

**PANEL 1: RESIDENTIAL BUILDINGS: TECHNOLOGIES, DESIGN, OPERATIONS, AND BUILDING INDUSTRY TRENDS**

**(Meeting Room: Fred Farr Forum)**

**Panel Leaders: Vladimir Kochkin and Ryan Kerr**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Cold Climate Decarbonization: Strategies, Costs, and Performance</b>		<b>Demand Response: How Emerging Technologies Can Lead The Way</b>
	<i>Winter is Coming: is the Northeast Ready for Residential Electrification?</i>		<i>Variable Speed Heat Pumps can Provide Effective Demand Response with a Soft Touch</i>
	<i>Christie Amero, Cadmus</i>		<i>Andrea Mammoli, Electric Power Research Institute</i>
	<i>The Economics of Cold Climate Electrification</i>		<i>Detailed Laboratory Evaluation of Electric Demand Load Shifting Potential of Heat Pump Water Heaters</i>
	<i>Scott Robinson, Guidehouse</i>		<i>Karen Fenaughty, FSEC Energy Research Center</i>
	<i>The Unintended Consequences of Electrification and What to do About It</i>		<i>Timing is Everything: Optimizing Heat Pump Load Flexibility for Cost, Comfort, and Carbon Emissions</i>
	<i>Rachel Murray, DNV</i>		<i>Caton Mande, UC Davis Western Cooling Efficiency Center</i>
<b>SESSION 2 (10:30 am - 12:00 pm)</b>	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
<b>Envelope Solutions: Windows and Phase Change Materials</b>	<b>Heat Pump Water Heaters: Differing Approaches</b>		<b>Heat Pump Water Heaters: Differing Approaches</b>
<i>Methods to Analyze the Energy Performance of Window Attachments</i>	<i>Heat Pump Water Heaters in the Midwest: Cost, Comfort, and Climate Impacts</i>		<i>Heat Pump Water Heaters in the Midwest: Cost, Comfort, and Climate Impacts</i>
<i>Rowan McCarthy, D+R International</i>	<i>Kevin Gries, Slipstream</i>		<i>Kevin Gries, Slipstream</i>
<i>Results from Laboratory and Field Studies of Thin Triple-Pane Windows</i>	<i>Split HPWHs as an Efficient Solution for Multifamily Buildings with In-unit Water Heaters</i>		<i>Split HPWHs as an Efficient Solution for Multifamily Buildings with In-unit Water Heaters</i>
<i>Katherine Cort, Pacific Northwest National Laboratory</i>	<i>Bethany Sparr, National Renewable Energy Laboratory</i>		<i>Bethany Sparr, National Renewable Energy Laboratory</i>
<i>Energy Savings and Durability of Phase Change Materials in Residential Attics</i>	<i>In Hot Water! The Challenges and Barriers of Decarbonizing Water Heating in the Multifamily Buildings</i>		<i>In Hot Water! The Challenges and Barriers of Decarbonizing Water Heating in the Multifamily Buildings</i>
<i>Presented by: Stephen Chally, Frontier Energy (Lead Author: Robert Hendron, Frontier Energy)</i>	<i>Sammy Houssainy, National Renewable Energy Laboratory</i>		<i>Sammy Houssainy, National Renewable Energy Laboratory</i>

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<b>WEDNESDAY, AUGUST 24</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>THURSDAY, AUGUST 25</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Using Big Data to Understand and Influence Energy Usage Behaviors</b>		<b>Energy Retrofits for Decarbonization: ccASHPs, Air Sealing and Insulation</b>
	<i>The Elusive Missing Link: Correlating Billing Analysis and Thermostat Data in the Northwest</i>		<i>The Climate Impact of Retrofits: Embodied and Operational Emissions in Weatherization</i>
	<i>Jon Kolineer, Apex Analytics</i>		<i>Presented by: Chris Gordon, VEIC (Lead Author: Megan Nedzinski, Vermont Integrated Architecture)</i>
	<b>Predicting Impact of Temperature Setpoint Adjustment Under Time-based Electricity Rate Plans</b>		<b>Aerosol Sealing of Existing Homes</b>
<i>Mahesh Naidu, Lawrence Berkeley National Laboratory</i>	<i>Curtis Harrington, UC Davis Western Cooling Efficiency Center</i>		
<b>End-Use Level Impacts of the COVID-19 Pandemic on Residential Energy Usage</b>	<b>Field Test Results from Cold Climate Air Source Heat Pump Installations in New York State: Performance, Savings and More</b>		
<i>Hans Lehndorff, Evergreen Economics</i>	<i>Presented by: Richard Faesy, Energy Futures Group (Lead Author: Gabrielle Stebbins, Energy Futures Group)</i>		
<b>SESSION 2 (10:30 am - 12:00 pm) - <b>SESSION TO BE BROADCASTED</b></b>	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		
<b>Decarbonization Takes a Village: Dual Fuel Solutions</b>	<b>Innovative Technologies and Approaches: What's Next?</b>		
<i>Electric and Gas Decarbonization Options for Homes: The Best Option Could Vary by Home and Region</i>	<i>Radiant Ceilings As A Residential Retrofit: Examining the Myths and Realities</i>		
<i>Lyla Fadali, ACEEE</i>	<i>Simon Pallin, Frontier Energy</i>		
<b>Why We Should Never Install Another Air Conditioner!</b>	<b>Experimental Evaluation of a Multi-function Compact Heat Pump for All-electric Residential Buildings</b>		
<i>Ben Schoenbauer, Center for Energy and Environment</i>	<i>Subhrajit Chakraborty, Western Cooling Efficiency Center</i>		
<b>Accounting for the Multiple Dimensions of Inequality in Utility Programs</b> <i>(no paper)</i>	<b>Hydronic vs. Hydronic: Comparing Performance of Air-to-Water Heat Pumps Coupled with Radiant Ceilings and Fan Coils</b>		
<i>Karen Ehrhardt-Martinez, ICF</i>	<i>James Haile, Frontier Energy</i>		

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FRIDAY, AUGUST 26	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Home Energy System Controls: More Important than Ever</b>
	<i>Help! I Can't Figure out How to Set the Clock on my Microwave Oven and Now I Need to Program the Controls for my Heat Pumps, Batteries, Solar Panels, and Electric Vehicle Charging?</i>
	<i>Dave Intner, Southern California Edison</i>
	<i>Validation of HVAC Hardware-In-the-Loop Simulation for Advanced Control Strategies in Smart Homes</i>
	<i>Sugirdhalakshmi Ramaraj, National Renewable Energy Laboratory</i>
<i>Evaluation of Condensation Risk Mitigation Methods for Residential Ceiling Cooling Systems</i>	
<i>Stephen Chally, Frontier Energy</i>	
<b>SESSION 2 (10:30 am - 12:00 pm)</b>	
<b>OPEN SESSION</b>	

**PANEL 2: RESIDENTIAL BUILDINGS: PROGRAM DESIGN, IMPLEMENTATION, AND EVALUATION**

**(Meeting Room: Kiln)**

**Panel Leaders: Lena Burkett and Amit Kulkarni**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Electrification</b>		<b>Session Title: TBD</b>
	<i>Decarbonization of Affordable Multifamily Housing: A Comparative Analysis of Program Approaches</i> Charlotte Cohn, ACEEE		<i>Building Workforce Capacity in the Green Economy</i> Laura Capps, Efficiency Vermont
	<i>Retooling Multifamily Programs to Accelerate Electrification Retrofits</i> Nick Dirr, Association for Energy Affordability		<i>Energy Savings without Incentives – Evaluated Results from Utility Marketplace Deployments in Illinois</i> Anne Arquit Niederberger, Enervee
	<i>Exploring Barriers to Electrification</i> Melanie Munroe, Opinion Dynamics		<i>Translation is Not Enough: Meaningfully Serving Communities Speaking Languages Other Than English</i> Liz Kelley, ILLUME Advising
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Energy Affordability</b>		<b>Session Title: TBD</b>
<i>Accounting for Equity in Benefit Cost Analysis</i> Natalie Fortman, E4TheFuture	<i>Becoming a 10: A Closer Look at the U.S. Department of Energy Home Energy Score’s Updates, Improvements, and Expansion</i> Noel Merket, National Renewable Energy Laboratory		
<i>Going the Distance: Sustained Energy Burden Reduction through Energy Efficiency</i> Hassan Shaban, Empower Dataworks	<i>Global Assessment of Appliance Energy Efficiency Standards and Labelling Programmes Achievements, 2021</i> Presented by: Hans-Paul Siderius, 4E TCP (Lead Author: Mark Ellis, 4E TCP)		
<i>Financing Energy Upgrades: Not a "One Size Fits All" Proposition</i> Nora Lovrien Buehler, ICF	<i>Efficient Shopping for All: A Climate Imperative within Reach</i> Anne Arquit Niederberger, Enervee		

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**Panel Leaders: Lena Burkett and Amit Kulkarni**

<b>WEDNESDAY, AUGUST 24</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>THURSDAY, AUGUST 25</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Making Stronger Connections</b>		<b>Planning for Success in Building Electrification</b>
	<i>Advantages of Implementing a Scalable Building Energy Model (BEM)-Based Approach vs. Traditional Energy Audits</i>		<i>Maximizing Mini-split Potentials</i>
	<i>Mudit Saxena, Vistar Energy/XeroHome</i>		<i>Presented by Christopher Dymond, NEEA (Lead: Jason Trager, Sustainabilist)</i>
	<i>Factors Affecting Override Behavior during Demand Flexibility from High-resolution Smart Thermostat Data</i>		<i>Air-Source Heat Pumps: Equipment Metrics for Programs</i>
	<i>Opeoluwa Wonuola Olawale, National Renewable Energy Laboratory</i>		<i>Robb Aldrich, Steven Winter Associates</i>
	<i>Expanding Energy Efficiency Open Source Measurement Methods to Incorporate Demand Response for Grid Stability</i>		<i>Electric Service for the 21st Century</i>
	<i>Joe Glass, Recurve</i>		<i>Benjamin Zank, Energy Solutions</i>
<b>SESSION 2 (10:30 am - 12:00 pm)</b>	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
<b>Big Data for Big Changes</b>	<b>Non-Energy Impacts</b>		<b>Non-Energy Impacts</b>
<i>Using Big Data to Assess Energy System Transitions in Under-resourced Communities</i>	<i>Evaluation of Programs for “Hard to Reach” Customers and Leveraging Non-Energy Impacts (NEIs)</i>		<i>Evaluation of Programs for “Hard to Reach” Customers and Leveraging Non-Energy Impacts (NEIs)</i>
<i>Marc Costa, The Energy Coalition</i>	<i>Arlene Lanciani, Consortium for Energy Efficiency</i>		<i>Arlene Lanciani, Consortium for Energy Efficiency</i>
<i>Data-Driven, Equity-Centered Energy Efficiency for Multifamily Complexes</i>	<i>Health Benefits of End-use Electrification and Renewables in Building Sectors: An Optimization Model</i>		<i>Health Benefits of End-use Electrification and Renewables in Building Sectors: An Optimization Model</i>
<i>Hal Nelson, Res-Intel</i>	<i>Haleh Moghaddasi, Texas A&amp;M University</i>		<i>Haleh Moghaddasi, Texas A&amp;M University</i>
<i>Remote Virtual Inspections: Enhancing Building Code Enforcement and Compliance Capacities</i>	<i>Climate Solutions Serving Vulnerable Communities in Northern Illinois: Monetizing ComEd's Energy Efficiency Programs' Non-energy Benefits for Cost-effectiveness Tests</i>		<i>Climate Solutions Serving Vulnerable Communities in Northern Illinois: Monetizing ComEd's Energy Efficiency Programs' Non-energy Benefits for Cost-effectiveness Tests</i>
<i>Jerica Stacey, International Code Council</i>	<i>Patricia Plympton, Guidehouse</i>		<i>Patricia Plympton, Guidehouse</i>

**PANEL 2: RESIDENTIAL BUILDINGS: PROGRAM DESIGN, IMPLEMENTATION, AND EVALUATION**

**(Meeting Room: Kiln)**

**Panel Leaders: Lena Burkett and Amit Kulkarni**

FRIDAY, AUGUST 26	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Program Design</b>
	<i>Designing Virtual Assessments that Work</i> Sabrina Oudin, Franklin Energy
	<i>Income-Qualified Program Innovations to Reduce Deferral Rates</i> Molly Graham, Midwest Energy Efficiency Alliance
	<i>More Options, Better Outcomes: Increasing Deep Retrofit Participation and Savings with Expanded Measures</i> Jennifer Amann, ACEEE
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>OPEN SESSION</b>

**PANEL 3: COMMERCIAL BUILDINGS: TECHNOLOGIES, DESIGNS, OPERATIONS, AND BUILDING INDUSTRY TRENDS**

**(Meeting Room: Oak Shelter)**

**Panel Leaders: Alexi Miller and Shanti Pless**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Decarbonizing Existing Buildings</b>		<b>The Healthy Buildings and Energy Nexus</b>
	<i>Automated Anomaly Detection and Diagnosis for Real Time Carbon Minimization</i>  <i>Presented by: Craig Roussac, Buildings Alive (Lead Author: Hao Huang, Buildings Alive)</i>		<i>How Does Lighting for Wellness Affect Energy Use? Results from Simulation and Laboratory Studies, and a Look Ahead.</i>  <i>Jordan Shackelford, Lawrence Berkeley National Laboratory</i>
	<i>Decarbonization Training for Facility Managers</i>  <i>Jillian Winterkorn, Eversource</i>		<i>Energy Implications of Using Germicidal Ultraviolet Radiation to Combat SARS-CoV-2</i>  <i>Belal Abboushi, Pacific Northwest National Laboratory</i>
	<i>Can Electrification Find a Sweet Spot? Summarizing Field Data from Electrification Audits in Commercial and Industrial Buildings.</i>  <i>Carl Samuelson, Michaels Energy</i>		<i>Energy Efficiency Measures to Improve Indoor Air Quality and Reduce the Spread of the SARS-CoV-2 Virus</i>  <i>Robert Mowris, Verified Inc.</i>
	<b>SESSION 2 (10:30 am - 12:00 pm) <b>SESSION TO BE BROADCASTED</b></b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
<b>What's after Zero: Net Zero Energy Buildings and Beyond</b>	<b>Taking Electrification to Scale - Cities, States, and Beyond</b>		
<i>Challenges and Lessons Learned from an Analysis of Three Zero Energy Buildings</i>  <i>Kate Hickcox, Pacific Northwest National Laboratory</i>	<i>Audit Template Tool: Facilitating Data Driven Decision Making for Jurisdictions</i>  <i>Supriya Goel, Pacific Northwest National Laboratory</i>		
<i>Competition Between Ventilation and Cooling in Commercial Buildings and Implications for Energy Flexibility</i>  <i>Caitlin McMahon, Stanford University</i>	<i>What's in Stock: Integrated Modeling of Building Electrification, Energy Efficiency, and Stock Turnover for New York City</i>  <i>William Prindle, ICF</i>		
<i>Cutting Carbon with Codes: Reducing the Worst Climate Impacts of Construction</i>  <i>Webly Bowles, New Buildings Institute</i>	<i>Cold Climate Packaged Heat Pumps – Finding Sasquatch</i>  <i>Evan Hallas, Taitem Engineering</i>		

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**Panel Leaders: Alexi Miller and Shanti Pless**

<b>WEDNESDAY, AUGUST 24</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>THURSDAY, AUGUST 25</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>High Performance HVAC Opportunities</b>		<b>Cooking and Cultivation: (de)Carbonizing Comestibles and Consumables</b>
	<i>Heat Pump Controls: Decarbonizing Buildings While Avoiding Electric Resistance Heating and Higher Net Peak Demand</i> Jonathan McHugh, McHugh Energy Consultants		<i>Data-Driven Energy Efficiency in Controlled Environment Agriculture</i> Jennifer Amann, ACEEE
	<i>Including Economizer Efficiency in the Unitary Next Generation Test Procedure Standards</i> Robert Mowris, Verified		<i>The Nexus of Energy Efficiency and Low GWP Refrigerants; Can We Meet Our Greenhouse Gas Emission Goals in Commercial Refrigeration?</i> Jim Kelsey, kW Engineering
	<i>DO AS We Say (and As We Do): Maximizing HVAC Efficiency, Flexibility and Resiliency with High Efficiency Dedicated Outdoor Air Systems</i> Jordan Pratt, Energy 350		<i>Cooking Up Carbon Reductions: Equipment Upgrades and Fuel Switching Strategies to Reduce Emissions from Commercial Kitchens</i> Adam Spitz, ICF
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
<b>Can We Control It?</b>	<b>Smart Controls and Big Data</b>		
<i>Towards a Digital and Performance-Based Control Delivery Process</i> Amir Roth, US Department of Energy	<i>Existing Wireless Infrastructure is a Low-cost Path to Occupancy-based Commercial Building Control</i> Cecil Scheib, New York University		
<i>Hot Mess or Cool Tech? Secrets to Success for Advanced Building Controls Integration</i> Nathan Hinkle, Cadmus	<i>Qualitative Evaluation of Barriers, Awareness, and Adoption of LLLC Technologies</i> Shelby Ruiz, Washington State University		
<i>A Demonstration and Evaluation of Commercial Building Occupancy Sensing Using Wi-Fi Location-Based Services (LBS)</i> Lester Shen, Center for Energy and Environment.	<i>Network Lighting Controls (NLC) 2.0</i> Welsey Whited, DNV		



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FRIDAY, AUGUST 26	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Modeling EE, DR, and DERs in Commercial Buildings</b>
	<i>Probabilistic Modeling of Commercial Building Occupancy and Electric Vehicle Charging Behavior Using Location-Based Map Data</i>
	<i>Rawad El Kontar, National Renewable Energy Laboratory</i>
	<i>Peak Demand in the Brave New World of Building Decarbonization and Distributed Energy Resources</i>
	<i>Randall Higa, Southern California Edison</i>
	TBD
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Energy Design in Commercial Buildings</b>
	<i>Measuring and Benchmarking Demand Flexibility in Commercial Buildings and Flattening the Duck – Addressing Baseline and Commissioning Challenges</i>
<i>Jingjing Liu, Lawrence Berkeley National Laboratory</i>	
<i>Integrating Embodied Carbon Knowledge for Design Decisions</i>	
<i>Heather Goetsch, National Renewable Energy Laboratory</i>	
<i>What We Learned From Analyzing 15 Millions Rows of Commercial Buildings’ HVAC Fault Data</i>	
<i>Eliot Crowe, Lawrence Berkeley National Laboratory</i>	

# COMMERCIAL BUILDINGS: PROGRAM DESIGN, IMPLEMENTATION, AND EVALUATION

(Meeting Room: Evergreen)

Panel Leaders: Sharyn Barata and Sarah Zaleski

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Zooming Out - Insights Gained through Birdseye View Look at Programs</b>		<b>Evolving Pathways to Decarbonize Buildings</b>
	<i>Two Decades of ENERGY STAR® - A Retrospective Study of EPA's ENERGY STAR Buildings Score and Certification</i>  <i>Bill Von Neida, U.S. Environmental Protection Agency</i>		<i>No Reservations - Hotels See the Benefits of Energy Management Systems</i>  <i>Vestal Tutterow, Lawrence Berkeley National Laboratory</i>
	<i>Evaluating Workforce Programs – Toward Designing More Effective and Creative Interventions</i>  <i>Riana Johnson, Illume Advising</i>		<i>Architects, Engineers, and Contractors—Key to Moving towards a Zero Carbon Future</i>  <i>Paul Torcellni, National Renewable Energy Laboratory</i>
	<i>Interactions between Demand Flexibility and Energy Efficiency: The Opportunity Cost of Saved Energy</i>  <i>Imran Sheikh, Western Washington University</i>		<i>B-Y-E to C-H-P - How One C&amp;I Program Evolved to Support Decarbonization</i>  <i>Jake Fuller, EcoMetric Consulting</i>
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Transitioning Policy into Program Design</b>		<b>Innovations in Commercial Program Evaluation</b>
	<i>Accelerating State-wide Benchmarking Laws into Programs of the Future</i>  <i>Presented by: Beth Robinweiler, Puget Sound Energy and Samantha Ip, Stillwater Energy (Lead Author: Chad Gilless, Stillwater Energy)</i>		<i>All About That Base...line - An Evaluation of Demand Response Baseline Performance for Generation and High Frequency Event</i>  <i>Ethan Barquest, Verdant Associates</i>
<i>Maximizing Public Sector Energy Efficiency Programs: Adapting to Policy through Innovative Design</i>  <i>Pranesh Venugopal, The Energy Coalition</i>	<i>Enhancing California's NMEC Programs; Technical Reviewer's Perspective</i>  <i>Arash Kialashaki, Pacific Gas &amp; Electric Company</i>		
<i>Building Performance Standards: A Lifecycle Approach to Building Decarbonization</i>  <i>Harry Bergmann, U.S. Department of Energy</i>	<i>CalTRACK and Commercial Buildings: Confronting COVID and Other Non-Routine Events</i>  <i>Stephanie Bieler, Demand Side Analytics</i>		

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(Meeting Room: Evergreen)

Panel Leaders: Sharyn Barata and Sarah Zaleski

WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am) <b>SESSION TO BE BROADCASTED</b>	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am)
	Time to Flex - Toning up EE, Flexibility, and Demand Response		New Approaches for Serving Hard-to-Reach Commercial Markets
	<i>When Do Efficiency and Demand Flexibility Go Hand-in-hand?</i>		<i>Investing in Main Street: an Energy Program to Support Small Businesses in Disadvantaged Communities</i>
	<i>Jingging Liu, Lawrence Berkeley National Laboratory</i>		<i>Carolyn Greer, Tennessee Valley Authority</i>
	<i>Comparative Analysis and Trends of Energy Efficiency and Demand Management Program Budgets and Savings Impact Across the U.S.</i>		<i>Opportunities to Decarbonize Small Commercial Buildings</i>
	<i>Ian Metzger, TRC Companies</i>		<i>Kassandra Grimes, U.S. Department of Energy</i>
	<i>Demand FLEXmarket — Creating a Market Access Model to Unleash Solutions Providers and Scale Demand Flexibility</i>		<i>Developing an Online Application that Puts the Customers and the Utility First</i>
	<i>Carmen Best, Recurve</i>		<i>Katie Cary, TRC</i>
	SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)
	People Power - Recognizing and Harnessing the Human Dimension		Equitably Expanding Access to Commercial Energy Opportunities
<i>Tunnel Vision: The Impact of Ignoring Behavior in Technological Innovation</i>	<i>Understanding Commercial Building Performance, Electrification, and the Use of Renewable Energy in Socially Vulnerable Communities</i>		
<i>Jes Rivas, ILLUME Advising</i>	<i>Tracey Narel, US EPA</i>		
<i>Ignorance is BAS: How EMS/BAS Operator Knowledge Can Impact Performance</i>	<i>Market Transformation through Equal Impact of 179D</i>		
<i>Christopher Dyson, DNV</i>	<i>Ryan Meyer, National Renewable Energy Laboratory</i>		
<i>Observational Research Methods for Evaluating Emerging Technologies for the Built Environment</i>	<i>DEI: More than a Residential Framework, It's a Roadmap for Energy Equity</i>		
<i>Ruth Taylor, Pacific Northwest National Laboratory</i>	<i>Chad Gillies, Stillwater Energy</i>		

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Panel Leaders: Sharyn Barata and Sarah Zaleski

FRIDAY, AUGUST 26	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Emerging Technologies for Evolving Market Needs</b>
	<i>Advanced Lighting Systems in Smart Buildings: Findings and Lessons Learned from the U.S. Department of Energy Integrated Lighting Campaign and 10 Field Evaluations</i>
	<i>Felipe Leon, Pacific Northwest National Laboratory</i>
	<i>New Product Development: How to Keep the DSM Product Pipeline Flowing</i>
	<i>Jeremy Kraft, TRC</i>
	<i>A Bigger Bang for Your Efficiency Program Buck: How Helping Customers Reduce Refrigerant Emissions Helps the Climate &amp; Utility Energy Efficiency Programs Too.</i>
	<i>Kristen Taddonio, Institute for Governance &amp; Sustainable Development</i>
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Diving Deep: Sector-Specific Insights on High-Impact Opportunities</b>
<i>Innovative Kitchen Management Application Test and Learn Project</i>	
<i>Liza Legaspi, Southern California Gas Company</i>	
<i>Driving Deeper Operational Savings in SMB Facilities through Virtual Commissioning Using Real-Time, 1-Minute Interval Energy Usage Data</i>	
<i>Rick Tonielli, ComEd</i>	
<i>Towards Climate-smart Hospitals: Insights from India's First Nationwide Hospital Energy Survey</i>	

COMMERCIAL BUILDINGS: PROGRAM DESIGN, IMPLEMENTATION, AND EVALUATION

(Meeting Room: Evergreen)

Panel Leaders: Sharyn Barata and Sarah Zaleski

**PANEL 5: SCALING WHOLE BUILDING RETROFITS**

**(Meeting Room: Triton)**

**Panel Leaders: Martha Campbell and Heather Goetsch**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>
	<b>Decarbonizing Tall Buildings</b>		<b>Scaling Multifamily Retrofits</b>
	<i>An All-electric Passive House Renovation of an 100-year Old Skyscraper: Lessons Learned</i> Cecil Scheib, New York University		<i>A Case Study Modeling Barriers and Opportunities for Multifamily Electrification Retrofits</i> Rhys Davis, Resource Refocus
	<i>Scaling Tall Building Decarb in the Biggest US Market</i> Adam Hinge, Sustainable Energy Partnerships		<i>Early Designs and Deep Retrofits: Meeting Affordable Multifamily Organizations with Useful Technical Services</i> Alex Novie, Energy Trust of Oregon
	<i>Decarbonization Packages for NYC Office Buildings</i> Helen Chananie, Building Energy Exchange		<i>Making Naturally Occurring Affordable Housing More Efficient: Outreach to Upgrade</i> Abigail Corso, Elevate
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Unlocking Commercial Building Decarbonization</b>		<b>Equitable Approaches to Whole Building Retrofits</b>
	<i>Designer Interviews: Key Findings on Boiler Retrofits and Electrification in Existing Buildings</i> Emily Lamon, University of California, Berkeley		<i>Whole-Home Retrofit Approaches for Health and Equity</i> Yu Ann Tan, RMI
<i>Pathways to Home Decarbonization</i> Presented by: Brennan Less, Lawrence Berkeley National Laboratory (Lead Author: Iain Walker, Lawrence Berkeley National Laboratory)	<i>Consumer Outcomes in Residential Pay-As-You-Save Programs</i> Jeff Deason, Lawrence Berkeley National Laboratory		
<i>Decarbonizing Large Buildings: Overcoming Barriers and Supporting Market Advancement</i> Karine Cazorla, Dunsky Energy + Climate Advisors	<i>Equity Focused Minnesota Workforce Development Pilot</i> Sarah Northrup, Center for Energy and Environment		

**PANEL 5: SCALING WHOLE BUILDING RETROFITS**  
**(Meeting Room: Triton)**  
**Panel Leaders: Martha Campbell and Heather Goetsch**

<b>WEDNESDAY, AUGUST 24</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>	<b>THURSDAY, AUGUST 25</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>
	<b>Aggregation Models for Retrofits</b>		<b>Advancing Retrofit Technologies</b>
	<i>Planning for Portfolio-wide Net Zero Energy Existing Buildings (ZEEB) on a Budget</i>		<i>A Deep Dive into Air Sealing Best Practices and Market Potential</i>
	<i>David Kaiser, City of Alexandria, VA</i>		<i>Brigid O'Connor, Summerhill Group, Inc.</i>
	<i>Meter-Based Targeting for Beneficial Electrification at Scale</i>		<i>Digitalization of Deep Wall Retrofits: An Integrated Insulated Panel Block (PB) System and Process</i>
	<i>Mia Oppelstrup, Recurve Analytics</i>		<i>Kurt Roth, Fraunhofer USA</i>
	<i>Systems Retrofits for All: Utility Incentive Programs to Accelerate the Deployment of Systems Packages</i>		<i>Best Practices from the Field: Air-to-Water Heat Pump Combi Systems</i>
	<i>Cindy Regnier, Lawrence Berkeley National Laboratory</i>		<i>Jason LaFleur, GTI Energy</i>
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Leveraging Data to Catalyze Adoption of Whole Building Retrofits</b>		<b>Transforming the Market for Retrofits</b>
<i>Scaling Audits through Machine Learning Methods on Novel Image Data</i>	<i>Closing the Code Gap: Best Practices for Existing Building Energy Codes</i>		
<i>Reshma Singh, Lawrence Berkeley National Laboratory</i>	<i>Lauren McNutt, Dunsky Energy + Climate Advisors</i>		
<i>Better, Cheaper, Faster, Sstronger: A New Data Collection Campaign to Capture the Benefits of Industrialized Construction Approaches for Whole Building Retrofits</i>	<i>Creating Regional Ecosystems for Scalable, Low-carbon Whole-building Retrofits</i>		
<i>Aven Satre-Meloy, Lawrence Berkeley National Laboratory</i>	<i>Patty Kappaz, Allegheny Science &amp; Technology</i>		
<i>Taking Down Barriers – Deploying a BEM-Based Approach to Promote Energy Efficiency and Decarbonization in the Existing Residential Sector</i>	<i>It Takes a Platform: Creating an Ecosystem to Drive Energy Efficiency</i>		
<i>Mudit Saxena, Vistar Energy Inc./XeroHome</i>	<i>Robin LeBaron, Pearl Certification</i>		

**PANEL 5: SCALING WHOLE BUILDING RETROFITS**  
**(Meeting Room: Triton)**  
**Panel Leaders: Martha Campbell and Heather Goetsch**

<b>FRIDAY, AUGUST 26</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>
	<b>Perspectives in Financing Retrofits</b>
	<i>Electrofit Cost Effectiveness, Policymaking, and Financing Approaches for Local Agencies</i>
	<i>Farhad Farahmand, TRC</i>
	<i>Financing Energy Improvements in the Mortgage</i>
	<i>Richard Faesy, Energy Futures Group</i>
	<i>Better Bang for Your Buck? Comparing Savings Realization from ESPCs and Direct-funded Projects</i>
	<i>Shankar Earni, Lawrence Berkeley National Laboratory</i>
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Compressing Costs and Extracting Value to Scale Whole Building Retrofits</b>
<i>The Costs of Home Decarbonization</i>	
<i>Iain Walker, Lawrence Berkeley National Laboratory</i>	
<i>Energy Efficiency as a Service: An Emerging Tool for Utilities to Reach Deeper Savings in Buildings</i>	
<i>Nick Henner, ACEEE</i>	
<i>Leveraging Standard Data Models to Streamline Whole Building Retrofits</i>	
<i>Richard Andrulis, Performance Systems Development</i>	



**PANEL 6: UTILITIES AND THE FUTURE**  
**(Meeting Room: Chapel)**  
**Panel Leaders: Ben Clarin and Jim Jerozal**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>
	<b>Working Together - Lessons Learned in Collaboration that Enables the Utility of the Future</b>		<b>To Flex or not to Flex - Planning, Demonstrating, and Deploying Building Technologies as Grid Resources</b>
	<i>Understanding Utility Awareness and Engagement among Low Income Customers</i>  <i>Hale Forster, See Change Institute</i>		<i>Benefit-Cost Analysis of Non-Wires Alternatives (NWAs): Reflecting Uncertainty in Electric Distribution System Planning</i>  <i>Sam Ross, Optimal Energy</i>
	<i>Heating Electrification without Peak? A Unique Collaboration Shows a Third Way is Possible</i>  <i>Presented by Jean-Philippe Hardy, Dunsy Energy + Climate Advisors (Lead: Philippe Dunsy, Dunsy Energy + Climate Advisors)</i>		<i>Field Performance of Variable Capacity Heat Pumps in Southeastern Homes, a DER Option?</i>  <i>Jonathan Coulter, Advanced Energy</i>
	<i>Leverage- How Utility-Funded Programs are Addressing Cost-Effectiveness and Rate Impact Issues through Co-Funding</i>  <i>Fred Gordon, Energy Trust of Oregon</i>		<i>Too Much – Too Little. Using Mixed Resource Demand Response to Address Over and Under Supply of Electricity</i>  <i>Ethan Barquest, Verdant Associates</i>
<b>SESSION 2 (10:30 am - 12:00 pm)</b>	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		
<b>Learning by Doing - Lessons Learned from Deploying Utility Decarbonization Programs</b>	<b>A Decarbonized Future - What is the Gas Utility's Role</b>		
<i>One Leak at a Time: Embedding Refrigerant Management in Building Electrification and Decarbonization Strategies</i>  <i>Zoe Dawson, VEIC</i>	<i>Defining the Role of Gas Utilities in a Decarbonized Energy Future</i>  <i>Essie Snell, ICF</i>		
<i>The New Low-carb Diet: An Assessment of California's New Fuel Substitution Decarbonization Policy in Practice</i>  <i>Cameron Tuttle, DNV Energy Systems</i>	<i>What is the Role of Fuels in a Decarbonized Future? What is the Potential Role for Gas Utilities?</i>  <i>Steve Nadel, ACEEE</i>		
<i>Utility and Participant Value of a Pay As You Save Energy Efficiency Program</i>  <i>Stephen Bickel, Clean Energy Works</i>	<i>Hawaii's Path to Decarbonization: Keeping the Lights On as the Last Coal Plant Turns Off</i>  <i>Caroline Carl, Leidos</i>		

**PANEL 6: UTILITIES AND THE FUTURE**  
**(Meeting Room: Chapel)**  
**Panel Leaders: Ben Clarin and Jim Jerozal**

<b>WEDNESDAY, AUGUST 24</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>	<b>THURSDAY, AUGUST 25</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>
	<b>Including what Matters - Emerging Metrics and Tools for Planning the Utility of the Future</b>		<b>Learning from the Past and Data from the Present to Model and Predict the Utility of the Future</b>
	<i>Moving the Target – Evolving Portfolio Metrics from EE to GHG</i>		<i>Reimagining Energy Efficiency: Building on a Legacy of Success for Higher Impacts and Value</i>
	<i>JJ Vandette, VEIC</i>		<i>Dan York, ACEEE</i>
	<i>A Utility's Clean Energy Equity Plan</i>		<i>The Deproliferation of Refrigerant Greenhouse Gases</i>
	<i>Jennifer Finnigan, Seattle City Light</i>		<i>Brad Hoover, DNV</i>
	<i>Climate-Forward Performance Incentives: Rewarding What Matters</i>		<i>Electric Utility Rates are Critical to Broad Space-heating Electrification - Data from the Midwest</i>
	<i>Rachel Gold, RMI</i>		<i>Carl Nelson, Center for Energy and Environment</i>
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Utility Planning and Programs - Lessons Learned from Including Equity in the Mix</b>		<b>Let the Data Tell the Story - Enabling Better Utility Programs through Data Analytics</b>
<i>One Utility's Journey to Systematically Gain Focus on Equity</i>	<i>Bills, Bills, Bills – Can Utility Meter Data Tell the Heat Pump Story?</i>		
<i>Presented by: Sepideh Rezania, Innovation Insites &amp; Joseph Fernandi, Seattle City Light (Lead Author: Lori Moen, Seattle City Light)</i>	<i>Patrick Hewlett, DNV</i>		
<i>Lessons Learned from a Small Good-Will Project: Installing Heat Pump Water Heaters in Black-owned Homes in Portland</i>	<i>Data Requirements for Decarbonization through Utility Energy Efficiency Programs</i>		
<i>Lisa Green, Energy 350</i>	<i>Mike Specian, ACEEE</i>		
<i>Tip of the Spear: How Efficiency Programs Supporting Cold Climate Heat Pumps in Low Income Multi-Family Buildings Could Help Lay the Foundation for Building Decarbonization In Michigan and Illinois</i>	<i>Choosing the Carbon Factor for the Job: Exploring Available Carbon Emissions Factors and the Impact of Factor Selection</i>		

**PANEL 6: UTILITIES AND THE FUTURE**

(Lead: Elaina Present, National Renewable Energy Laboratory)

(Meeting Room: Chapel)

Panel Leaders: Ben Clarin and Jim Jerozal

**SESSION 1 (8:30 - 10:00 am)**

**Valuating the Future Systems that Enable Community Decarbonization**

*Assessment of the Value of Novel Waste Heat Sources and a Path Towards Adoption*

Presented by Shanti Pless, National Renewable Energy Laboratory  
(Lead: Manuel Laemmle, National Renewable Energy Laboratory)

*GHG Emissions Reduction Analysis in Commercial Buildings*

Xiaoying (Annie) Hillaker, DNV

*Introducing the Distributed District Energy System*

Jonathan Bean, The University of Arizona

**SESSION 2 (10:30 am - 12:00 pm) - SESSION TO BE BROADCASTED**

**People and Things - The Infrastructure and Workforce to Support Building Decarbonization**

*Residential Electric Service Upgrades for Electrification Retrofits*

Presented by Sean Armstrong, Redwood Energy  
(Lead: Shoshana Pena, NV5 Inc.)

*Aligning Energy Efficiency Programs with a Decarbonization Future*

Matthew Woundy, NMR Group, Inc.

*Dig Here: Insights from Direct Burial Cable Study and Implications for Electrification*

**DRAFT (Subject to Change)**

FRIDAY, AUGUST 26

**PANEL 6: UTILITIES AND THE FUTURE**

**(Meeting Room: Chapel)**

**Panel Leaders: Ben Clarin and Jim Jerozal**

**PANEL 7: MARKET TRANSFORMATION**  
**(Meeting Room: Heather)**  
**Panel Leaders: Marke Rehely and Carolyn Szum**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 am - 10:00 am) - SESSION TO BE BROADCASTED</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Regional Approaches to Market Transformation</b>		<b>Diversity, Equity, Inclusion in Market Transformation</b>
	<i>Making Market Transformation Mainstream in Illinois</i>  Jim Fay, ComEd		<i>Equity in Solar – Using Geospatial and Survey Data to Assess Performance and Identify Opportunities</i>  Daniel Bausch, APPRISE Incorporated
	<i>Aligning California’s Market Support and Market Transformation Programs</i>  Cody Coeckelenbergh, ICF		<i>Look in the Mirror, then Move Forward: Improving the Diversity Equity and Inclusion of the Energy Efficiency Industry</i>  Quinn Parker, Encolor Consulting
	<i>The Other Meta - How the Minnesota Efficiency Technology Accelerator will Advance Market Transformation</i>  Carl Nelson, Center for Energy and Environment		<i>Addressing Multifamily Hesitance to Participation in Energy Efficiency Programs</i>  Elizabeth Kelley, ILLUME Advising
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>International Examples of Market Transformation</b>		<b>Next Generation Approaches to Market Transformation</b>
<i>Pulling Out All the Stops: Gas Utilities Poised for Best-in-Class Bi-National Market Transformation</i>  Jim Jerozal, North American Gas Heat Pump Collaborative	<i>TECH Clean California’s Heat Pump Market Transformative Approach: Lessons Learned from Year 1</i>  Teddy Kisch, Energy Solutions		
<i>Pump Up the (Heat Pump) Volume! Why Supply Chain Strategies are Critical to Heating Technologies Market Transformation</i>  Presented by: Stephanie Breton, Dunsky Energy + Climate Advisors (Lead Author: Patricia Lightburn, Dunsky Energy + Climate Advisors)	<i>Contech to Accelerate Cleantech: Seeding Emerging Innovation Programs for Construction Productivity and Energy Efficiency Integration</i>  Presented by: Shanti Pless, National Renewable Energy Laboratory (Lead Author: Ankur Podder, National Renewable Energy Laboratory)		
<i>Getting to Zero: The Critical Role of Efficiency</i>  Philippe Dunsky, Dunsky Energy + Climate Advisors	<i>How Ameren IL is Leveraging MT to Accelerate Adoption of Luminaire Level Lighting Controls</i>  Presented by: Michael Pittman, Ameren (Lead Author: Rita Siong, Resource Innovations)		

**PANEL 7: MARKET TRANSFORMATION**  
**(Meeting Room: Heather)**  
**Panel Leaders: Marke Rehely and Carolyn Szum**

<b>WEDNESDAY, AUGUST 24</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>THURSDAY, AUGUST 25</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>System Approaches in Market Transformation</b>		<b>Envelopes and Windows - Market Transformation in Building Envelopes</b>
	<i>Industry and Utility Collaboration to Change Midstream Behavior to Increase the Availability and Adoption of Highly Efficient Pumps</i>		<i>The Launch of the Partnership for Advanced Window Solutions: Give the People What They Want, Windows!</i>
	<i>Christopher Sullivan-Trainor, Consortium for Energy Efficiency</i>		<i>Robert Hart, Lawrence Berkeley National Laboratory &amp; Elaine Miller, NEEA</i>
	<i>Commercial Building Sensors and Controls: Cost Stack and Adoption Barriers</i>		<i>Shell Upgrades: The First Step for Deep Retrofits</i>
	<i>Kim Trenbath, National Renewable Energy Laboratory</i>		<i>Dulane Moran, Cadeo Group</i>
	<i>Strategic Energy Management and Metrics for Market Transformation</i>		<i>Insulation for the Future: Circular Stone Wool</i> <i>(no paper)</i>
<i>William Miller, Lawrence Berkeley National Laboratory</i>	<i>Alejandra Nieto, ROCKWOOL Group</i>		
<b>SESSION 2 (10:30 am - 12:00 pm)</b>	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		
<b>Appliances Standards and Test Procedures, Levers in Market Transformation</b>	<b>Building Energy Code Innovations</b>		
<i>The Missing Piece: How Test Procedures Enable Market Transformation</i>	<i>Industrial Buy-in for Embodied Carbon Building Codes</i>		
<i>Rebecca Hovey, Cadeo Group</i>	<i>Pavitra Srinivasan, ACEEE</i>		
<i>Getting the Most Out of State Standards</i>	<i>Using Programs in Tandem with Codes and Standards to Transform Markets at Speed and Scale</i>		
<i>Claire Miziolek, Energy Solutions</i>	<i>Nicole Dunbar, Northwest Energy Efficiency Alliance</i>		
<i>A Roadmap to Achieve Equitable Access to Efficient Home Appliances</i>	<i>Building Performance Standards to Drive Market Transformation</i>		
<i>Marti Frank, Efficiency for Everyone</i>	<i>Véronique Bugnion, ClearlyEnergy, Inc.</i>		

**PANEL 7: MARKET TRANSFORMATION**  
**(Meeting Room: Heather)**  
**Panel Leaders: Marke Rehely and Carolyn Szum**

<b>FRIDAY, AUGUST 26</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Market Transformation as a Path to Decarbonization</b>
	<i>System Efficiency Policy: The Next Level of Energy Savings</i>
	<i>Hans-Paul Siderius, Netherlands Enterprise Agency</i>
	<i>The Powerful and Hidden Role Natural Gas Can Play in Decarbonization</i>
	<i>Allen Dusault, Franklin Energy</i>
	<i>Policy Onramps: Using Passive House to Accelerate Building Decarbonization</i>
	<i>Bronwyn Barry, The Passive House Network</i>
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Building the Next Generation Workforce to Support Market Transformation</b>
<i>Building the Next Generation: The 20-Year Evolution of the U.S. DOE Solar Decathlon from a Collegiate Prize to Multi-faceted Clean Energy Workforce Platform</i>	
<i>Holly Carr, U.S. Department of Energy</i>	
<i>Transforming Energy Assistance through Innovative Partnerships</i>	
<i>Presented by: Bethany Kitch, Tennessee Valley Authority (Lead Author: Frank Rapley, Tennessee Valley Authority)</i>	
<i>Equitable and Actionable Clean Energy Workforce Development Toolkit</i>	
<i>Laura Giannini, TRC</i>	

**PANEL 8: CAPTURING SAVINGS THROUGH BEHAVIOR**

**(Meeting Room: Dolphin)**

**Panel Leaders: Ingo Bensch and Paty Romero-Lankao**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Electrification on the Road and in Buildings</b>		<b>Consumer Considerations</b>
	<i>Effective EV Programs to Make Change Happen</i> Katie Parkinson, Rolling Energy Resources		<i>Understanding the Impact of Consumer Awareness of Utility Regulatory Framework on Energy Efficiency Program Participation</i> Nikola Glavan, National Grid
	<i>A Peek at Piquing EV Owner's Interest in Off-peak Charging</i> Russell Meyer, Oracle/Opower		<i>"MEET"ing Customers Where They Are</i> Katherine Johnson, Johnson Consulting Group
	<i>Transformational Analysis through Behavioral Science: An Integrated Approach Coupling Behavior, Buildings and Transportation Modeling</i> Patricia (Paty) Romero-Lankao, National Renewable Energy Laboratory		<i>One Size Fits None: Reaching Residential Customers in the New Normal</i> Gregory Romine, Eversource
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Human-technology Interface</b>		<b>Program Development -- Behavioral Programs, Marketplaces, and Community Support</b>
	<i>Re-thinking Building Interface Characteristics in Senior Living Facilities: Equity and Energy</i> Julia Day, Washington State University		<i>Behavioral Programs Come of Age</i> Tabitha Munson, ILLUME Advising
<i>Triumph of the Tweakers: Engaged Homeowners Optimizing Air Conditioning Energy Use</i> Kristin Heinemeier, Frontier Energy, Inc.	<i>Utility Marketplaces Can Improve Energy Efficiency Program Uptake</i> William Hughes, Guidehouse		
<i>A Novel Methodology for Longitudinal Studies of Home Thermal Comfort Perception and Behavior</i> Emily Casavant, Northeastern University	<i>Save it Forward: an Innovative Energy Pilot Lets Industrial Customers Support Their Local Communities</i> Jason Snyder, Tennessee Valley Authority		



**PANEL 8: CAPTURING SAVINGS THROUGH BEHAVIOR**

**(Meeting Room: Dolphin)**

**Panel Leaders: Ingo Bensch and Paty Romero-Lankao**

<b>WEDNESDAY, AUGUST 24</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>THURSDAY, AUGUST 25</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Consumer and Market Insights about Electronics, Thermostats, and Schools</b>		<b>Electrification Continued -- Making It Happen</b>
	<i>Consumer Electronics in 2020: Ownership, Usage, and Energy Consumption amid COVID-19</i>		<i>Electrification, Past and Present: Energy and Home Economics</i>
	<i>Bryan Urban, Fraunhofer USA Center for Manufacturing Innovation</i>		<i>Kara Rodgers Marshall, Eversource Energy</i>
	<i>Long-Term Trends in Internet-Connected Thermostat Settings and Performance</i>		<i>Inspire Us: Best Practices from Community-Facing Home Electrification Campaigns</i>
	<i>Abigail Daken, U.S. Environmental Protection Agency</i>		<i>Kristin George Bagdanov &amp; Amy Rider, Building Decarbonization Coalition</i>
	<i>School Uplift: an Inspiring Program to Save Energy in Schools of Disadvantaged Communities</i>		<i>Busy Bees: Scaling Utility Customer Action in Decarbonization</i>
	<i>Clay Hoover, Tennessee Valley Authority</i>		<i>Samantha Caputo, Opower/Oracle</i>
<b>SESSION 2 (10:30 am - 12:00 pm)</b>	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		
<b>Program Development Continued - Strategic Energy Management</b>	<b>Rates, Inducements, and Feedback</b>		
<i>Decarbonization &amp; SEM: The Human Side of Energy Management</i>	<i>The Story Behind the Bill: User Experience Results to Support Quantitative Analysis of Bill Salience Reductions</i>		
<i>Komal Dhankhar Kalyan, CLEAResult</i>	<i>Brett Close, TRC</i>		
<i>Help! COVID Ate My Program Savings!</i>	<i>Key Insights from Phase 4 of the California Demand Response Potential Study</i>		
<i>Presented by: Erin Wenger and Max Rennie, SBW Consulting (Lead Author: Faith DeBolt, SBW Consulting, Inc.)</i>	<i>Brian Gerke, Lawrence Berkeley National Laboratory</i>		
<i>Using Contractor Engagement Data to Improve Program Efficacy and Equity</i>	<i>Policy and Other Intelligence from the Largest NEI Database and Model Around</i>		
<i>Kate Rathbun, Frontier Energy</i>	<i>Lisa Skumatz, Skumatz Economic Research Associates</i>		

**PANEL 8: CAPTURING SAVINGS THROUGH BEHAVIOR**  
**(Meeting Room: Dolphin)**  
**Panel Leaders: Ingo Bensch and Paty Romero-Lankao**

FRIDAY, AUGUST 26	<b>SESSION 1 (8:30 am - 10:00 am) - SESSION TO BE BROADCASTED</b>
	<b>Engaging End Users Home Owners, Renters, and Industrial Facility Staff</b>
	<i>Do Renters and Home Buyers Care About Efficiency? Findings From Three Randomized Controlled Experiments</i>
	<i>Hannah Bastian, ACEEE</i>
	<i>It's about Time: Capturing the Benefits of High Maintenance for Steam Traps</i>
	<i>Joseph St. John &amp; Miriam Goldberg, DNV</i>
	<i>TBD</i>
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>OPEN SESSION</b>

**PANEL 9: ENERGY EFFICIENCY POLICY: U.S. AND BEYOND**  
**(Meeting Room: Nautilus)**  
**Panel Leaders: Alejandra Mejia Cunningham and Joan Glickman**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>
	<b>Equity Infused Policy: Process, Targets, Strategies</b>		<b>Building Performance Standards</b>
	<i>Meeting the Moment: How Public Engagement During a Pandemic Shaped Planning Decisions and Priorities at Two Public Utilities in Washington State</i> Marti Frank, Efficiency for Everyone		<i>A Tale of Three Cities: Reducing Emissions With Building Performance Standards</i> Travis Walter, Lawrence Berkeley National Laboratory
	<i>No Steps Back: Energy Equity Target Development in Massachusetts</i> Alexis Washburn, Emerald Cities Collaborative		<i>Boston's Net-zero Building Emission Standard: Making a Policy That's Inclusive and Flexible</i> Philip Eash-Gates, Synapse Energy Economics
	<i>State Strategies to Benefit Underserved Communities with GHG Reduction Efforts</i> Sagarika Subramanian, ACEEE		<i>Setting Building Performance Standards with Limited Local Data</i> Marshall Duer-Balkind, Integral Group
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Measuring EE for All It's Got</b>		<b>Throwing Everything at the Problem: The Interaction of Codes and Other Policies</b>
	<i>Estimation of Non-Energy Impacts from Energy Efficiency</i> Jacqueline Berger, APPRISE		<i>The New Challenge for New Construction: The Intersection of Energy Codes and Building Performance Standards</i> Amy Boyce, Institute for Market Transformation
<i>Is Simple Better: Can Programs Get More Done by Simplifying Calculations?</i> Santiago Rodriguez-Anderson, SBW Consulting	<i>Carrots and Sticks in Hot Wwater: Role of Codes and Policy in Market Transformation</i> Smita Gupta, New Buildings Institute		
<i>Time to Update Those EULs! An Affordable Way Forward</i> Ann Gibbs, Skumatz Economic Research Associates	<i>Cutting through Uncertainty: Making Local Clean Energy Policy Decisions with Limited Data</i> Stefen Samarripas, ACEEE		

**PANEL 9: ENERGY EFFICIENCY POLICY: U.S. AND BEYOND**  
**(Meeting Room: Nautilus)**  
**Panel Leaders: Alejandra Mejia Cunningham and Joan Glickman**

<b>WEDNESDAY, AUGUST 24</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>	<b>THURSDAY, AUGUST 25</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>
	<b>Flyover No More: Non-Coastal States Leading the Way</b>		<b>Soup to Nuts Design: Programs and Evaluation</b>
	<i>Missed Opportunities - The Impacts of Recent Policies on Energy Efficiency Programs in Midwestern States</i> Kenji Takahashi, Synapse Energy Economics		<i>Rewiring Energy Efficiency Programs to Better Support Electrification</i> Leslie Nelson, UC Davis Energy Graduate Group
	<i>Energy Efficiency, Electrification, and Decarbonization of Buildings: Recent Policy Advances in Colorado</i> Justin Brant, Southwest Energy Efficiency Project		<i>Decarbonizing Space Heating with Heat Pumps – Overcoming Deployment Challenges</i> Sven Mumme, U.S. Department of Energy
	<i>Electrification in Chicago: Policy, Partnerships, and Deployment</i> <i>(No paper)</i> Angela Tovar, City of Chicago and Ann McCreery, Elevate		<i>Mixing and Matching: A Review of EM&amp;V Frameworks in North America</i> Katherine Johnson, Johnson Consulting Group
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>A Trip to the Cold North</b>		<b>Building Efficiency as Social Policy - <b>SESSION TO BE BROADCAST</b></b>
<i>Transitioning to Clean Heat in Cold Climates: a Systems Dynamics Pathway to Deep Decarbonization by 2030</i> Harvey Michaels, MIT Sloan and Environmental Solutions Initiative	<i>Appliance Standards, Equity and Climate Change – Issues and Opportunities</i> Suzanne Foster Porter, Kannah Consulting		
<i>It's All about the Envelope, Silly</i> Josh Quinnell, Center for Energy and Environment	<i>Solving the Cooling Conundrum: Promoting Affordable Access to Clean Cooling through Building Decarbonization Policy</i> Becky Schaaf, VEIC		
<i>The Gas Utility of the Future Is Here, and It Looks Like This</i> Morgan Hood, VGS	<i>Shaping the Future of Equity in Energy Efficiency</i> Crystal Johnson, Integrative Sustainability & Environmental Solutions		

**PANEL 9: ENERGY EFFICIENCY POLICY: U.S. AND BEYOND**  
**(Meeting Room: Nautilus)**  
**Panel Leaders: Alejandra Mejia Cunningham and Joan Glickman**

<b>FRIDAY, AUGUST 26</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>
	<b>The Whole Shabang: All of the New Construction Tools</b>
	<i>Theme and Variations – The IECC as an Expandable Code</i> Duane Jonlin, Seattle Department of Construction and Inspections
	<i>Scaling up Low-carbon and Climate-resilient Buildings through Industrialized Construction: a Global Comparison</i> Jingjing Zhang, Lawrence Berkeley National Laboratory
	<i>Build Back Better through Advanced Building Construction: How a “Whole of Government” Strategy to Modernize Construction can Decarbonize Buildings, Build Affordable Housing, and Create Good Jobs</i> Adam Hasz, U.S. Department of Energy Building Technologies Office
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Saving the Best for Last: Friday Grab Bag!</b>
	<i>How Does Home Energy Score Affect Home Value and Mortgage Performance?</i> Margaret Pigman, Lawrence Berkeley National Laboratory
	<i>Capturing the Reliability and Resilience Benefits of Energy Efficiency in Power System Planning</i> Natalie Mims Frick, Lawrence Berkeley National Laboratory
	<i>The Chilling Effects of Administrative Burden on Efficiency Policy Uptake: Examining the Case of Federal ESAs</i> Alex Newkirk, Lawrence Berkeley National Laboratory

**PANEL 10: NEW CONSTRUCTION FROM CODES TO NET ZERO**

**(Meeting Room: Marlin)**

**Panel Leaders: Scott Hackel and Rob Salcido**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 am - 10:00 am) - SESSION TO BE BROADCASTED</b>
	<b>Compliance is Key to Impact</b>		<b>Manufacturing Our Way to Zero Zero with Industrialized Construction</b>
	<i>Energy Performance of New Low-Rise Multifamily Buildings in the United States</i>		<i>Accelerating Optimal Integration of Energy Efficiency Strategies with Industrialized Modular Construction</i>
	<i>Robert Davis, Ecotope, Inc.</i>		<i>Shanti Pless, National Renewable Energy Laboratory</i>
	<b>Compliance in the Cornhusker State: Nebraska's Energy Code Support Program</b>		<b>Lessons Learned on the Journey to Bring Zero Energy Modular to Scale</b>
	<i>Karin Gredvig, Midwest Energy Efficiency Alliance</i>		<i>Alison Donovan, VEIC</i>
	<b>Delineate the Implementation of Residential Building Energy Codes in India</b>		<b>Off-site Construction in an On-site regulatory world: Streamlining the Path to Decarbonized Homes</b>
<i>Shatakshi Suman, Alliance for an Energy Efficient Economy</i>	<i>Ian Blanding, Pacific Northwest National Laboratory</i>		
<b>SESSION 2 (10:30 am - 12:00 pm)</b>	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		
<b>The Electric Transition: Examining Impacts as We Move toward Electrified Homes</b>	<b>The Present Reality and Future Hopes for Zero Carbon Buildings</b>		
<i>Turning the Wrenches of Beneficial Electrification: Understanding HVAC Contractor Decision-Making</i>	<i>Convincing Clients to Make Zero a Reality--Views from the Design and Construction Community</i>		
<i>Joe Van Clock, Apex Analytics, Inc.</i>	<i>Julia Sullivan, National Renewable Energy Laboratory</i>		
<b>How Low Can You (Economically) Go? Finding the Least-Cost Path to Net Zero New Homes</b>	<b>The Present and Future of Decarbonizing through Electrification in Commercial Buildings in the Midwest</b>		
<i>Brian Greenfield, Eversource</i>	<i>Scott Hackel, Slipstream</i>		
<b>Estimating Energy and Greenhouse Gas Impacts in All-Electric Residential New Construction</b>	<b>Driving Decarbonization with Codes</b>		
<i>Collin Elliott, Verdant Associates</i>	<i>Sean Denniston, New Buildings Institute</i>		

**PANEL 10: NEW CONSTRUCTION FROM CODES TO NET ZERO**

**(Meeting Room: Marlin)**

**Panel Leaders: Scott Hackel and Rob Salcido**

<b>WEDNESDAY, AUGUST 24</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>THURSDAY, AUGUST 25</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Equity in New Construction</b>		<b>New Approaches for New Housing</b>
	<i>Sharing What's Already Shared – Findings from Common Spaces in Multifamily Buildings</i> Jenny Hughes, Evergreen Economics		<i>Benefits of Passive Houses to the California Electric Grid</i> Kessie Aseivkova, Opinion Dynamics Corporation
	<i>Falling Short: Does Energy Code Compliance and Enforcement Vary by Income?</i> Chitra Nambiar, Pacific Northwest National Laboratory		<i>Advanced Energy-Efficient and Fire-Resistive Envelope Systems Utilizing Vacuum Insulation for Manufactured Homes</i> Kaushik Biswas, Gas Technology Institute
	<i>Scaling Up Passive House New Construction Multifamily: The Massachusetts Story</i> Presented by Kristen Simmons, ICF (Lead: Beverly Craig, Massachusetts Clean Energy Center)		<i>Prescriptive Approach for Achieving Energy Efficiency in India's Upcoming Housing</i> Dharini Sridharan, Alliance for an Energy Efficient Economy
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Manufactured or Modularized Homes of the Future</b>		<b>Looking Forward: Pondering the Next Generation of Codes, Act 1</b>
	<i>Cost-effective HVAC Improvements in New Manufactured Homes</i> David Chasar, FSEC Energy Research Center		<i>Cracking the Code to EV Readiness in New Buildings</i> Peter Banwell, EPA Energy Star Program
<i>A Scalable Method for Decarbonizing Modular Building Solutions</i> Zoe Kaufman, National Renewable Energy Laboratory	<i>Embodied Carbon Building Codes: Are We Ready?</i> Nora Efram, ACEEE		
<i>Affordable, All-electric Cold Climate Homes: a Look Inside the Winning 2021 Solar Decathlon Build Challenge House</i> Presented by: Kristen Taddonio, University of Colorado, Boulder (Lead Author: Jennifer Scheib, University of Colorado, Boulder)	<i>Deemed Measure to Codes and Standards: A Timeless Idea that Deserves a Fresh Look</i> Bryan Boyce, Energy Solutions		

**PANEL 10: NEW CONSTRUCTION FROM CODES TO NET ZERO**

**(Meeting Room: Marlin)**

**Panel Leaders: Scott Hackel and Rob Salcido**

FRIDAY, AUGUST 26	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Looking Forward: Pondering the Next Generation of Codes, Act 2</b>
	<i>DOE's Zero Energy Ready Home Program: Getting Builders from Code to Net Zero and Beyond</i>
	<i>Theresa Gilbride, Pacific Northwest National Laboratory</i>
	<i>Future of California Energy Code: Where Do We Go After 2022?</i>
	<i>Rahul Athalye, NORESKO</i>
	<i>Tradeoff Analysis - Envelope vs Equipment and Renewable Energy Generation</i>
<i>Rob Salcido, Pacific Northwest National Laboratory</i>	
<b>SESSION 2 (10:30 am - 12:00 pm)</b>	
<b>OPEN SESSION</b>	



**PANEL 11: RESILIENT, SUSTAINABLE COMMUNITIES**

**(Meeting Room: Toyon)**

**Panel Leaders: Eliza Hotchkiss and Madeline Salzman**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>
	<b>Rule #1: Be Prepared</b>		<b>Not Your Average Back Up Generator: Resilience Without the Emissions</b>
	<i>Incorporating Climate Change Scenarios into Risk-informed Resilience Planning</i> Presented by Eliza Hotchkiss, National Renewable Energy Laboratory (Lead: Hannah Rabinowitz, Pacific Northwest National Laboratory)		<i>Building Decarbonization Policies in the Midwest</i> Presented by Madison Johnston, Midwest Energy Efficiency Alliance (Lead: Alison Lindburg, Midwest Energy Efficiency Alliance)
	<i>Integrating Resilience into Sustainability Programs Guidelines and Tools</i> Elizabeth Kutschke, Center for Sustainable Building Research		<i>Decarbonization in Climate Resilience Planning</i> Alison Delgado, Pacific Northwest National Laboratory
	<i>Designing for Zero Energy and Zero Carbon on a Multi-Building Scale Using URBANopt</i> Zahara Fallahi, University of Colorado, Boulder		<i>Resilience, Emissions, and Costs of Various Residential Space Heating Technologies</i> Charles Barnhart, Western Washington University
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Lessons Learned &amp; Best Practices for Resilient Communities</b>		<b>I Get Knocked Down, I Get Up Again: Resilience, Recovery, and Passive Survivability - <b>SESSION TO BE BROADCASTED</b></b>
<i>Keeping the Lights On: The Oakland EcoBlock Community Electrification and Microgrid Improves Health, Comfort and Resilience in an Urban Neighborhood</i> Amy Dryden, Association for Energy Affordability	<i>Trials and Tribulations of Valuing Building Energy Resilience</i> Michael Reiner, U.S. Department of Energy		
<i>Set-up for Success: Lessons Learned from Governments in Implementing Effective Clean Energy Programs</i> Amanda Dewey, ACEEE	<i>Weathering the Storm: Microgrid Feasibility Studies for Municipal Applications</i> Maddie Koolbeck, Slipstream		
<i>Costs and Benefits of Energy Efficiency Policies for Existing Buildings</i> David Ribeiro, ACEEE	<i>California Community College Addresses Wildfire Related Outages with Microgrid Demonstration Project</i> Demetra Tzamaras, Center for Sustainable Energy		

**PANEL 11: RESILIENT, SUSTAINABLE COMMUNITIES**

**(Meeting Room: Toyon)**

**Panel Leaders: Eliza Hotchkiss and Madeline Salzman**

<b>WEDNESDAY, AUGUST 24</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>	<b>THURSDAY, AUGUST 25</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>
	<b>Accounting for Resilience and Sustainability in Policy</b>		<b>Delivering Resilience &amp; Its Benefits to Those That Need It Most</b>
	<i>Building Codes Driving Climate Mitigation and Adaptation</i>		<i>Nationally-Distributed Job Creation &amp; Economic Benefits of US Energy Efficiency and Infrastructure Investments</i>
	<i>Joseph Sollod, International Code Council</i>		<i>John "Skip" Laitner, Economic and Human Dimensions Research Associates</i>
	<i>New Indices for Sustainability in the Face of Climate Change</i>		<i>Decarbonizing the Building Sector: A Human-centered Study Focused on Small/light Commercial Building Energy Equity</i>
	<i>David Goldstein, Natural Resources Defense Council</i>		<i>Chrissi Antonopoulos, Pacific Northwest National Laboratory</i>
	<i>Energy vs. Carbon: Jurisdictions and Utilities Align Metrics</i>		<i>Can Building Electrification Bring Resilience to Low Income Communities?</i>
	<i>Rohini Srivastava, ACEEE</i>		<i>Heather Rosenberg, ARUP</i>
<b>SESSION 2 (10:30 am - 12:00 pm)</b>	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		
<b>We Are Who We've Been Waiting For: Leading in Small &amp; Rural Communities</b>	<b>The Role of Cities in Resilience and Sustainability</b>		
<i>Building Advanced Energy Communities, One Community At a Time</i>	<i>Tracking City Progress towards International Emissions Targets for the Buildings Sector</i>		
<i>Genaro Bugarin, The Energy Coalition</i>	<i>Alexander Jarrah, ACEEE</i>		
<i>Resilient, Rural, and Revolutionary: Salisbury Square's Direct Current Affordable Microgrid Community</i>	<i>How Denver Passed its Ambitious New Building Performance Standard, and How Your City Can Too</i>		
<i>Peter Schneider, VEIC</i>	<i>Christine Brinker, Southwest Energy Efficiency Project</i>		
<i>Local Government's Role in Community Based Energy Resiliency</i>	<b>TBD</b>		
<i>Cody Coeckelenbergh, ICF</i>			

**PANEL 11: RESILIENT, SUSTAINABLE COMMUNITIES**

**(Meeting Room: Toyon)**

**Panel Leaders: Eliza Hotchkiss and Madeline Salzman**

<b>FRIDAY, AUGUST 26</b>	<b>SESSION 1 (8:30 - 10:00 am)</b>
	<b>Making the Technology Work Better for All of Us</b>
	<i>Come on Down and Play the Price is Riight! What Do You Bid for Keeping the Lights On?</i>
	<i>Presented by: Lauren Robinson, Verdant Associates (Lead Author: Jean Shelton, Verdant Associates)</i>
	<i>Controlled Environmental Agriculture: Growing Local Food, Capturing Carbon with Flexible Onsite Power and Advanced Controls</i>
	<i>Thomas Bourgeois, Pace University Energy &amp; Climate Center</i>
<i>Towards a More Responsive, Resilient, and Equitable Power System Using the Cable TV Network</i>	
<i>Presented by: Alan Meier, Lawrence Berkeley National Laboratory (Lead Author: Sunhee Baik, Lawrence Berkeley National Laboratory)</i>	
<b>SESSION 2 (10:30 am - 12:00 pm)</b>	
<b>OPEN SESSION</b>	

**PANEL 12: SMART AND GRID-INTERACTIVE BUILDINGS**

**(Meeting Room: Acacia)**

**Panel Leaders: Paul Mathew and Therese Peffer**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>The Big Picture: Policy Design and Analysis</b>		<b>Heat Pumps and More</b>
	<i>Making Grid-Interactive Efficient Buildings a “Win” for Both Customers and Utilities</i>		<i>Engaging Contractors: a Critical Partner to Realize the Load Shifting Potential of HPWHs</i>
	<i>Presented by: Ryan Hledik, Brattle (Lead Author: Andrew Satchwell, Lawrence Berkeley National Laboratory)</i>		<i>Christine Riker, Energy Solutions</i>
	<i>Large-scale Simulation of Regional Demand Flexibility Implementation and Customer Economic Impact</i>		<i>Field Study of Grid-connected Heat Pump Water Heaters in the Southeast U.S. - The Next Right Thing</i>
	<i>Hayden Reeve, Pacific Northwest National Laboratory</i>		<i>Joshua Butzbaugh, Pacific Northwest National Laboratory</i>
	<i>Towards an Equitable Grid-Interactive Efficient Building Landscape: Visualizing Technology Adoption in the State of New York</i>		<i>Decarbonization Impact of Grid-Interactive Efficient Buildings – An Affordable Housing Use Case</i>
<i>Danielle Prezioso, Stevens Institute of Technology</i>	<i>Agatha Kazdan, Electric Power Research Institute</i>		
<b>SESSION 2 (10:30 am - 12:00 pm)</b>	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
<b>Metrics and Ratings</b>	<b>Data Analytics</b>		
<i>GridFlex: Introducing Metrics to Benchmark Building-grid Interactivity</i>	<i>A Multi-level Load Shape Clustering and Disaggregation Approach to Characterize Patterns of Energy Consumption Behavior</i>		
<i>Kevin Carbonnier, New Buildings Institute</i>	<i>Samanvitha Murthy, Lawrence Berkeley National Laboratory</i>		
<i>RESNET Load Flexibility Task Group: Developing Ratings that Incentivize Demand Responsive Buildings and a Cleaner Grid</i>	<i>At Long Last: Realizing the Promise of Non-intrusive Load Monitoring</i>		
<i>David Goldstein, NRDC</i>	<i>Jennifer McWilliams, DNV</i>		
<i>Methodology for Modeling Savings for Home Energy Management Systems</i>	<i>Towards a Stronger Foundation: Digitizing Commercial Buildings with Brick to Enable Portable Advanced Applications</i>		
<i>Robert Hendron, Frontier Energy</i>	<i>Carlos Duarte Roa, University of California, Berkeley</i>		

**PANEL 12: SMART AND GRID-INTERACTIVE BUILDINGS**

**(Meeting Room: Acacia)**

**Panel Leaders: Paul Mathew and Therese Peffer**

<b>WEDNESDAY, AUGUST 24</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>THURSDAY, AUGUST 25</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>People and Process: Stakeholder Engagement</b>		<b>Where the Rubber Meets the Road: Case Studies and Field Studies</b>
	<i>Smart Home Energy Monitoring: Data-Driven Opportunities and Customer Engagement</i> Amalia Hicks, Cadmus		<i>Field Study Demonstrates Financial and Grid Benefits of EV Bidirectional Charging</i> Daniel Real, Advanced Energy
	<i>Trust, Competence, and Innovation: Understanding Customers' Energy and Smart Home Brand Perceptions</i> Presented by: Dan Burak, Uplight (Lead Author: Beth Karlin, See Change Institute)		<i>Demand Response Capabilities of Refrigerated Warehouses: Experiences in Practical Implementation</i> Ammi Amarnath, EPRI
	<i>Cyber-Physical-Social Digital Platform for Microgrids (CPSDPM): Addressing Design Gaps for Historically Underserved Communities</i> Ashok Das, SunMoksha Power Private Ltd.		<i>Real-time Carbon Emission Responsive Electric Vehicle Charging Control for Decarbonization</i> Presented by Dr. Xin Jin, National Renewable Energy Laboratory (Lead: Jing Wang, National Renewable Energy Laboratory)
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Integrating Storage, PV and Load Management</b>		<b>HVAC Controls Optimization</b>
	<i>Battery Energy Storage Systems and PV/Battery Microgrid Applications for Buildings</i> David Kaneda, IDeAs Consulting		<i>Evaluating the Performance of HVAC Optimal Control Based on Real-time Floor-by-floor Occupancy Data</i> Presented by: Jessica Granderson, Lawrence Berkeley National Laboratory (Lead Author: Guanqing Lin, Lawrence Berkeley National Laboratory)
<i>SunDial Integration of Building Load Management, Solar PV, and Energy Storage to Support the Electric Grid: Lessons from a Field Pilot</i> Matt Kromer, Fraunhofer USA	<i>Unsupervised Learning for Detecting VAV Anomalies in Commercial Buildings</i> Presented by: Brad Schultz, Buildings Alive (Lead Author: Hao Huang, Buildings Alive)		
<i>Solar+ Optimizer: Integrated Control of Solar, Batteries, and Flexible Loads for Small Commercial Buildings</i> Lazlo Paul, Lawrence Berkeley National Laboratory	<i>A Low Cost Centralized HVAC Control Ssystem Solution for Energy Savings, Load Shedding, and Improved Maintenance</i> Nicolas Fauchier-Magnan, University of California, Davis		

## PANEL 12: SMART AND GRID-INTERACTIVE BUILDINGS

(Meeting Room: Acacia)

Panel Leaders: Paul Mathew and Therese Peffer

FRIDAY, AUGUST 26	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Load Flexibility: New Frontiers</b>
	<i>Retargeting Demand Response for Carbon Positive Flexible Buildings</i> Craig Roussac, Buildings Alive
	<i>Accelerating Load Flexibility with the California Flex Hub and Automated Price Response</i> Presented by: Jingjing Liu, Lawrence Berkeley National Laboratory (Lead Author: Mary Ann Piette, Lawrence Berkeley National Laboratory)
	<i>Impact and Incentives for Load Management Strategies in Multifamily Buildings</i> Mark Frankel, Ecotope
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>The Smarts in Components and Controls</b>
	<i>Enhancing the Role of Plug Loads in Grid-Interactive Buildings Using Smart Plugs</i> Yao-Jung Wen, Energy Solutions
	<i>Cloud-Control of Legacy Building Automation System: A Case Study</i> Anand Krishnan Prakash, Lawrence Berkeley National Laboratory
	<i>When Smart Thermostats are Dumb: Lessons Learned from Evaluating Eight Advanced Thermostats</i> Therese Peffer, UC Berkeley

**PANEL 13: ENERGY EFFICIENCY AND EQUITY**

**(Meeting Room: Scripps)**

**Panel Leaders: Jacqui Patterson, Rachel Scheu, and Jennifer Somers**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Extreme Heat/Cold &amp; Climate Change's Disparate Impacts</b>		<b>Transformative Policy</b>
	<i>Severe Weather, Building Efficiency, Resilience, and Human Mortality</i>  <i>Presented by Chitra Nambiar, Pacific Northwest National Laboratory (Lead: Mark Weimar, Pacific Northwest National Laboratory)</i>		<i>Equity Provisions in Illinois' Climate and Equitable Jobs Act</i>  <i>Delmar Gillus, Elevate</i>
	<i>Cooked: Survival by Zipcode (Film screening 20 minute version)</i>  <i>Kartemquin Films Fenell Doremus, Producer, Cooked: Survival by Zipcode</i>		<i>Fighting for Energy Equity in MA: Frontline Resistance and Legal Reforms</i>  <i>Sarah Dooling, Massachusetts Climate Action Network</i>
	<i>Invited TBD</i>		<i>First to Reside, Last to Receive Retrofits: Funding and Policies Preventing Tribal Efficiency</i>  <i>Maddie Wazowicz, Midwest Energy Efficiency Alliance</i>
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>Equitable Building Decarbonization and Focus on Residents</b>		<b>Overcoming Barriers to Addressing Health and Safety to Enhance Human Health</b>
<i>Decarbonization Retrofits for Affordable Housing: A Chicago Case Study</i>  <i>Abby Francisco, Elevate</i>	<i>Overcoming Health and Safety Barriers to Weatherizing Homes: Lessons Learned from Connecticut</i>  <i>Liz Bourguet, Energy Futures Group</i>		
<i>Equitable Electrification: Helping Gas Customers Electrify Without Increasing Their Short-Term or Long-Term Costs</i>  <i>Emily Levin, VEIC</i>	<b>TBD</b>		
<i>Energy Efficiency to Preserve Affordable Rental Housing in Minneapolis</i>  <i>Rebecca Olson, Center for Energy and Environment</i>	<b>TBD</b>		

**PANEL 13: ENERGY EFFICIENCY AND EQUITY**

**(Meeting Room: Scripps)**

**Panel Leaders: Jacqui Patterson, Rachel Scheu, and Jennifer Somers**

WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am)	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am)
	Redlining, Gentrification and Energy Insecurity		Community-Led Decarbonization Solutions - <b>BROADCASTED SESSION</b>
	<i>Driving Displacement: Energy's Role in Urban Gentrification</i>		<i>Integrating Housing, Workforce, Health and Energy Equity in Building Decarbonization in Los Angeles, California</i>
	Manogna Mantripragada, Greenlink Analytics		Presented by: Chelsea Kirk, SAJE and Lauren Ahkiam, LAANE (Lead Author: Veena Singla, NRDC)
	<i>Energy Efficiency, Land Use, and Equity</i>		<i>Uplifting the Voices of Climate and Environmental Justice Community Leaders</i>
	Joanna Gubman, Urban Environmentalists		Angelina Benson-Glanz, Elevate
	<i>Who's Energy Insecure? Results from the 2020 Residential Energy Consumption Survey (RECS)</i>		TBD
	Presented by: D. Ross Beall, U.S. Energy Information Administration (Lead Author: Carolyn Hronis, U.S. Energy Information Administration)		
	SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)
	Making the Case for Building Electrification		Decarbonization, Housing and Economic Benefits
<i>Nothing For Us, Without Us: What Do Households of Color Actually Want (And What are Their Landlords Willing to Do)?</i>	<i>Energy Efficiency is <u>Part</u> of the Solution</i>		
Hal Nelson, Portland State University	Dan Streit, Slipstream		
<i>Choose Your Own Adventure: Funding the Decarbonization of Under-resourced Residential Buildings</i>	<i>Where to Target LMI Electrification Upgrades: Gaining Insights from New York Housing Data</i>		
Bridgett Neely, Firefely Energy Consulting	Dale Kruchten, Guidehouse		
TBD	<i>Urban Building Energy Modeling to Target Energy Efficiency Retrofits for Equitable Community Emissions Reduction Planning</i>		
	Zachary Berzolla, Massachusetts Institute of Technology		



**PANEL 13: ENERGY EFFICIENCY AND EQUITY**

**(Meeting Room: Scripps)**

**Panel Leaders: Jacqui Patterson, Rachel Scheu, and Jennifer Somers**

FRIDAY, AUGUST 26	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>How Are We Measuring Success? Changing the Frame in Energy Efficiency Metrics.</b>
	<i>Realizing Equitable Community-based Climate and Clean Energy Investments</i>
	<i>Angelina Benson-Glanz, Elevate</i>
	<i>The Power for Change: Energy Policy and Racial Equity</i>
	<i>Aditi Bansal, Columbia University and Carlos Martin, Harvard University Joint Center for Housing Studies</i>
	<i>TBD</i>
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>In Their Own Words: Climate Feminist and Environmental Justice Advocates</b>
	<i>Conquering Stereotypes and Telling the Stories of EJ Residents + Activist</i>
<i>Daphany Rose Sanchez, Kinetic Communities Consulting</i>	
<i>Exploring Climate Feminism in Canada: A Podcast Episode</i>	
<i>Meghan Bennett, Summerhill</i>	
<i>Elevating the Voice of Rural Communities: Real-World Strategies and Solutions for Equitable Decarbonization and Resiliency Planning</i>	
<i>Courtney Henderson, See Change Institute</i>	

**PANEL 14: POSTER PRESENTATIONS (Meeting Room: Merrill Hall)**

**Panel Leader: Kristen Parrish**

<b>TUESDAY, AUGUST 23 4-6 PM</b>	
<b>POSTER TITLE</b>	<b>AUTHOR</b>
<i>DSM benefits all financially! – We just have to show a more complete picture of the DSM financials!</i>	Ali Bozorgi, ICF
<i>Laboratory Performance Assessment of High Efficiency Refrigerated Display Cases with Low GWP Refrigerants</i>	Ramin Faramarzi, National Renewable Energy Laboratory
<i>Benchmark Datasets Development and Applications</i>	Tianzhen Hong, Lawrence Berkeley National Laboratory
<i>Decarbonizing Commercial Office Tenant Spaces: Creating a New Business as Usual</i>	Katie Schwamb, Building Energy Exchange
<i>Tools to Estimate the Hourly Value of Energy Efficiency Measures</i>	Natalie Mims Frick, Lawrence Berkeley National Laboratory
<i>A New Disaster-Resistance Construction Tool in the Building America Solution Center</i>	Theresa Gilbride, Pacific Northwest National Laboratory
<i>Healthy Homes and Occupant Comfort: The Hidden Benefits of Energy Retrofit</i>	Samuel Rosenberg, Pacific Northwest National Laboratory
<i>Data Highlights from the 2018 Commercial Building Energy Consumption Survey (CBECS)</i>	Presented by: Tuncay Alparslan, U.S. Energy Information Administration (Lead: Joelle Michaels, U.S. Energy Information Administration)
<i>Energy in Design: Toward Performance-based Recognition in Architectural Design Awards</i>	Christopher Meek, University of Washington
<i>Bridging the Knowledge Gap on Advanced Building Controls</i>	Dave Vigliotta, Slipstream
<i>Affordable, All-electric Cold Climate Homes: a Look Inside the Winning 2021 Solar Decathlon Build Challenge House</i>	Jennifer Scheib, University of Colorado, Boulder
<i>The Policy Mullet: Good Intentions in Front, Bad Policy in Back</i>	Christopher Payne, Lawrence Berkeley National Laboratory
<i>High Rise   Low Carbon; Office Deep Retrofit Profiles</i>	Richard Yancey, Building Energy Exchange
<i>Testing the Waters: Why Challenging Department of Energy Assumptions is Vital for Our Energy Future</i>	Kayla Kirksey, Evergreen Economics
<i>Helping cities efficiently navigate building decarbonization around the world</i>	Kayla Rakes, World Resources Institute
<i>Residential Modeling Enhancements to Identify Least-Cost Pathways to Net Zero Carbon Homes</i>	Ben Polly, National Renewable Energy Laboratory
<i>Designing for Accessibility: Lessons from User Experience Research</i>	Katie Cary, TRC
<i>Recruitment for Representative In-Home Research During COVID-19: Strategies and Lessons Learned from the Front Line</i>	Kevin Price, Evergreen Economics
<i>The Lost World of Energy Savings: Part III</i>	Matt Tyler, Pacific Northwest National Laboratory
<i>The Case for Holistic Energy Efficiency Programs, featuring the City of Pomona</i>	Rachel Pennington, The Energy Coalition
<i>Everyone's a Winner!</i>	Amy Buege, Verdant Associates

**PANEL 14: POSTER PRESENTATIONS (Meeting Room: Merrill Hall)**

**Panel Leader: Kristen Parrish**

<b>TUESDAY, AUGUST 23 4-6 PM (continued)</b>	
<b>POSTER TITLE</b>	<b>AUTHOR</b>
<i>Advancing Equity, Urban Resilience and Energy Savings Through Heat Mitigation Strategies</i>	Samarth Medakkar, Midwest Energy Efficiency Alliance
<i>The Many Faces of HVAC Performance through TSPR</i>	Supriya Goel, Pacific Northwest National Laboratory
<i>A Brick Enabled and Mortar Tested Application to Detect Passing Valves in Hot Water Distributions Systems</i>	Carlos Duarte Roa, Center for the Built Environment, University of California, Berkeley
<i>Watt are they waiting for? Potential and Barriers to Decarbonizing Commercial New Buildings</i>	Keith Rivers, Evergreen Economics
<i>Quantifying the community health impacts of delayed commercial energy code adoption</i>	Madison Johnston, Midwest Energy Efficiency Alliance
<i>High-bays, Hangars, and Hoops: Validating Wireless Lighting Controls for Military Installations</i>	Bryan Urban, Fraunhofer USA
<i>How Much Green are We Talking About? – Estimating Customer Bill and Green House Gas Impacts from DR Load Increase and Decrease Event</i>	Lauren Robinson, Verdant Associates
<i>Building Resilient Communities through Equitable Financing Strategies</i>	Patrick Ngo, Lincus, Inc.
<i>Battery storage behavior – cutting through the hype with real world data</i>	Brian McAuley, Verdant Associates
<i>Price-Based Grid Coordination</i>	Bruce Nordman, Lawrence Berkeley National Laboratory
<i>Development of an empirically calibrated calculator to predict air sealing savings using the Alberta Air Infiltration Model – An effective tool for a Performance-based Air Sealing Program</i>	Sooria Narsiah, Summerhill Group
<i>How to Build a Connected Community: Government Policies to Promote GEBs</i>	David Nemptow, U.S. Department of Energy
<i>The challenges and opportunities to electrify service hot water and cooking appliances in commercial kitchens: lessons learned from reach code cost effectiveness analysis</i>	Jingjuan Dove Feng, TRC Companies, Inc.
<i>Some like it hot – but well-insulated is better</i>	Glenn Gavi, DNV
<i>Building Energy Efficiency Policy and Social Innovation: the Green Remodeling Project in South Korea</i>	Soojin Shin, University of Delaware
<i>What is Inclusive Utility Investment for Site-specific Energy Upgrades, and What Can We Learn from Reported Field Experience</i>	Jill Ferguson, LibertyHomes

**PANEL 14: POSTER PRESENTATIONS (Meeting Room: Merrill Hall)**

**Panel Leader: Kristen Parrish**

<b>THURSDAY, AUGUST 25 4-6 PM</b>	
<b>POSTER TITLE</b>	<b>AUTHOR</b>
<i>Connecticut Department of Energy Home Energy Score Initiative</i>	John Karyczak, Avangrid
<i>Celebrating 20 Years of Advancing the Buildings Industry</i>	Holly Carr, National Renewable Energy Laboratory
<i>Implementing an Eclipse VOLTRON-based Software Platform to Make a Building "Grid-Interactive"</i>	Presented by Scott Hackel, Slipstream (Lead: Xiaohui Zhou, Slipstream)
<i>Revisiting Zion: Evaluating Passive Design Strategies for Net Zero Ambitions</i>	Zachary Berzolla, MIT
<i>Home Work: How Students Designed a Net-Zero Energy Tiny House</i>	Mariana Sanchez, Western Washington University
<i>Expanding outreach and services to low-income communities</i>	Jean Perez, Oncor Electric Delivery
<i>Building Blocks of Whole Facility Savings Analytics Platform</i>	Abigail Hotaling, VEIC
<i>Comparing Wall Retrofit Systems by Performance, Cost and Constructability</i>	Presented by Cheryn Metzger, Pacific Northwest National Laboratory (Lead: Patti Gunderson, Pacific Northwest National Laboratory)
<i>Almost DIY: Nonintrusive Way to Make Your Home Grid Integrated</i>	Michael Zeifman & Hannah Fontenot, Fraunhofer
<i>It's Getting BETR: The Building Electrification Technology Roadmap</i>	Alexi Miller, New Buildings Institute
<i>There's Underserved Customers in Them There Hills: Identifying and Understanding the Needs of Underserved Communities</i>	Joe Van Clock, Apex Analytics
<i>The New Grid Demands Flexibility: How Utility Programs Can Encourage Buildings to Play an Active Role in Grid Transformation Through Demand Flexibility</i>	Alexi Miller, New Buildings Institute
<i>Building a framework to support geographically focused efforts to support peak demand reductions, carbon emissions reductions, or increased demand response participation</i>	Presented by Tracy Scott/Andrew Shepard, Energy Trust of Oregon (Lead: Quinn Cherf, Energy Trust of Oregon)
<i>Energy Equity Metrics: Examples and Best Practices for Measuring the Impact of Clean Energy Policies and Programs</i>	Roxana Ayala, ACEEE
<i>One size fits none: An analysis of regional differences in building and equipment stock for utility program planning</i>	Maddie Koolbeck, Slipstream
<i>A New Ruleset Application Testing Standard to Support Performance-Path Compliance and Above Code Programs</i>	Amir Roth, U.S. Department of Energy
<i>Digitizing the Manufacturing Process using Industry 4.0 Strategies and Building Systems Optimization</i>	Bhanu Kaini, Eversource Energy

**PANEL 14: POSTER PRESENTATIONS (Meeting Room: Merrill Hall)**

**Panel Leader: Kristen Parrish**

<b>THURSDAY, AUGUST 25 4-6 PM (continued)</b>	
<b>POSTER TITLE</b>	<b>AUTHOR</b>
<i>Is There Gold in Them There Hills? Mining Public Records for Commercial HVAC System Details</i>	Presented by Bretnie Eschenbach, Cadeo Group (Lead: Jonah Hessels, Cadeo Group)
<i>A window into the future of lighting programs</i>	Meryl Compton, Esource
<i>Building Resiliency into Operational Improvements with Combined Heat and Power (CHP) and Microgrids</i>	Rosemary Jojic, Pepco Holdings Inc.
<i>To count or not to count, now that is the question: accounting for pandemic related effects in programs</i>	Santiago Rodriguez-Anderson, SBW Consulting
<i>Development of an Annual Air Handling Unit Fault Dataset for FDD Tools: Lessons Learned and Consideration for FDD Developers</i>	Armando Casillas, Lawrence Berkeley National Laboratory
<i>Identifying Savings Potential for Simple Buildings through Regression-based Modeling Tools</i>	Chitra Nambiar, Pacific Northwest National Laboratory
<i>Engaging a Diverse Workforce in the Building Sciences through the JUMP into STEM Program: Impact Assessment</i>	Presented by Kim Trenbath, National Renewable Energy Laboratory (Lead: Kerry Rippy, National Renewable Energy Laboratory)
<i>Electrification's Massive Opportunity: promote equity or promote a different shade of status quo?</i>	Carl Samuelson, Michaels Energy
<i>NOx, NOx - Who's There? Decarbonizing Buildings through NOx Emissions Standards</i>	Nancy Seidman, Regulatory Assistance Project
<i>History of Residential Energy Code Progress Toward Net-Zero Hybrid HVAC Systems: The Next Generation of Flexible, Efficient, Carbon-Friendly HVAC Design</i>	Rob Salcido, Pacific Northwest National Laboratory
<i>Refrigerated Display Cases – Can They Flex Their Power?</i>	Dre Helmns, Lawrence Berkeley National Laboratory
<i>Refrigerated Display Cases – Can They Flex Their Power?</i>	Grant Wheeler, National Renewable Energy Laboratory
<i>Energy Credits Let Energy Codes Break Free from Prescriptive Inertia</i>	Reid Hart, Pacific Northwest National Laboratory
<i>Custom Block Rate Design: A Policy Innovation to Accelerate Energy Efficient Technology Adoption in Facilities</i>	Eric Mazzi, Mazzi Consulting
<i>100% Means Everyone: The Imperative for Inclusive Financial Solutions for Equitable Decarbonization</i>	Holmes Hummel, Clean Energy Works
<i>Understanding electricity use in student apartments: small percentages of residents use disproportionate amounts of electricity</i>	Claudia Bustamante, Clarkson University
<i>An Interactive Data Viewer for a National End-Use Load Profile Dataset Covering All Major Building Types, End Uses, and Geographies</i>	Eric J.H. Wilson, National Renewable Energy Laboratory
<i>Developing a Tool to Quickly Assess a Customer's Readiness for Participation in a Connected Communities Program</i>	Kristen Parrish, Arizona State University