

Panel 1: Residential Buildings: Technologies, Design, Operations, and Industry Trends

Panel Leaders: Ryan Kerr & Vladimir Kochkin

MONDAY, AUGUST 22	SESSION 1 (8:30 am - 10:00 am)	TUESDAY, AUGUST 23	SESSION 1 (8:30 am - 10:00 am)
	Cold Climate Decarbonization: Strategies, Costs, and Performance		Demand Response: How Emerging Technologies Can Lead The Way
	<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>
SESSION 2 (10:30 am - 12:00 pm)	SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)
Envelope Solutions: Windows and Phase Change Materials	Heat Pump Water Heaters: Differing Approaches		Heat Pump Water Heaters: Differing Approaches
<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>Robert Hendron, Frontier Energy</i>	<i>Sammy Houssainy, National Renewable Energy Laboratory</i>		<i>Sammy Houssainy, National Renewable Energy Laboratory</i>
WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am)	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am)
	Using Big Data to Understand and Influence Energy Usage Behaviors		Energy Retrofits for Decarbonization: ccASHPs, Air Sealing and Insulation
	<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 Koliner, Apex Analytics</i>		<i>Megan Nedzinski, Vermont Integrated Architecture</i>
	<i>Predicting Impact of Temperature Setpoint Adjustment Under Time-based Electricity Rate Plans</i>		<i>Aerosol Sealing of Existing Homes</i>
	<i>Mahesh Naidu, Lawrence Berkeley National Laboratory</i>		<i>Curtis Harrington, UC Davis Western Cooling Efficiency Center</i>
	<i>End-Use Level Impacts of the COVID-19 Pandemic on Residential Energy Usage</i>		<i>Field Test Results from Cold Climate Air Source Heat Pump Installations in New</i>
	<i>Hans Lehndorff, Evergreen Economics</i>		<i>Gabrielle Stebbins, Energy Futures Group</i>
SESSION 2 (10:30 am - 12:00 pm)	SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)
Decarbonization Takes a Village: Dual Fuel Solutions	Innovative Technologies and Approaches: What's Next?		Innovative Technologies and Approaches: What's Next?
<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>Radiant Ceilings As A Residential Retrofit: Examining the Myths and Realities</i>
<i>Steve Nadel, ACEEE</i>	<i>Simon Pallin, Frontier Energy</i>		<i>Simon Pallin, Frontier Energy</i>
<i>Why We Should Never Install Another Air Conditioner!</i>	<i>Experimental Evaluation of a Multi-function Compact Heat Pump for All-electric Residential Buildings</i>		<i>Experimental Evaluation of a Multi-function Compact Heat Pump for All-electric Residential Buildings</i>
<i>Ben Schoenbauer, Center for Energy and Environment</i>	<i>Subhrajit Chakraborty, Western Cooling Efficiency Center</i>		<i>Subhrajit Chakraborty, Western Cooling Efficiency Center</i>
<i>Accounting for the Multiple Dimensions of Inequality in Utility Programs</i>	<i>Hydronic vs. Hydronic: Comparing Performance of Air-to-Water Heat Pumps Coupled with Radiant Ceilings and Fan Coils</i>		<i>Hydronic vs. Hydronic: Comparing Performance of Air-to-Water Heat Pumps Coupled with Radiant Ceilings and Fan Coils</i>
<i>Karen Ehrhardt-Martinez, ICF</i>	<i>James Haile, Frontier Energy</i>		<i>James Haile, Frontier Energy</i>

Panel 1 continued

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

Home Energy System Controls: More Important than Ever

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
Dave Intner, Southern California Edison

Validation of HVAC Hardware-In-the-Loop Simulation for Advanced Control Strategies in Smart Homes

Sugirdhalakshmi Ramaraj, National Renewable Energy Laboratory

Evaluation of Condensation Risk Mitigation Methods for Residential Ceiling Cooling Systems

Stephen Chally, Frontier Energy

SESSION 2 (10:30 am - 12:00 pm)

OPEN SESSION

FRIDAY, AUGUST 26

Panel 2: Residential Buildings: Program Design, Implementation, and Evaluation

Panel Leaders: Lena Burkett & Amit Kulkarni

MONDAY, AUGUST 22	SESSION 1 (8:30 am - 10:00 am)	TUESDAY, AUGUST 23	SESSION 1 (8:30 am - 10:00 am)
	Electrification		Marketplace
	<i>Decarbonization of Affordable Multifamily Housing: A Comparative Analysis of Program Approaches</i> Charlotte Cohn, ACEEE		<i>Efficient Shopping for All: A Climate Imperative within Reach</i> Anne Arquit Niederberger, Enervee
	<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>Global Assessment of Appliance Energy Efficiency Standards and Labelling Programmes Achievements, 2021</i> Mark Ellis, 4E TCP
SESSION 2 (10:30 am - 12:00 pm)	Energy Affordability	SESSION 2 (10:30 am - 12:00 pm)	Unique Needs of Underserved Populations
<i>Accounting for Equity in Benefit Cost Analysis</i> Natalie Fortman, E4TheFuture	<i>Translation is Not Enough: Meaningfully Serving Communities Speaking Languages Other Than English</i> Liz Kelley, ILLUME Advising	<i>Going the Distance: Sustained Energy Burden Reduction through Energy Efficiency</i> Hassan Shaban, Empower Dataworks	<i>Delivering Energy Savings - The Unique Needs of Residential Manufactured Home Customers</i> Dillon Teal, APTIM
<i>Financing Energy Upgrades: Not a "One Size Fits All" Proposition</i> David Meisegeier, ICF	TBD		
WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am)	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am)
	Making Stronger Connections		Pump up the Volume...
	<i>Thermostat Setting Preferences and Implications for Smart Thermostat Programs</i> Jackie Berger, APPRISE		<i>Maximizing Mini-split Potentials</i> Jason Treger, Sustainabilist
	<i>Factors Affecting Override Behavior during Demand Flexibility from High-resolution Smart Thermostat Data</i> Opeoluwa Wonuola Olawale, National Renewable Energy Laboratory		<i>Air-Source Heat Pumps: Equipment Metrics for Programs</i> Robb Aldrich, Steven Winter Associates
	<i>Expanding Energy Efficiency Open Source Measurement Methods to Incorporate Demand Response for Grid Stability</i> Joe Glass, Recurve		<i>Electric Service for the 21st Century</i> Benjamin Zank, Energy Solutions
SESSION 2 (10:30 am - 12:00 pm)	Big Data for Big Changes	SESSION 2 (10:30 am - 12:00 pm)	Non-Energy Impacts
<i>Using Big Data to Assess Energy System Transitions in Under-resourced Communities</i> Marc Costa, The Energy Coalition	<i>Evaluation of Programs for "Hard to Reach" Customers and Leveraging Non-Energy Impacts (NEIs)</i> Arlene Lanciani, Consortium for Energy Efficiency	<i>Data-Driven, Equity-Centered Energy Efficiency for Multifamily Complexes</i> Hal Nelson, Res-Intel	<i>Health Benefits of End-use Electrification and Renewables in Building Sectors: An Optimization Model</i> Haleh Moghaddasi, Texas A&M University
<i>Remote Virtual Inspections: Enhancing Building Code Enforcement and Compliance Capacities</i> Jerica Stacey, International Code Council	<i>Climate Solutions Serving Vulnerable Communities in Northern Illinois: Monetizing ComEd's Energy Efficiency Programs' Non-energy Benefits for Cost-effectiveness Tests</i> Patricia Plympton, Guidehouse		

Panel 2 continued	
FRIDAY, AUGUST 26	SESSION 1 (8:30 am - 10:00 am)
	Program Design
	<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
	SESSION 2 (10:30 am - 12:00 pm)
	Reaching Scale and Scaling Reach
	<i>Building Workforce Capacity in the Green Economy</i> Laura Capps, Efficiency Vermont
	<i>Advantages of Implementing a Scalable Building Energy Model (BEM)-Based Approach vs. Traditional Energy Audits</i> Mudit Saxena, Vistar Energy/XeroHome
	<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

Panel 3: Commercial Buildings: Technologies, Design, Operations, and Industry Trends

Panel Leaders: Alexi Miller & Shanti Pless

MONDAY, AUGUST 22	SESSION 1 (8:30 am - 10:00 am)	TUESDAY, AUGUST 23	SESSION 1 (8:30 am - 10:00 am)
	The Healthy Buildings and Energy Nexus		Decarbonizing Existing Buildings
	<i>How Does Lighting for Wellness Affect Energy Use? Results from Simulation and Laboratory Studies, and a Look Ahead.</i> Jordan Shackelford, Lawrence Berkeley National Laboratory		<i>Automated Anomaly Detection and Diagnosis for Real Time Carbon Minimization</i> Hao Huang, Buildings Alive
	<i>Energy Implications of Using Germicidal Ultraviolet Radiation to Combat SARS-CoV-2</i> Gabe Arnold, Pacific Northwest National Laboratory		<i>Decarbonization Training for Facility Managers</i> Jillian Winterkorn, Eversource
	<i>Energy Efficiency Measures to Improve Indoor Air Quality and Reduce the Spread of the SARS-CoV-2 Virus</i> Robert Mowris, Verified Inc.		<i>Can Electrification Find a Sweet Spot? Summarizing Field Data from Electrification Audits in Commercial and Industrial Buildings.</i> Carl Samuelson, Michaels Energy
	SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)
	What's after Zero: Net Zero Energy Buildings and Beyond		Taking Electrification to Scale - Cities, States, and Beyond
<i>Challenges and Lessons Learned from an Analysis of Three Zero Energy Buildings</i> Kate Hickox, Pacific Northwest National Laboratory	<i>Audit Template Tool: Facilitating Data Driven Decision Making for Jurisdictions</i> Supriya Goel, Pacific Northwest National Laboratory		
<i>Competition Between Ventilation and Cooling in Commercial Buildings and Implications for Energy Flexibility</i> Caitlin McMahon, Stanford University	<i>What's in Stock: Integrated Modeling of Building Electrification, Energy Efficiency, and Stock Turnover for New York City</i> William Prindle, ICF		
<i>Cutting Carbon with Codes: Reducing the Worst Climate Impacts of Construction</i> Webly Bowles, New Buildings Institute	<i>Cold Climate Packaged Heat Pumps – Finding Sasquatch</i> Evan Hallas, Taitem Engineering		
WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am)	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am)
	High Performance HVAC Opportunities		Cooking and Cultivation: (de)Carbonizing Comestibles and Consumables
	<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
	SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)
Can We Control It?	Smart Controls and Big Data		
<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		

Panel 3 continued	
FRIDAY, AUGUST 26	SESSION 1 (8:30 am - 10:00 am)
	Modeling EE, DR, and DERs in Commercial Buildings
	<i>Probabilistic Modeling of Commercial Building Occupancy and Electric Vehicle Charging Behavior Using Location-Based Map Data</i> Rawad El Kontar, National Renewable Energy Laboratory
	<i>Incorporating the Impacts of Climate Change in a Typical Weather Year</i> Anna Kelly, Power TakeOff
	<i>Calibration of Building Energy Model to Determine Load Flexibility Potential</i> Tanushree Charan, National Renewable Energy Laboratory
	SESSION 2 (10:30 am - 12:00 pm)
	Energy Design in Commercial Buildings
	<i>Measuring and Benchmarking Demand Flexibility in Commercial Buildings and Flattening the Duck – Addressing Baseline and Commissioning Challenges</i> Jingjing Liu, Lawrence Berkeley National Laboratory
	<i>Integrating Embodied Carbon Knowledge for Design Decisions</i> Heather Goetsch, National Renewable Energy Laboratory
	<i>What We Learned From Analyzing 15 Millions Rows of Commercial Buildings' HVAC Fault Data</i> Eliot Crowe, Lawrence Berkeley National Laboratory

Panel 4: Commercial Buildings: Program Design, Implementation, and Evaluation

Panel Leaders: Sharyn Barata & Sarah Zaleski

MONDAY, AUGUST 22	SESSION 1 (8:30 am - 10:00 am)	TUESDAY, AUGUST 23	SESSION 1 (8:30 am - 10:00 am)
	Zooming Out - Insights Gained through Birdseye View Look at Programs		Evolving Pathways to Decarbonize Buildings
	<i>Two Decades of ENERGY STAR® - A Retrospective Study of EPA's ENERGY STAR Buildings Score and Certification</i> Bill Von Neida, U.S. Environmental Protection Agency		<i>Building Electrification in New Construction: Challenges and Opportunities</i> James Donamski, CLEAResult
	<i>Evaluating Workforce Programs – Toward Designing More Effective and Creative Interventions</i> Elizabeth Kelley, Illume Advising		<i>Architects, Engineers, and Contractors—Key to Moving towards a Zero Carbon Future</i> Paul Torcellini, National Renewable Energy Laboratory
	TBD		<i>B-Y-E to C-H-P - How One C&I Program Evolved to Support Decarbonization</i> Jake Fuller, EcoMetric Consulting
SESSION 2 (10:30 am - 12:00 pm)	Transitioning Policy into Program Design	SESSION 2 (10:30 am - 12:00 pm)	Innovations in Commercial Program Evaluation
<i>Accelerating State-wide Benchmarking Laws into Programs of the Future</i> Chad Gilless, Stillwater Energy	<i>Maximizing Public Sector Energy Efficiency Programs: Adapting to Policy through Innovative Design</i> Pranesh Venugopal, The Energy Coalition	<i>All About That Base...line - An Evaluation of Demand Response Baseline Performance for Generation and High Frequency Event Participants</i> Ethan Barquest, Verdant Associates	<i>Enhancing California's NMEC Programs; Technical Reviewer's Perspective</i> Arash Kialashaki, Pacific Gas & Electric Company
<i>Building Performance Standards: A Lifecycle Approach to Building Decarbonization</i> Harry Bergmann, U.S. Department of Energy		<i>CalTRACK and Commercial Buildings: Confronting COVID and Other Non-Routine Events</i> Stephanie Bieler, Demand Side Analytics	
WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am)	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> Jingging Liu, Lawrence Berkeley National Laboratory		<i>Investing in Main Street: an Energy Program to Support Small Businesses in Disadvantaged Communities</i> Carolyn Greer, Tennessee Valley Authority
	<i>Comparative Analysis and Trends of Energy Efficiency and Demand Management Program Budgets and Savings Impact Across the U.S.</i> Ian Metzger, TRC Companies		<i>Opportunities to Decarbonize Small Commercial Buildings</i> Kassandra Grimes, U.S. Department of Energy
	<i>Demand FLEXmarket — Creating a Market Access Model to Unleash Solutions Providers and Scale Demand Flexibility</i> Carmen Best, Recurve		TBD
SESSION 2 (10:30 am - 12:00 pm)	People Power - Recognizing and Harnessing the Human Dimension	SESSION 2 (10:30 am - 12:00 pm)	Equitably Expanding Access to Commercial Energy Opportunities
<i>Tunnel Vision: The Impact of Ignoring Behavior in Technological Innovation</i> Jes Rivas, ILLUME Advising	<i>Ignorance is BAS: How EMS/BAS Operator Knowledge Can Impact Performance</i> Christopher Dyson, DNV	<i>Understanding Commercial Building Performance, Electrification, and the Use of Renewable Energy in Socially Vulnerable Communities</i> Tracey Narel, US EPA	<i>Market Transformation through Equal Impact of 179D</i> Ryan Meyer, National Renewable Energy Laboratory
<i>Observational Research Methods for Evaluating Emerging Technologies for the Built Environment</i> Ruth Taylor, Pacific Northwest National Laboratory		<i>Developing an Online Application that Puts the Customers and the Utility First</i> Katie Cary, TRC	

Panel 4 continued	
FRIDAY, AUGUST 26	SESSION 1 (8:30 am - 10:00 am)
	All Together Now - Deepening Impact through Integrated Technologies
	<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> Felipe Leon, Pacific Northwest National Laboratory
	<i>New Product Development: How to Keep the DSM Product Pipeline Flowing</i> Jeremy Kraft, TRC
	TBD
	SESSION 2 (10:30 am - 12:00 pm)
	Sector Advances Worth Highlighting
	<i>Innovative Kitchen Management Application Test and Learn Project</i> Liza Legaspi, Southern California Gas Company
	<i>Driving Deeper Operational Savings in SMB Facilities through Virtual Commissioning Using Real-Time, 1-Minute Interval Energy Usage Data</i> Rick Tonielli, ComEd
	<i>No Reservations - Hotels See the Benefits of Energy Management Systems</i> Vestal Tutterow, Lawrence Berkeley National Laboratory

Panel 5: Scaling Whole Building Retrofits

Panel Leaders: Heather Goetsch & Martha Campbell

MONDAY, AUGUST 22

SESSION 1 (8:30 - 10:00 am)
Decarbonizing Tall Buildings
<i>An All-electric Passive House Renovation of an 100-year Old Skyscraper: Lessons Learned</i> Cecil Scheib, New York University
<i>Scaling Tall Building Decarb in the Biggest US Market</i> Adam Hinge, Sustainable Energy Partnerships
<i>Decarbonization Packages for NYC Office Buildings</i> Helen Chanie, Building Energy Exchange
SESSION 2 (10:30 am - 12:00 pm)
Unlocking Commercial Building Decarbonization
<i>Designer Interviews: Key Findings on Boiler Retrofits and Electrification in Existing Buildings</i> Emily Lamon, University of California, Berkeley
<i>Decarbonizing Large Buildings: Overcoming Barriers and Supporting Market Advancement</i> Patricia Lightburn, Dunsy Energy + Climate Advisors
<i>Pathways to Home Decarbonization</i> Iain Walker, Lawrence Berkeley National Laboratory

TUESDAY, AUGUST 23

SESSION 1 (8:30 - 10:00 am)
Scaling Multifamily Retrofits
<i>A Case Study Modeling Barriers and Opportunities for Multifamily Electrification Retrofits</i> Rhys Davis, Resource Refocus
<i>Early Designs and Deep Retrofits: Meeting Affordable Multifamily Organizations with Useful Technical Services</i> Alex Novie, Energy Trust of Oregon
<i>Making Naturally Occurring Affordable Housing More Efficient: Outreach to Upgrade</i> Abigail Corso, Elevate
SESSION 2 (10:30 am - 12:00 pm)
Equitable Approaches to Whole Building Retrofits
<i>Whole-Home Retrofit Approaches for Health and Equity</i> Yu Ann Tan, RMI
<i>Customer Financial Outcomes Under Inclusive Utility Investment Programs</i> Jeff Deason, Lawrence Berkeley National Laboratory
<i>Equity Focused Minnesota Workforce Development Pilot</i> Sarah Northrup, Center for Energy and Environment

WEDNESDAY, AUGUST 24

SESSION 1 (8:30 - 10:00 am)
Aggregation Models for Retrofits
<i>Planning for Portfolio-wide Net Zero Energy Existing Buildings (ZEEB) on a Budget</i> David Kaiser, City of Alexandria, VA
<i>Meter-Based Targeting for Beneficial Electrification at Scale</i> Mia Oppelstrup, Recurve Analytics
<i>Systems Retrofits for All: Utility Incentive Programs to Accelerate the Deployment of Systems Packages</i> Cindy Regnier, Lawrence Berkeley National Laboratory
SESSION 2 (10:30 am - 12:00 pm)
Leveraging Data to Catalyze Adoption of Whole Building Retrofits
<i>Scaling Audits through Machine Learning Methods on Novel Image Data</i> Reshma Singh, Lawrence Berkeley National Laboratory
<i>Better, Cheaper, Faster, Stronger: A New Data Collection Campaign to Capture the Benefits of Industrialized Construction Approaches for Whole Building Retrofits</i> Aven Satre-Meloy, Lawrence Berkeley National Laboratory
<i>Taking Down Barriers – Deploying a BEM-Based Approach to Promote Energy Efficiency and Decarbonization in the Existing Residential Sector</i> Mudit Saxena, Vistar Energy Inc./XeroHome

THURSDAY, AUGUST 25

SESSION 1 (8:30 - 10:00 am)
Advancing Retrofit Technologies
<i>A Deep Dive into Air Sealing Best Practices and Market Potential</i> Brigid O'Connor, Summerhill Group, Inc.
<i>Digitalization of Deep Wall Retrofits: An Integrated Insulated Panel Block (PB) System and Process</i> Kurt Roth, Fraunhofer USA
<i>Best Practices from the Field: Air-to-Water Heat Pump Combi Systems</i> Jason LaFleur, GTI Energy
SESSION 2 (10:30 am - 12:00 pm)
Transforming the Market for Retrofits
<i>Closing the Code Gap: Best Practices for Existing Building Energy Codes</i> Lauren McNutt, Dunsy Energy + Climate Advisors
<i>Creating Regional Ecosystems for Scalable, Low-carbon Whole-building Retrofits</i> Patty Kappaz, Allegheny Science & Technology
<i>It Takes a Platform: Creating an Ecosystem to Drive Energy Efficiency</i> Robin LeBaron, Pearl Certification

Panel 5 continued	
FRIDAY, AUGUST 26	SESSION 1 (8:30 - 10:00 am)
	Perspectives in Financing Retrofits
	<i>Electrofit Cost Effectiveness, Policymaking, and Financing Approaches for Local Agencies</i> Farhad Farahmand, TRC
	<i>Financing Energy Improvements in the Mortgage</i> Richard Faesy, Energy Futures Group
	<i>Better Bang for Your Buck? Comparing Savings Realization from ESPCs and Direct-funded Projects</i> Shankar Earni, Lawrence Berkeley National Laboratory
	SESSION 2 (10:30 am - 12:00 pm)
	Compressing Costs and Extracting Value to Scale Whole Building Retrofits
	<i>The Costs of Home Decarbonization</i> Iain Walker, Lawrence Berkeley National Laboratory
	<i>Energy Efficiency as a Service: An Emerging Tool for Utilities to Reach Deeper Savings in Buildings</i> Nick Henner, ACEEE
<i>Leveraging Standard Data Models to Streamline Whole Building Retrofits</i> Richard Andrulis, Performance Systems Development	

Panel 6: Utilities and the Future

Panel Leaders: Ben Clarin & Jim Jerozal

MONDAY, AUGUST 22	SESSION 1 (8:30 - 10:00 am)	TUESDAY, AUGUST 23	SESSION 1 (8:30 - 10:00 am)
	Working Together - Lessons Learned in Collaboration that Enables the Utility of the Future		To Flex or not to Flex - Planning, Demonstrating, and Deploying Building Technologies as Grid Resources
	<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 (NWA): 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>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>
	SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)
Learning by Doing - Lessons Learned from Deploying Utility Decarbonization Programs	A Decarbonized Future - What is the Gas Utility's Role		
<i>One Leak at a Time: Embedding Refrigerant Management in Building Electrification and Decarbonization Strategies</i> <i>Ali White, 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, Liberty Homes</i>	<i>Hawaii's Path to Decarbonization: Keeping the Lights On as the Last Coal Plant</i> <i>Brian Kealoha, Hawai'i Energy</i>		
WEDNESDAY, AUGUST 24	SESSION 1 (8:30 - 10:00 am)	THURSDAY, AUGUST 25	SESSION 1 (8:30 - 10:00 am)
	Including what Matters - Emerging Metrics and Tools for Planning the Utility of the Future		Learning from the Past and Data from the Present to Model and Predict the Utility of the Future
	<i>Moving the Target – Evolving Portfolio Metrics from EE to GHG</i> <i>JJ Vandette, VEIC</i>		<i>Reimagining Energy Efficiency: Building on a Legacy of Success for Higher Impacts and Value</i> <i>Dan York, ACEEE</i>
	<i>A Utility's Clean Energy Equity Plan</i> <i>Jennifer Finnigan, Seattle City Light</i>		<i>The Deproliferation of Refrigerant Greenhouse Gases</i> <i>Brad Hoover, DNV</i>
	<i>Climate-Forward Performance Incentives: Rewarding What Matters</i> <i>Rachel Gold, RMI</i>		<i>Electric Utility Rates are Critical to Broad Space-heating Electrification - Data from the Midwest</i> <i>Carl Nelson, Center for Energy and Environment</i>
	SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)
Utility Planning and Programs - Lessons Learned from Including Equity in the Mix	Let the Data Tell the Story - Enabling Better Utility Programs through Data Analytics		
<i>One Utility's Journey to Systematically Gain Focus on Equity</i> <i>Lori Moen, Seattle City Light</i>	<i>Bills, Bills, Bills – Can Utility Meter Data Tell the Heat Pump Story?</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>Lisa Green, Energy 350</i>	<i>Data Requirements for Decarbonization through Utility Energy Efficiency Programs</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>Laura Goldberg, Natural Resources Defense Council</i>	<i>Choosing the Carbon Factor for the Job: Exploring Available Carbon Emissions Factors and the Impact of Factor Selection</i> <i>Elaina Present, National Renewable Energy Laboratory</i>		

Panel 6 continued	
FRIDAY, AUGUST 26	SESSION 1 (8:30 - 10:00 am)
	People and Things - The Infrastructure and Workforce to Support Building Decarbonization
	<i>Residential Electric Service Upgrades for Electrification Retrofits</i> Shoshana Pena, NV5 Inc.
	<i>Synergistic Transition: An Exploration of Non-fossil Opportunities for Plumbers and Pipefitters</i> Amy Rider, Building Decarbonization Coalition
	<i>Dig Here: Insights from Direct Burial Cable Study and Implications for Electrification</i> Gomathi Sadhasivan, DNV
	SESSION 2 (10:30 am - 12:00 pm)
	Valuating the Future Systems that Enable Community Decarbonization
	<i>Assessment of the Value of Novel Waste Heat Sources and a Path Towards Adoption</i> Manuel Laemmle, National Renewable Energy Laboratory
	<i>GHG Emissions Reduction Analysis in Commercial Buildings</i> Xiaoying Hillaker, DNV
	<i>Introducing the Distributed District Energy System</i> Jonathan Bean, The University of Arizona

Panel 7: Market Transformation

Panel Leaders: Mark Rehley & Carolyn Szum

MONDAY, AUGUST 22

SESSION 1 (8:30 am - 10:00 am)
Regional Approaches to Market Transformation
<i>Making Market Transformation Mainstream in Illinois</i> Jim Fay, ComEd
<i>Aligning California's Market Support and Market Transformation Programs</i> Cody Coeckelenbergh, Lincus, Inc.
<i>The Other Meta - How the Minnesota Efficiency Technology Accelerator will Advance Market Transformation</i> Carl Nelson, Center for Energy and Environment
SESSION 2 (10:30 am - 12:00 pm)
International Examples of Market Transformation
<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>Pump Up the (Heat Pump) Volume! Why Supply Chain Strategies are Critical to Heating Technologies Market Transformation</i> Patricia Lightburn, Dunsy Energy + Climate Advisors
<i>Strategic Energy Management and Metrics for Market Transformation</i> William Miller, Lawrence Berkeley National Laboratory

WEDNESDAY, AUGUST 24

SESSION 1 (8:30 am - 10:00 am)
Diversity, Equity, Inclusion in Market Transformation
<i>Equity in Solar – Using Geospatial and Survey Data to Assess Performance and Identify Opportunities</i> Daniel Bausch, APPRISE Incorporated
<i>Look in the Mirror, then Move Forward: Improving the Diversity Equity and Inclusion of the Energy Efficiency Industry</i> Jared Metoyer, DNV
<i>Code Enforcement as a Lever to Address Multifamily Hesitance to Participation in Energy Efficiency Programs</i> Matt Galport, ILLUME Advising
SESSION 2 (10:30 am - 12:00 pm)
Appliances Standards and Test Procedures, Levers in Market Transformation
<i>The Missing Piece: How Test Procedures Enable Market Transformation</i> Rebecca Hovey, Cadeo Group
<i>Getting the Most Out of State Standards</i> Claire Miziolek, Energy Solutions
<i>A Roadmap to Achieve Equitable Access to Efficient Home Appliances</i> Marti Frank, Efficiency for Everyone

TUESDAY, AUGUST 23

SESSION 1 (8:30 am - 10:00 am)
System Approaches in Market Transformation
<i>Industry and Utility Collaboration to Change Midstream Behavior to Increase the Availability and Adoption of Highly Efficient Pumps</i> Christopher Sullivan-Trainor, Consortium for Energy Efficiency
<i>Commercial Building Sensors and Controls: Cost Stack and Adoption Barriers</i> Kim Trenbath, National Renewable Energy Laboratory
<i>System Efficiency Policy: The Next Level of Energy Savings</i> Hans-Paul Siderius, Netherlands Enterprise Agency
SESSION 2 (10:30 am - 12:00 pm)
Next Generation Approaches to Market Transformation
<i>TECH Clean California's Market Transformation Approach: Lessons Learned in Year 1</i> Teddy Kisch, Energy Solutions
<i>Contech to Accelerate Cleantech: Seeding Emerging Innovation Programs for Construction Productivity and Energy Efficiency Integration</i> Ankur Podder, National Renewable Energy Laboratory
<i>How Ameren IL is Leveraging MT to Accelerate Adoption of Luminaire Level Lighting Controls</i> Rita Siong, Resource Innovations

THURSDAY, AUGUST 25

SESSION 1 (8:30 am - 10:00 am)
Envelopes and Windows - Market Transformation in Building Envelopes
<i>The Launch of the Partnership for Advanced Window Solutions: Give the People What They Want, Windows!</i> Elaine Miller, NEEA
<i>Shell Upgrades: The First Step for Deep Retrofits</i> Dulane Moran, Cadeo Group
<i>Insulation for the Future: Circular Stone Wool</i> Alejandra Nieto, ROCKWOOL Group
SESSION 2 (10:30 am - 12:00 pm)
Building Energy Code Innovations
<i>Industrial Buy-in for Embodied Carbon Building Codes</i> Pavitra Srinivasan, American Council for an Energy Efficient Economy
<i>Using Programs in Tandem with Codes and Standards to Transform Markets at Speed and Scale</i> Nicole (Nicky) Dunbar, Northwest Energy Efficiency Alliance
<i>Building Performance Standards to Drive Market Transformation</i> Véronique Bugnion, ClearlyEnergy, Inc.

FRIDAY, AUGUST 26	SESSION 1 (8:30 am - 10:00 am)
	Market Transformation as a Path to Decarbonization
	<i>Getting to Zero: The Critical Role of Efficiency</i> Philippe Dunsky, Dunsky Energy + Climate Advisors
	<i>The Powerful and Hidden Role Natural Gas Can Play in Decarbonization</i> Allen Dusault, Franklin Energy
	<i>Policy Onramps: Using Passive House to Accelerate Building Decarbonization</i> Bronwyn Barry, The Passive House Network
	SESSION 2 (10:30 am - 12:00 pm)
	Building the Next Generation Workforce to Support Market Transformation
	<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> Holly Carr, U.S. Department of Energy
	<i>Transforming Energy Assistance through Innovative Partnerships</i> Frank Rapley, Tennessee Valley Authority
	<i>Equitable and Actionable Clean Energy Workforce Development Toolkit</i> Laura Giannini, TRC

Panel 8: Capturing Savings through Behavior

Panel Leaders: Ingo Bensch & Paty Romero-Lankao

MONDAY, AUGUST 22

SESSION 1 (8:30 am - 10:00 am)
Electrification on the Road and in Buildings
<i>Effective EV Programs to Make Change Happen</i> Katie Parkinson, Rolling Energy Resources
<i>A Peek at Piquing EV Owner's Interest in Off-peak Charging</i> Russell Meyer, Oracle/Opower
<i>Transformational Analysis through Behavioral Science: An Integrated Approach</i> <i>Coupling Behavior, Buildings and Transportation Modeling</i> Patricia (Paty) Romero-Lankao, National Renewable Energy Laboratory
SESSION 2 (10:30 am - 12:00 pm)
Human-technology Interface
<i>Re-thinking Building Interface Characteristics in Senior Living Facilities: Equity and Energy</i> Julia Day, Washington State University
<i>Triumph of the Tweakers: Engaged Homeowners Optimizing Air Conditioning Energy Use</i> Kristin Heinemeier, Frontier Energy, Inc.
<i>A Novel Methodology for Longitudinal Studies of Home Thermal Comfort Perception and Behavior</i> Emily Casavant, Northeastern University

TUESDAY, AUGUST 23

SESSION 1 (8:30 am - 10:00 am)
Consumer Considerations
<i>Understanding the Impact of Consumer Awareness of Utility Regulatory Framework on Energy Efficiency Program Participation</i> Nikola Glavan, National Grid
<i>"MEET"ing Customers Where They Are</i> Katherine Johnson, Johnson Consulting Group
<i>One Size Fits None: Reaching Residential Customers in the New Normal</i> Gregory Romine, Eversource
SESSION 2 (10:30 am - 12:00 pm)
Program Development -- Behavioral Programs, Marketplaces, and Community Support
<i>Behavioral Programs Come of Age</i> Eileen Hannigan, ILLUME Advising
<i>Utility Marketplaces Can Improve Energy Efficiency Program Uptake</i> William Hughes, Guidehouse
<i>Save it Forward: an Innovative Energy Pilot Lets Industrial Customers Support Their Local Communities</i> Jason Snyder, Tennessee Valley Authority

WEDNESDAY, AUGUST 24

SESSION 1 (8:30 am - 10:00 am)
Consumer and Market Insights about Electronics, Thermostats, and Schools
<i>Consumer Electronics in 2020: Ownership, Usage, and Energy Consumption amid COVID-19</i> Bryan Urban, Fraunhofer USA Center for Manufacturing Innovation
<i>Long-Term Trends in Internet-Connected Thermostat Settings and Performance</i> Abigail Daken, U.S. Environmental Protection Agency
<i>School Uplift: an Inspiring Program to Save Energy in Schools of Disadvantaged Communities</i> Clay Hoover, Tennessee Valley Authority
SESSION 2 (10:30 am - 12:00 pm)
Program Development Continued - Strategic Energy Management
<i>Decarbonization & SEM: The Human Side of Energy Management</i> Komal Dhankhar Kalyan, CLEAResult
<i>Shift and Persist. Changing Behaviors, but Do They Last?</i> Sarah Monohon, Evergreen Economics
<i>Help! COVID Ate my Program Savings!</i> Faith DeBolt, SBW Consulting, Inc.

THURSDAY, AUGUST 25

SESSION 1 (8:30 am - 10:00 am)
Electrification Continued -- Making It Happen
<i>Electrification, Past and Present: Energy and Home Economics</i> Kara Rodgers Marshall, Eversource Energy
<i>Inspire Us: Best Practices from Community-Facing Home Electrification Campaigns</i> Kristin George Bagdanov, Building Decarbonization Coalition
<i>Busy Bees: Scaling Utility Customer Action in Decarbonization</i> Samantha Caputo, Opower/Oracle
SESSION 2 (10:30 am - 12:00 pm)
Rates, Inducements, and Feedback
<i>The Story Behind the Bill: User Experience Results to Support Quantitative Analysis of Bill Salience Reductions</i> Brett Close, TRC
<i>Key Insights from Phase 4 of the California Demand Response Potential Study</i> Brian Gerke, Lawrence Berkeley National Laboratory
<i>Policy and Other Intelligence from the Largest NEI Database and Model Around</i> Leo Vasquez, Skumatz Economic Research Associates

Panel 8 continued	
FRIDAY, AUGUST 26	SESSION 1 (8:30 am - 10:00 am)
	Engaging End Users Home Owners, Renters, and Industrial Facility Staff
	<i>Do Renters and Home Buyers Care About Efficiency? Findings From Three Randomized Controlled Experiments</i> Hannah Bastian, ACEEE
	<i>It's about Time: Capturing the Benefits of High Maintenance</i> Joseph St. John, DNV
	<i>Invited Speaker TBD</i>
	SESSION 2 (10:30 am - 12:00 pm)
	Program Techniques and Features
	<i>Using Contractor Engagement Data to Improve Program Efficacy and Equity</i> Kate Rathbun, Frontier Energy
	<i>Affordable Multifamily-Housing Occupant Experience: All-electric and Zero-net Energy Communities</i> Ashley Depew, University of California, Davis
	<i>Invited Speaker TBD</i>

Panel 9: Energy Efficiency Policy: U.S. & Beyond

Panel Leaders: Alejandra Mejia Cunningham & Joan Glickman

MONDAY, AUGUST 22		TUESDAY, AUGUST 23	
SESSION 1 (8:30 - 10:00 am)		SESSION 1 (8:30 - 10:00 am)	
Equity Infused Policy: Process, Targets, Strategies		Building Performance Standards	
<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, Massachusetts Department of Energy Resources		<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-Bakind, Integral Group	
SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)	
Measuring EE for All It's Got		Throwing Everything at the Problem: The Interaction of Codes and Other Policies	
<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> Jovita Weah, Skumatz Economic Research Associates		<i>Cutting through Uncertainty: Making Local Clean Energy Policy Decisions with Limited Data</i> Stefen Samarripas, ACEEE	
SESSION 1 (8:30 - 10:00 am)		SESSION 1 (8:30 - 10:00 am)	
Flyover No More: Non-Coastal States Leading the Way		Soup to Nuts Design: Programs and Evaluation	
<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	
TBD		<i>Mixing and Matching: A Review of EM&V Frameworks in North America</i> Katherine Johnson, Johnson Consulting Group	
SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)	
A Trip to the Cold North		Building Efficiency as Social Policy	
<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	
WEDNESDAY, AUGUST 24		THURSDAY, AUGUST 25	

Panel 9 continued	
FRIDAY, AUGUST 26	SESSION 1 (8:30 - 10:00 am)
	The Whole Shabang: All of the New Construction Tools
	<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,</i> Adam Hasz, U.S. Department of Energy Building Technologies Office
	SESSION 2 (10:30 am - 12:00 pm)
	Saving the Best for Last: Friday Grab Bag!
	<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

Panel Leaders: Rob Salcido & Scott Hackel

MONDAY, AUGUST 22	SESSION 1 (8:30 am - 10:00 am)	TUESDAY, AUGUST 23	SESSION 1 (8:30 am - 10:00 am)
	Compliance is Key to Impact		Manufacturing Our Way to Zero Zero with Industrialized Construction
	<i>Energy Performance of New Low-Rise Multifamily Buildings in the United States</i> Robert Davis, Ecotope, Inc.		<i>Research, Development, Demonstration, and Deployment Efforts on Integrating Energy Efficiency Strategies with Industrialized Construction</i> Ankur Podder, National Renewable Energy Laboratory
	<i>Compliance in the Cornhusker State: Nebraska's Energy Code Support Program</i> Karin Gredvig, Midwest Energy Efficiency Alliance		<i>Lessons Learned on the Journey to Bring Zero Energy Modular to Scale</i> Alison Donovan, VEIC
	<i>Delineate the Implementation of Residential Building Energy Codes in India</i> Shatakshi Suman, Alliance for an Energy Efficient Economy		<i>Off-site Construction in an On-site regulatory world: Streamlining the Path to Decarbonized Homes</i> Ian Blanding, Pacific Northwest National Laboratory
	SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)
	The Electric Transition: Examining Impacts as We Move toward Electrified Homes		The Present Reality and Future Hopes for Zero Carbon Buildings
	<i>Turning the Wrenches of Beneficial Electrification: Understanding HVAC Contractor Decision-Making</i> Joe Van Clock, Apex Analytics, Inc.		<i>Convincing Clients to Make Zero a Reality--Views from the Design and Construction Community</i> Julia Sullivan, National Renewable Energy Laboratory
<i>How Low Can You (Economically) Go? Finding the Least-Cost Path to Net Zero New Homes</i> Brian Greenfield, Eversource	<i>The Present and Future of Decarbonizing through Electrification in Commercial Buildings in the Midwest</i> Scott Hackel, Slipstream		
<i>Estimating Energy and Greenhouse Gas Impacts in All-Electric Residential New Construction</i> Collin Elliott, Verdant Associates	<i>Driving Decarbonization with Codes</i> Sean Denniston, New Buildings Institute		
WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am)	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am)
	Equity in New Construction		New Approaches for New Housing
	<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> Ian Blanding, 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> 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
	SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)
Manufactured or Modularized Homes of the Future	Looking Forward: Pondering the Next Generation of Codes, Act 1		
<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 Esram, ACEEE		
TBD	<i>Incentive Measure to Codes and Standards: A Timeless Idea that Deserves a Fresh Look</i> Amy Boyce, Energy Solutions		

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

Panel 11: Resilient, Sustainable Communities

Panel Leaders: Eliza Hotchkiss & Madeline Salzman

MONDAY, AUGUST 22

SESSION 1 (8:30 - 10:00 am)
Delivering Resilience & Its Benefits to Those That Need It Most
<i>Nationally-Distributed Job Creation & Economic Benefits of US Energy Efficiency and Infrastructure Investments</i> John Laitner, Economic and Human Dimensions Research Associates
<i>Decarbonizing the Building Sector: A Human-centered Study Focused on Small/light Commercial Building Energy Equity</i> Chrissi Antonopoulos, Pacific Northwest National Laboratory
<i>Can Building Electrification Bring Resilience to Low Income Communities?</i> Heather Rosenberg, ARUP
SESSION 2 (10:30 am - 12:00 pm)
Lessons Learned & Best Practices for Resilient Communities
<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>Set-up for Success: Lessons Learned from Governments in Implementing Effective Clean Energy Programs</i> Amanda Dewey, ACEEE
<i>Costs and Benefits of Energy Efficiency Policies for Existing Buildings</i> David Ribeiro, ACEEE

WEDNESDAY, AUGUST 24

SESSION 1 (8:30 - 10:00 am)
Accounting for Resilience and Sustainability in Policy
<i>Building Codes Driving Climate Mitigation and Adaptation</i> Joseph Sollod, International Code Council
<i>New Indices for Sustainability in the Face of Climate Change</i> David Goldstein, Natural Resources Defense Council
<i>Energy vs. Carbon: Jurisdictions and Utilities Align Metrics</i> Rohini Srivastava, ACEEE
SESSION 2 (10:30 am - 12:00 pm)
We Are Who We've Been Waiting For: Leading in Small & Rural Communities
<i>Building Advanced Energy Communities, One Community At a Time</i> Jenaro Bugarin, The Energy Coalition
<i>Resilient, Rural, and Revolutionary: Salisbury Square's Direct Current Affordable Microgrid Community</i> Peter Schneider, VEIC
<i>Local Government's Role in Community Based Energy Resiliency</i> Cody Coeckelenbergh, Lincus Inc

TUESDAY, AUGUST 23

SESSION 1 (8:30 - 10:00 am)
Not Your Average Back Up Generator: Resilience Without the Emissions
<i>Building Decarbonization Policies in the Midwest</i> Alison Lindburg, Midwest Energy Efficiency Alliance
<i>Decarbonization in Climate Resilience Planning</i> Alison Delgado, Pacific Northwest National Laboratory
<i>Resilience, Emissions, and Costs of Various Residential Space Heating Technologies</i> Imran Sheikh, Institute for Energy Studies at Western Washington
SESSION 2 (10:30 am - 12:00 pm)
I Get Knocked Down, I Get Up Again: Resilience, Recovery, and Passive Survivability
<i>Valuing Risky Business: A Novel Approach to Measure Building Energy Resilience Under Extreme Temperature-Power Outage Events</i> Michael Reiner, U.S. Department of Energy
<i>Weathering the Storm: Microgrid Feasibility Studies for Municipal Applications</i> Maddie Koolbeck, Slipstream
<i>California Community College Addresses Wildfire Related Outages with Microgrid Demonstration Project</i> Demetra Tzamaras, Center for Sustainable Energy

THURSDAY, AUGUST 25

SESSION 1 (8:30 - 10:00 am)
Rule #1: Be Prepared
<i>Incorporating Climate Change Scenarios into Risk-informed Resilience Planning</i> Hannah Rabinowitz, Pacific Northwest National Laboratory
<i>Integrating Resilience into Sustainability Programs Guidelines and Tools</i> Elizabeth Kutschke, Center for Sustainable Building Research
<i>Designing for Zero Energy and Zero Carbon on a Multi-Building Scale Using URBANopt</i> Zahara Fallahi, University of Colorado, Boulder
SESSION 2 (10:30 am - 12:00 pm)
The Role of Cities in Resilience and Sustainability
<i>Tracking City Progress towards International Emissions Targets for the Buildings Sector</i> Alexander Jarrah, ACEEE
<i>The Assessment of the Results of Covenant of Mayors for Climate and Energy Initiative</i> Paolo Bertoldi, European Commission
<i>How Denver Passed its Ambitious New Building Performance Standard, and How Your City Can Too</i> Christine Brinker, Southwest Energy Efficiency Project

Panel 11 continued	
FRIDAY, AUGUST 26	SESSION 1 (8:30 - 10:00 am)
	Making the Technology Work Better for All of Us
	<i>Come on Down and Play the Price is Riight! What Do You Bid for Keeping the Lights On?</i>
	<i>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 & Climate Center</i>
<i>Towards a More Responsive, Resilient, and Equitable Power System Using the Cable TV Network</i>	
<i>Sunhee Baik, Lawrence Berkeley National Laboratory</i>	
	SESSION 2 (10:30 am - 12:00 pm)
	OPEN SESSION

Panel 12: Smart and Grid-Interactive Buildings

Panel Leaders: Paul Mathew & Therese Peffer

MONDAY, AUGUST 22

SESSION 1 (8:30 am - 10:00 am)
The Big Picture: Policy Design and Analysis
<i>Making Grid-Interactive Efficient Buildings a “Win” for Both Customers and Utilities</i> Andrew Satchwell, Lawrence Berkeley National Laboratory
<i>Large-scale Simulation of Regional Demand Flexibility Implementation and Customer Economic Impact</i> Hayden Reeve, Pacific Northwest National Laboratory
<i>Towards an Equitable Grid-Interactive Efficient Building Landscape: Visualizing Technology Adoption in the State of New York</i> Danielle Preziuso, Stevens Institute of Technology
SESSION 2 (10:30 am - 12:00 pm)
Metrics and Ratings
<i>GridFlex: Introducing Metrics to Benchmark Building-grid Interactivity</i> Kevin Carbonnier, New Buildings Institute
<i>RESNET Load Flexibility Task Group: Developing Ratings that Incentivize Demand Responsive Buildings and a Cleaner Grid</i> David Goldstein, NRDC
<i>Methodology for Modeling Savings for Home Energy Management Systems</i> Robert Hendron, Frontier Energy

TUESDAY, AUGUST 23

SESSION 1 (8:30 am - 10:00 am)
Heat Pumps and More
<i>Engaging Contractors: a Critical Partner to Realize the Load Shifting Potential of HPWHs</i> Emily Kehmeier, Energy Solutions
<i>Field Study of Grid-connected Heat Pump Water Heaters in the Southeast U.S. - The Next Right Thing</i> Joshua Butzbaugh, Pacific Northwest National Laboratory
<i>Decarbonization Impact of Grid-Interactive Efficient Buildings – An Affordable Housing Use Case</i> Agatha Kazdan, Electric Power Research Institute
SESSION 2 (10:30 am - 12:00 pm)
Data Analytics
<i>A Multi-level Load Shape Clustering and Disaggregation Approach to Characterize Patterns of Energy Consumption Behavior</i> Samanvitha Murthy, Lawrence Berkeley National Laboratory
<i>At Long Last: Realizing the Promise of Non-intrusive Load Monitoring</i> Jennifer McWilliams, DNV
<i>Towards a Stronger Foundation: Digitizing Commercial Buildings with Brick to Enable Portable Advanced Applications</i> Carlos Duarte Roa, University of California, Berkeley

WEDNESDAY, AUGUST 24

SESSION 1 (8:30 am - 10:00 am)
People and Process: Stakeholder Engagement
<i>Smart Home Energy Monitoring: Data-Driven Opportunities and Customer Engagement</i> Amalia Hicks, Cadmus
<i>Trust, Competence, and Innovation: Understanding Customers' Energy and Smart Home Brand Perceptions</i> Beth Karlin, See Change Institute
<i>Cyber-Physical-Social Digital Platform for Microgrids (CPSDPM): Addressing Design Gaps for Historically Underserved Communities</i> Ashok Das, SunMoksha Power Private Ltd.
SESSION 2 (10:30 am - 12:00 pm)
Integrating Storage, PV and Load Management
<i>Battery Energy Storage Systems and PV/Battery Microgrid Applications for Buildings</i> David Kaneda, IDEAs Consulting
<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>Solar+ Optimizer: Integrated Control of Solar, Batteries, and Flexible Loads for Small Commercial Buildings</i> Lazlo Paul, Lawrence Berkeley National Laboratory

THURSDAY, AUGUST 25

SESSION 1 (8:30 am - 10:00 am)
Where the Rubber Meets the Road: Case Studies and Field Studies
<i>Field Study Demonstrates Financial and Grid Benefits of EV Bidirectional Charging</i> Daniel Real, Advanced Energy
<i>Demand Response Capabilities of Refrigerated Warehouses: Experiences in Practical Implementation</i> Ammi Amarnath, EPRI
<i>Real-time Carbon Emission Responsive Electric Vehicle Charging Control for Decarbonization</i> Jing Wang, National Renewable Energy Laboratory
SESSION 2 (10:30 am - 12:00 pm)
HVAC Controls Optimization
<i>Evaluating the Performance of HVAC Optimal Control Based on Real-time Floor-by-floor Occupancy Data</i> Guanjing Lin, Lawrence Berkeley National Laboratory
<i>Unsupervised Learning for Detecting VAV Anomalies in Commercial Buildings</i> Hao Huang, Buildings Alive
<i>A Low Cost Centralized HVAC Control System Solution for Energy Savings, Load Shedding, and Improved Maintenance</i> Nicolas Fauchier-Magnan, University of California, Davis

FRIDAY, AUGUST 26	Panel 12 continued
	SESSION 1 (8:30 am - 10:00 am)
	Load Flexibility: New Frontiers
	<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> Mary Ann Piette, Lawrence Berkeley National Laboratory
	<i>Impact and Incentives for Load Management Strategies in Multifamily Buildings</i> Mark Frankel, Ecotope
	SESSION 2 (10:30 am - 12:00 pm)
	The Smarts in Components and Controls
	<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

Panel Leaders: Jacqui Patterson, Rachel Scheu, & Jennifer Somers

MONDAY, AUGUST 22	SESSION 1 (8:30 am - 10:00 am)	TUESDAY, AUGUST 23	SESSION 1 (8:30 am - 10:00 am)
	Extreme Heat/Cold & Climate Change's Disparate Impacts		Transformative Policy
	<i>Severe Weather, Building Efficiency, Resilience, and Human Mortality</i> Mark Weimar, Pacific Northwest National Laboratory		<i>Equity Provisions in Illinois' Climate and Equitable Jobs Act</i> Delmar Gillus, Elevate
	<i>How Does the Urban Heat Island Effect Intensified by Climate Change Affect Disadvantaged Communities?</i> Rui Wang, National Renewable Energy Laboratory		<i>Fighting for Energy Equity in MA: Frontline Resistance and Legal Reforms</i> Sarah Dooling, Massachusetts Climate Action Network
	<i>Invited TBD</i>		<i>First to Reside, Last to Receive Retrofits: Funding and Policies Preventing Tribal Efficiency</i> Lilli Garza, Midwest Energy Efficiency Alliance
SESSION 2 (10:30 am - 12:00 pm)	Equitable Building Decarbonization and Focus on Residents	SESSION 2 (10:30 am - 12:00 pm)	How Are We Measuring Success? Changing the Frame in Energy Efficiency Metrics.
<i>Decarbonization Retrofits for Affordable Housing: A Chicago Case Study</i> Abby Francisco, Elevate	<i>Decarbonization Retrofits for Affordable Housing: A Chicago Case Study</i> Abby Francisco, Elevate	<i>Realizing Equitable Community-based Climate and Clean Energy Investments</i> Angelina Benson-Glanz, Elevate	<i>Realizing Equitable Community-based Climate and Clean Energy Investments</i> Angelina Benson-Glanz, Elevate
<i>Equitable Electrification: Helping Gas Customers Electrify Without Increasing Their Short-Term or Long-Term Costs</i> Emily Levin, VEIC	<i>Equitable Electrification: Helping Gas Customers Electrify Without Increasing Their Short-Term or Long-Term Costs</i> Emily Levin, VEIC	<i>The Power for Change: Energy Policy and Racial Equity</i> TBD	<i>The Power for Change: Energy Policy and Racial Equity</i> TBD
<i>Energy Efficiency to Preserve Affordable Rental Housing in Minneapolis</i> Rebecca Olsen, Center for Energy and Environment	<i>Energy Efficiency to Preserve Affordable Rental Housing in Minneapolis</i> Rebecca Olsen, Center for Energy and Environment	<i>TBD</i>	<i>TBD</i>
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
	<i>Driving Displacement: Energy's Role in Urban Gentrification</i> Manogna Mantripragada, Greenlink Analytics		<i>Nominated for Elevating Equity in a Supporting Role: Energy Efficiency!</i> Dan Streit, Slipstream
	<i>Energy Efficiency, Land Use, and Equity</i> Joanna Gubman, Urban Environmentalists		<i>Elevating the Voice of Rural Communities: Real-World Strategies and Solutions for Equitable Decarbonization and Resiliency Planning</i> Courtney Henderson, See Change Institute
	<i>Who's Energy Insecure? Results from the 2020 Residential Energy Consumption Survey (RECS)</i> Carolyn Hronis, U.S. Energy Information Administration		<i>Uplifting the Voices of Climate and Environmental Justice Community Leaders</i> Angelina Benson-Glanz, Elevate
SESSION 2 (10:30 am - 12:00 pm)	Making the Case for Building Electrification	SESSION 2 (10:30 am - 12:00 pm)	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> Hal Nelson, Portland State University	<i>Nothing For Us, Without Us: What Do Households of Color Actually Want (And What are Their Landlords Willing to Do)?</i> Hal Nelson, Portland State University	<i>Integrating Housing, Workforce, Health and Energy Equity in Building Decarbonization in Los Angeles, California</i> Augustin Cabrera, Los Angeles Alliance for a New Economy (LAANE)	<i>Integrating Housing, Workforce, Health and Energy Equity in Building Decarbonization in Los Angeles, California</i> Augustin Cabrera, Los Angeles Alliance for a New Economy (LAANE)
<i>Aligning Incentives to Achieve Equity in Building Electrification</i> Glenn Schatz, BlocPower	<i>Aligning Incentives to Achieve Equity in Building Electrification</i> Glenn Schatz, BlocPower	<i>Where to Target LMI Electrification Upgrades: Gaining Insights from New York Housing Data</i> Dale Kruchin, Guidehouse	<i>Where to Target LMI Electrification Upgrades: Gaining Insights from New York Housing Data</i> Dale Kruchin, Guidehouse
<i>Choose Your Own Adventure: Funding the Decarbonization of Under-resourced Residential Buildings</i> Bridgett Neely, Firefely Energy Consulting	<i>Choose Your Own Adventure: Funding the Decarbonization of Under-resourced Residential Buildings</i> Bridgett Neely, Firefely Energy Consulting	<i>Urban Building Energy Modeling to Target Energy Efficiency Retrofits for Equitable Community Emissions Reduction Planning</i> Zachary Berzolla, Massachusetts Institute of Technology	<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 continued	
FRIDAY, AUGUST 26	SESSION 1 (8:30 am - 10:00 am)
	Overcoming Barriers to Addressing Health and Safety to Enhance Human Health
	<i>Health, Well Being and Electrification Retrofits: IAQ Benefits for Asthma Patients</i> Amy Dryden, Association for Energy Affordability
	<i>Overcoming Health and Safety Barriers to Weatherizing Homes: Lessons Learned from Connecticut</i> Liz Bourguet, Energy Futures Group
	<i>PUSH Buffalo</i> TBD
	SESSION 2 (10:30 am - 12:00 pm)
	In Their Own Words: Climate Feminist and Environmental Justice Advocates
	<i>Conquering Stereotypes and Telling the Stories of EJ Residents + Activist</i> Daphany Rose Sanchez, Kinetic Communities Consulting
	<i>Exploring Climate Feminism in Canada: A Podcast Episode</i> Meghan Bennett, Summerhill
	TBD