

***A PA Perspective on the Promise (and Pitfalls) of M&V 2.0***

**Target Audience:** Intermediate (3-5 years in industry)

**Speaker:** Miles Ingram, Eversource

Connecticut utilities Eversource and United Illuminating, along with LBNL, the CT Department of Energy and Environmental Protection (DEEP) and the Northeast Energy Efficiency Partnerships (NEEP), have implemented the CT M&V 2.0 pilot over the past 18 months, navigating the process of identifying suitable sites and projects for M&V 2.0 savings analysis, gathering project and interval meter data, and working with implementation staff to understand the state of the projects on-the-ground, as they are put in place

understand how much customer specific HVAC load (or runtime) will occur under any given outdoor condition, and how quickly the home can recover from a temperature setback. This deep understanding of each home's thermal properties enables service providers to optimize the schedules of almost any brand of connected thermostats. Algorithms can be tuned to deliver year-round incremental energy savings without compromising comfort, or when combined with TOU rates, they can be tuned to maximize customer cost savings and demand reduction. Personalized insights about the home's performance can also be shared with customers for increased engagement.

### ***Buildings Wearing Fitbits***

**Speaker:** Mark Brown, Accelerated Innovations

Just as 10,000 steps a day can put each of us on a path to healthy living, helping residents understand the pace and daily ups-and-downs of their energy use can provide a foundation for empowerment and action. Giving building engineers, tasked with operating schools and hospitals, a heads up when their facility has an elevated heart rate can enable interventions that save dollars. This presentation will highlight case studies and examples illustrating the challenges and opportunities for utilities to leverage existing and future infrastructure to engage and empower customers with real-time energy use information. We'll look at the promise of prepaid energy to drive dramatic energy savings while keeping customers and utilities alike out of debt, and how utilities can recruit armies of customers to curb usage on the hottest summer days, perhaps with an assist from Alexa. We'll also look at utility programs that are giving commercial building owners new tools to optimize building operations and make it less painful to comply with local benchmarking laws. Finally, we'll look at how new utility rate plans are attempting to shape load curves and the technology needed to bring satisfied customers along for the ride.

and begin to generate savings. The pilot has produced preliminary results for selected C&I sites, providing near real-time feedback to implementers, and offering the potential for near-term adjustments to measures that can improve the results of program evaluations over the longer term.

Noon – 1:30PM	<b>Lunch and Closing Networking Event</b>
	It's the end of the conference, you've picked up lots of knowledge but don't slow down now! Enjoy a unique Taste of Indiana luncheon, camaraderie, a buffet spread, adult beverages and loads of fun activities with valuable prizes to be won.