

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

(Meeting Room: Fred Farr Forum)

Panel Leaders: Vladimir Kochkin and Ryan Kerr

MONDAY, AUGUST 22	SESSION 1 (8:30 am - 10:00 am) - Vladimir Kochkin	TUESDAY, AUGUST 23	SESSION 1 (8:30 am - 10:00 am) - Ryan Kerr
	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> Christie Amero, Cadmus		<i>Variable Speed Heat Pumps can Provide Effective Demand</i> Andrea Mammoli, Electric Power Research Institute
	<i>The Economics of Cold Climate Electrification</i> Scott Robinson, Guidehouse		<i>Detailed Laboratory Evaluation of Electric Demand Load Shifting</i> Karen Fenaughty, FSEC Energy Research Center
	<i>The Unintended Consequences of Electrification and What to do About It</i> Rachel Murray, DNV		<i>Timing is Everything: Optimizing Heat Pump Load Flexibility for</i> Caton Mande, UC Davis Western Cooling Efficiency Center
	SESSION 2 (10:30 am - 12:00 pm) - Ryan Kerr		SESSION 2 (10:30 am - 12:00 pm) - Vladimir Kochkin
	Envelope Solutions: Windows and Phase Change Materials		Heat Pump Water Heaters: Differing Approaches
<i>Methods to Analyze the Energy Performance of Window Attachments</i> Presented by Katherine Cort, Pacific Northwest National Laboratory	<i>Heat Pump Water Heaters in the Midwest: Cost, Comfort, and</i> Kevin Gries, Slipstream		
<i>Results from Laboratory and Field Studies of Thin Triple-Pane Windows</i> Katherine Cort, Pacific Northwest National Laboratory	<i>Split HPWHs as an Efficient Solution for Multifamily Buildings with</i> Bethany Sparn, National Renewable Energy Laboratory		
<i>Energy Savings and Durability of Phase Change Materials in Residential</i> Presented by: Stephen Chally, Frontier Energy	<i>In Hot Water! The Challenges and Barriers of Decarbonizing</i> Sammy Houssainy, National Renewable Energy Laboratory		

8/8/2022	SESSION 1 (8:30 am - 10:00 am) - Vladimir Kochkin	8/8/2022	SESSION 1 (8:30 am - 10:00 am) - Vladimir Kochkin
	Using Big Data to Understand and Influence Energy Usage Behaviors		Energy Retrofits for Decarbonization: ccASHPs, Air Sealing and
	<i>The Elusive Missing Link: Correlating Billing Analysis and Thermostat</i>		<i>The Climate Impact of Retrofits: Embodied and Operational</i>

DRAFT (Subject to Change)

WEDNESDAY, AUGUST 24	Jon Koliner, Apex Analytics	THURSDAY, AUGUST 25	Presented by: Chris Gordon, VEIC
	PANEL 1: RESIDENTIAL BUILDINGS TECHNOLOGIES, DESIGN AND OPERATIONS, AND BUILDING INDUSTRY TRENDS		ARRINGTON
	<i>Predicting Impact of Temperature Setpoint Adjustment Under Time</i> Mahesh Naidu, Lawrence Berkeley National Laboratory		<i>Aerosol Sealing of Existing Homes</i> Chris Arrington, UC Davis Western Cooling Efficiency Center
	Meeting Room: Free		Arrington
	<i>End-Use Level Impacts of the COVID-19 Pandemic on Residential Energy</i> Hans Lehndorff, Evergreen Economics		<i>Field Test Results from Cold Climate Air Source Heat Pump</i> Presented by: Richard Faesy, Energy Futures Group
	SESSION 2 (10:30 am - 12:00 pm) - Ryan Kerr		SESSION 2 (10:30 am - 12:00 pm) - Ryan Kerr
	Decarbonization Takes a Village: Dual Fuel Solutions		Innovative Technologies and Approaches: What's Next?
<i>Electric and Gas Decarbonization Options for Homes: The Best Option</i> Lyla Fadali, ACEEE	<i>Radiant Ceilings As A Residential Retrofit: Examining the Myths</i> Simon Pallin, Frontier Energy		
<i>Why We Should Never Install Another Air Conditioner!</i> Ben Schoenbauer, Center for Energy and Environment	<i>Experimental Evaluation of a Multi-function Compact Heat Pump</i> Subhrajit Chakraborty, Western Cooling Efficiency Center		
<i>Accounting for the Multiple Dimensions of Inequality in Utility Programs</i> Karen Ehrhardt-Martinez, ICF	<i>Hydronic vs. Hydronic: Comparing Performance of Air-to-Water</i> James Haile, Frontier Energy		

FRIDAY, AUGUST 26	SESSION 1 (8:30 am - 10:00 am) - Ryan Kerr
	Home Energy System Controls: More Important than Ever
	<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,</i> Dave Intner, Southern California Edison
	<i>Validation of HVAC Hardware-In-the-Loop Simulation for Advanced Control Strategies in Smart Homes</i> Sugirdhalakshmi Ramaraj, National Renewable Energy Laboratory
	<i>Evaluation of Condensation Risk Mitigation Methods for Residential Ceiling Cooling Systems</i> Stephen Chally, Frontier Energy
	SESSION 2 (10:30 am - 12:00 pm)
OPEN SESSION	

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

(Meeting Room: Kiln)

Panel Leaders: Lena Burkett and Amit Kulkarni

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

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(Meeting Room: Kiln)

Panel Leaders: Lena Burkett and Amit Kulkarni

WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am) - Lena Burkett	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am) - Amit Kulkarni
	Making Stronger Connections		Planning for Success in Building Electrification
	<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>
	SESSION 2 (10:30 am - 12:00 pm) - Lena Burkett		SESSION 2 (10:30 am - 12:00 pm) - Amit Kulkarni
	Big Data for Big Changes		Non-Energy Impacts
<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>Marc Costa, The Energy Coalition</i>	<i>Arlene Lanciani, Consortium for Energy Efficiency</i>		
<i>Data-Driven, Equity-Centered Energy Efficiency for Multifamily Complexes</i>	<i>Net Zero and Electrified Buildings: Establishing a New Nomenclature for World-Wide Use</i>		
<i>Hal Nelson, Res-Intel</i>	<i>Haleh Moghaddasi, Texas A&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>Jerica Stacey, International Code Council</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

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

Program Design

Designing Virtual Assessments that Work

Sabrina Oudin, Franklin Energy

Income-Qualified Program Innovations to Reduce Deferral Rates

Molly Graham, Midwest Energy Efficiency Alliance

More Options, Better Outcomes: Increasing Deep Retrofit Participation and Savings with Expanded Measures

Jennifer Amann, ACEEE

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

OPEN SESSION

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

(Meeting Room: Oak Shelter)

Panel Leaders: Alexi Miller and Shanti Pless

MONDAY, AUGUST 22	SESSION 1 (8:30 am - 10:00 am) - Shanti Pless	TUESDAY, AUGUST 23	SESSION 1 (8:30 am - 10:00 am) - Shanti Pless
	Decarbonizing Existing Buildings		The Healthy Buildings and Energy Nexus
	<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 and Jason Strano, 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>
SESSION 2 (10:30 am - 12:00 pm) - Alexi Miller SESSION TO BE BROADCASTED	SESSION 2 (10:30 am - 12:00 pm) - Alexi Miller		SESSION 2 (10:30 am - 12:00 pm) - Alexi Miller
What's after Zero: Net Zero Energy Buildings and Beyond	Taking Electrification to Scale - Cities, States, and Beyond		Taking Electrification to Scale - Cities, States, and Beyond
<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>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>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 – Resistance is Futile</i> <i>Presented by Joshua Butzbaugh, Pacific Northwest National Laboratory (Lead: Christian Valoria, Pacific Northwest National Laboratory)</i>		<i>Cold Climate Packaged Heat Pumps – Resistance is Futile</i> <i>Presented by Joshua Butzbaugh, Pacific Northwest National Laboratory (Lead: Christian Valoria, Pacific Northwest National Laboratory)</i>

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

(Meeting Room: Oak Shelter)

Panel Leaders: Alexi Miller and Shanti Pless

WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am) - Alexi Miller	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am) - Alexi Miller
	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) - Shanti Pless		SESSION 2 (10:30 am - 12:00 pm) - Shanti Pless
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>	<i>Network Lighting Controls (NLC) 2.0</i>		

(Meeting Room: Oak Shelter)
Panel Leaders: Alexi Miller and Shanti Pless

FRIDAY, AUGUST 26

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

Modeling EE, DR, and DERs in Commercial Buildings

Probabilistic Modeling of Commercial Building Occupancy and Electric Vehicle Charging Behavior Using Location-Based Map Data

Rawad El Kontar, National Renewable Energy Laboratory

Peak Demand in the Brave New World of Building Decarbonization and Distributed Energy Resources

Randall Higa, Southern California Edison

TBD

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

Energy Design in Commercial Buildings

Measuring and Benchmarking Demand Flexibility in Commercial Buildings and Flattening the Duck – Addressing Baseline and Commissioning Challenges

Jingjing Liu, Lawrence Berkeley National Laboratory

Integrating Embodied Carbon Knowledge for Design Decisions

Heather Goetsch, National Renewable Energy Laboratory

What We Learned From Analyzing 15 Millions Rows of Commercial Buildings' HVAC Fault Data

DRAFT (Subject to Change)

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

(Meeting Room: Oak Shelter)

Panel Leaders: Alexi Miller and Shanti Pless

COMMERCIAL BUILDINGS: PROGRAM DESIGN, IMPLEMENTATION, AND EVALUATION

(Meeting Room: Evergreen)

Panel Leaders: Sharyn Barata and Sarah Zaleski

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

COMMERCIAL BUILDINGS: PROGRAM DESIGN, IMPLEMENTATION, AND EVALUATION

(Meeting Room: Evergreen)

Panel Leaders: Sharyn Barata and Sarah Zaleski

WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am) - Sharyn Barata SESSION TO BE BROADCASTED	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am) - Sarah Zaleski
	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>Jingging Liu, Lawrence Berkeley National Laboratory</i>		<i>Investing in Main Street: an Energy Program to Support Small Businesses in Disadvantaged Communities</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>Ian Metzger, TRC Companies</i>		<i>Opportunities to Decarbonize Small Commercial Buildings</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>Carmen Best, Recurve</i>		<i>Developing an Online Application that Puts the Customers and the Utility First</i> <i>Katie Cary, TRC</i>
	SESSION 2 (10:30 am - 12:00 pm) - Sharyn Barata		SESSION 2 (10:30 am - 12:00 pm) - Sarah Zaleski
	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>Jes Rivas, ILLUME Advising</i>		<i>Commercial Buildings in Communities with Different Income and Racial Characteristics: A Comparison of Energy Efficiency and Fuel Sources</i> <i>Tracey Narel, US EPA</i>
	<i>Ignorance is BAS: How EMS/BAS Operator Knowledge Can Impact Performance</i> <i>Christopher Dyson, DNV</i>		<i>Market Transformation through Equal Impact of 179D</i> <i>Ryan Meyer, National Renewable Energy Laboratory</i>
	<i>Observational Research Methods for Evaluating Emerging Technologies for the Built Environment</i> <i>Ruth Taylor, Pacific Northwest National Laboratory</i>		<i>DEI: More than a Residential Framework, It's a Roadmap for Energy Equity</i> <i>Chad Gillless, Stillwater Energy</i>

DRAFT (Subject to Change)

COMMERCIAL BUILDINGS: PROGRAM DESIGN, IMPLEMENTATION, AND EVALUATION

(Meeting Room: Evergreen)

Panel Leaders: Sharyn Barata and Sarah Zaleski

FRIDAY, AUGUST 26	SESSION 1 (8:30 am - 10:00 am) - Sharyn Barata
	Emerging Technologies for Evolving Market Needs
	<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 & Utility Energy Efficiency Programs Too.</i>
	<i>Kristen Taddonio, Institute for Governance & Sustainable Development</i>
	SESSION 2 (10:30 am - 12:00 pm) - Sharyn Barata
	Diving Deep: Sector-Specific Insights on High-Impact Opportunities
<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
Presented by Satish Kumar, Alliance for an Energy Efficient Economy
(Lead: Akash Goenka, Alliance for an Energy Efficient Economy)
(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

MONDAY, AUGUST 22	SESSION 1 (8:30 - 10:00 am) - Martha Campbell	TUESDAY, AUGUST 23	SESSION 1 (8:30 - 10:00 am) - Martha Campbell
	Perspectives in Financing Retrofits		Scaling Multifamily Retrofits
	<i>Pathways to Home Decarbonization</i>		<i>A Case Study Modeling Barriers and Opportunities for Multifamily Electrification Retrofits</i>
	<i>Presented by: Brennan Less, Lawrence Berkeley National Laboratory (Lead Author: Iain Walker, Lawrence Berkeley National Laboratory)</i>		<i>Rhys Davis, Resource Refocus</i>
	<i>Financing Energy Improvements in the Mortgage</i>		<i>Early Designs and Deep Retrofits: Meeting Affordable Multifamily Organizations with Useful Technical Services</i>
	<i>Richard Faesy, Energy Futures Group</i>		<i>Alex Novie, Energy Trust of Oregon</i>
	<i>Better Bang for Your Buck? Comparing Savings Realization from ESPCs and Direct-funded Projects</i>		<i>Making Naturally Occurring Affordable Housing More Efficient: Outreach to Upgrade</i>
	<i>Shankar Earni, Lawrence Berkeley National Laboratory</i>		<i>Abigail Corso, Elevate</i>
SESSION 2 (10:30 am - 12:00 pm) - Heather Goetsch	SESSION 2 (10:30 am - 12:00 pm) - Martha Campbell		
Unlocking Commercial Building Decarbonization	Equitable Approaches to Whole Building Retrofits		
<i>Designer Interviews: Key Findings on Boiler Retrofits and Electrification in Existing Buildings</i>	<i>Whole-Home Retrofit Approaches for Health and Equity</i>		
<i>Emily Lamon, University of California, Berkeley</i>	<i>Yu Ann Tan, RMI</i>		
<i>Decarbonizing Large Buildings: Overcoming Barriers and Supporting Market Advancement</i>	<i>Consumer Outcomes in Residential Pay-As-You-Save Programs</i>		
<i>Karine Cazorla, Dunsky Energy + Climate Advisors</i>	<i>Jeff Deason, Lawrence Berkeley National Laboratory</i>		
<i>Better, Cheaper, Faster, Stronger: A New Data Collection Campaign to Capture the Benefits of Industrialized Construction Approaches for Whole Building Retrofits</i>	<i>Equity Focused Minnesota Workforce Development Pilot</i>		
<i>Aven Satre-Meloy, Lawrence Berkeley National Laboratory</i>	<i>Sarah Northrup, Center for Energy and Environment</i>		

PANEL 5: SCALING WHOLE BUILDING RETROFITS

(Meeting Room: Triton)

Panel Leaders: Martha Campbell and Heather Goetsch

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

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

FRIDAY, AUGUST 26	SESSION 1 (8:30 - 10:00 am) - Heather Goetsch
	Decarbonizing Tall Buildings
	<i>An All-electric Passive House Renovation of an 100-year Old Skyscraper: Lessons Learned</i>
	<i>Cecil Scheib, New York University</i>
	<i>Scaling Tall Building Decarb in the Biggest US Market</i>
	<i>Adam Hinge, Sustainable Energy Partnerships</i>
	<i>Decarbonization Packages for NYC Office Buildings</i>
	<i>Helen Chananie, Building Energy Exchange</i>
	SESSION 2 (10:30 am - 12:00 pm) - Martha Campbell
	Compressing Costs and Extracting Value to Scale Whole Building Retrofits
<i>The Costs of Home Decarbonization</i>	
<i>Iain Walker, Lawrence Berkeley National Laboratory</i>	
<i>Electrofit Cost Effectiveness, Policymaking, and Financing Approaches for Local Agencies</i>	
<i>Farhad Farahmand, TRC</i>	
<i>Heat Pumps with Phase Change Thermal Storage: Flexible, Efficient, and Electrification Friendly</i>	
<i>Dre Helmns, Lawrence Berkeley National Laboratory (drehelmns@lbl.gov)</i>	
<i>Game Changing Technology for Retrofit Application: 120V HPWHs</i>	
<i>Amruta Khanolkar, New Buildings Institute</i>	

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

MONDAY, AUGUST 22	SESSION 1 (8:30 - 10:00 am) - Jim Jerozal	TUESDAY, AUGUST 23	SESSION 1 (8:30 - 10:00 am) - Jim Jerozal
	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 (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>
SESSION 2 (10:30 am - 12:00 pm) - Ben Clarin	SESSION 2 (10:30 am - 12:00 pm) - Jim Jerozal		
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>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

WEDNESDAY, AUGUST 24	SESSION 1 (8:30 - 10:00 am) - Ben Clarin	THURSDAY, AUGUST 25	SESSION 1 (8:30 - 10:00 am) - Jim Jerozal
	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>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>
	SESSION 2 (10:30 am - 12:00 pm) - Ben Clarin		SESSION 2 (10:30 am - 12:00 pm) - Jim Jerozal
	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>Bills, Bills, Bills – Can Utility Meter Data Tell the Heat Pump Story?</i>		
<i>Presented by: Sepideh Rezania, Innovation Insites & 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>		

(Meeting Room: Chapel)

Panel Leaders: Ben Clarin and Jim Jerozal

FRIDAY, AUGUST 26

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

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) - Ben Clarin

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.

Presented by Lullit Getachew, DNV
PANEL 6: UTILITIES AND THE FUTURE
(Lead: Gomathi Sadasivam, DNV)
(Meeting Room: Chapel)

Panel Leaders: Ben Clarin and Jim Jerozal

PANEL 7: MARKET TRANSFORMATION

(Meeting Room: Heather)

Panel Leaders: Marke Rehely and Carolyn Szum

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

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

WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am)	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am)
	System Approaches in Market Transformation		Envelopes and Windows - Market Transformation in Building Envelope
	<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 People What They Want, Windows!</i>
	<i>Christopher Sullivan-Trainor, Consortium for Energy Efficiency</i>		<i>Robert Hart, Lawrence Berkeley National Laboratory & 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>
SESSION 2 (10:30 am - 12:00 pm)	SESSION 2 (10:30 am - 12:00 pm)		
Appliances Standards and Test Procedures, Levers in Market Transformation	Building Energy Code Innovations		
<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

FRIDAY, AUGUST 26	SESSION 1 (8:30 am - 10:00 am)
	Market Transformation as a Path to Decarbonization
	<i>System Efficiency Policy: The Next Level of Energy Savings</i> Hans-Paul Siderius, Netherlands Enterprise Agency
	<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 Work Platform</i> Holly Carr, U.S. Department of Energy
	<i>Transforming Energy Assistance through Innovative Partnerships</i> Presented by: Bethany Kitch, Tennessee Valley Authority (Lead Author: Frank Rapley, Tennessee Valley Authority)
	<i>Equitable and Actionable Clean Energy Workforce Development Toolkit</i> Laura Giannini, TRC

PANEL 7: MARKET TRANSFORMATION

(Meeting Room: Heather)

Panel Leaders: Marke Rehely and Carolyn Szum

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PANEL 7: MARKET TRANSFORMATION
(Meeting Room: Heather)
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PANEL 7: MARKET TRANSFORMATION

(Meeting Room: Heather)

Panel Leaders: Marke Rehely and Carolyn Szum



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PANEL 8: CAPTURING SAVINGS THROUGH BEHAVIOR

(Meeting Room: Dolphin)

Panel Leaders: Ingo Bensch and Paty Romero-Lankao

MONDAY, AUGUST 22	SESSION 1 (8:30 am - 10:00 am) - Ingo Bensch	TUESDAY, AUGUST 23	SESSION 1 (8:30 am - 10:00 am) - Ingo Bensch
	Electrification on the Road and in Buildings		Consumer Considerations
	<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
	SESSION 2 (10:30 am - 12:00 pm) - Paty Romero-Lankao		SESSION 2 (10:30 am - 12:00 pm) - Paty Romero-Lankao
	Human-technology Interface		Program Development -- Behavioral Programs, Marketplaces, and Community Support
	<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

WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am) - Ingo Bensch	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am) - Ingo Bensch
	Consumer and Market Insights about Electronics, Thermostats, and Schools		Electrification Continued -- Making It Happen
	<i>Consumer Electronics in 2020: Ownership, Usage, and Energy Consumption amid COVID-19</i>		<i>Inspire Us: Best Practices from Community-Facing Home Electrification Campaigns</i>
	<i>Bryan Urban, Fraunhofer USA Center for Manufacturing Innovation</i>		<i>Kristin George Bagdanov & Amy Rider, Building Decarbonization Coalition</i>
	<i>Long-Term Trends in Internet-Connected Thermostat Settings and Performance</i>		<i>Busy Bees: Scaling Utility Customer Action in Decarbonization</i>
	<i>Abigail Daken, U.S. Environmental Protection Agency</i>		<i>Samantha Caputo, Opower/Oracle</i>
<i>School Uplift: an Inspiring Program to Save Energy in Schools of Disadvantaged Communities</i>	<i>Decarbonizing Commercial Office Tenant Spaces: Creating a New Business as Usual</i>		
<i>Clay Hoover, Tennessee Valley Authority</i>	<i>(paper published in Panel 4)</i>		
<i>Katie Schwamb, Building Energy Exchange</i>			
SESSION 2 (10:30 am - 12:00 pm) - Paty Romero-Lankao	SESSION 2 (10:30 am - 12:00 pm) - Paty Romero-Lankao		
Program Development Continued - Strategic Energy Management	Rates, Inducements, and Feedback		
<i>Decarbonization & 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	SESSION 1 (8:30 am - 10:00 am) - Paty Romero-Lankao
	SESSION TO BE BROADCASTED
	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>
	<i>Hannah Bastian, ACEEE</i>
	<i>It's about Time: Capturing the Benefits of High Maintenance for Steam Traps</i>
<i>Joseph St. John & Miriam Goldberg, DNV</i>	
<i>Electrification, Past and Present: Energy and Home Economics</i>	
<i>Kara Rodgers Marshall, Eversource Energy</i>	
SESSION 2 (10:30 am - 12:00 pm)	
OPEN SESSION	

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

MONDAY, AUGUST 22	SESSION 1 (8:30 - 10:00 am) - Joan Glickman	TUESDAY, AUGUST 23	SESSION 1 (8:30 - 10:00 am) - Alejandra Mejia Cunningham
	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, 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 and Mary Shoemaker, ACEEE		<i>Setting Building Performance Standards with Limited Local Data</i> Marshall Duer-Balkind, Integral Group
	SESSION 2 (10:30 am - 12:00 pm) - Alejandra Mejia Cunningham		SESSION 2 (10:30 am - 12:00 pm) - Alejandra Mejia Cunningham
	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> 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

WEDNESDAY, AUGUST 24	SESSION 1 (8:30 - 10:00 am) - Alejandra Mejia Cunningham	THURSDAY, AUGUST 25	SESSION 1 (8:30 - 10:00 am) - Joan Glickman
	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
	<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&V Frameworks in North America</i> Katherine Johnson, Johnson Consulting Group
	SESSION 2 (10:30 am - 12:00 pm) - Alejandra Mejia Cunningham		SESSION 2 (10:30 am - 12:00 pm) - Joan Glickman
	A Trip to the Cold North		SESSION TO BE BROADCAST
	<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		Building Efficiency as Social Policy
<i>It's All about the Envelope, Silly</i> Josh Quinnell, Center for Energy and Environment	<i>Appliance Standards, Equity and Climate Change – Issues and Opportunities</i> Suzanne Foster Porter, Kannah Consulting		
<i>The Gas Utility of the Future Is Here, and It Looks Like This</i> Morgan Hood and Richard Donnelly, VGS	<i>Solving the Cooling Conundrum: Promoting Affordable Access to Clean Cooling through Building Decarbonization Policy</i> Becky Schaaf, VEIC		
	<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

FRIDAY, AUGUST 26	SESSION 1 (8:30 - 10:00 am) - Joan Glickman
	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, Build Affordable Housing, and Create Good Jobs</i> Adam Hasz, U.S. Department of Energy Building Technologies Office
	SESSION 2 (10:30 am - 12:00 pm) - Joan Glickman
	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

(Meeting Room: Marlin)

Panel Leaders: Scott Hackel and Rob Salcido

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

WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am) - Scott Hackel	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am) - Rob Salcido
	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> 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> Kristen Simmons, ICF		<i>Prescriptive Approach for Achieving Energy Efficiency in India’s Upcoming Housing</i> Presented by Dr. Satish Kumar, Alliance for an Energy Efficient Economy (Lead: Dharini Sridharan, Alliance for an Energy Efficient Economy)
	SESSION 2 (10:30 am - 12:00 pm) - Scott Hackel		SESSION 2 (10:30 am - 12:00 pm) - Scott Hackel
	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 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	SESSION 1 (8:30 am - 10:00 am) - Rob Salcido
	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>
	<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>	
SESSION 2 (10:30 am - 12:00 pm)	
OPEN SESSION	

PANEL 11: RESILIENT, SUSTAINABLE COMMUNITIES

(Meeting Room: Toyon)

Panel Leaders: Eliza Hotchkiss and Madeline Salzman

MONDAY, AUGUST 22	SESSION 1 (8:30 - 10:00 am)	TUESDAY, AUGUST 23	SESSION 1 (8:30 - 10:00 am)
	Rule #1: Be Prepared		Not Your Average Back Up Generator: Resilience Without the Emissions
	<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> Presented by Katherine Cort, Pacific Northwest National Laboratory (Lead: Doug Elliott, 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
SESSION 2 (10:30 am - 12:00 pm)	SESSION 2 (10:30 am - 12:00 pm)		
Lessons Learned & Best Practices for Resilient Communities	I Get Knocked Down, I Get Up Again: Resilience, Recovery, and Passive Survivability - SESSION TO BE BROADCASTED		
<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

WEDNESDAY, AUGUST 24	SESSION 1 (8:30 - 10:00 am)	THURSDAY, AUGUST 25	SESSION 1 (8:30 - 10:00 am)
	Accounting for Resilience and Sustainability in Policy		Delivering Resilience & Its Benefits to Those That Need It Most
	<i>Building Codes Driving Climate Mitigation and Adaptation</i>		<i>Nationally-Distributed Job Creation & 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>Can Building Electrification Bring Resilience to Low Income Communities?</i>
	<i>David Goldstein, Natural Resources Defense Council</i>		<i>Heather Rosenberg, ARUP</i>
	<i>Energy vs. Carbon: Jurisdictions and Utilities Align Metrics</i>		<i>Decarbonizing the Building Sector: A Human-centered Study Focused on Small/light Commercial Building Energy Equity</i>
	<i>Presented by Kate Hickcox, Pacific Northwest National Laboratory (Lead: Chrissi Antonopoulos, Pacific Northwest National Laboratory)</i>		
SESSION 2 (10:30 am - 12:00 pm)	SESSION 2 (10:30 am - 12:00 pm)		
We are Who We've Been Waiting For: Leading in Small & Rural Communities	The Role of Cities in Resilience and Sustainability		
<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>	TBD		
<i>Cody Coeckelenbergh, ICF</i>			

PANEL 11: RESILIENT, SUSTAINABLE COMMUNITIES

(Meeting Room: Toyon)

Panel Leaders: Eliza Hotchkiss and Madeline Salzman

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

PANEL 12: SMART AND GRID-INTERACTIVE BUILDINGS

(Meeting Room: Acacia)

Panel Leaders: Paul Mathew and Therese Peffer

MONDAY, AUGUST 22	SESSION 1 (8:30 am - 10:00 am) - Therese Peffer	TUESDAY, AUGUST 23	SESSION 1 (8:30 am - 10:00 am) - Paul Mathew
	The Big Picture: Policy Design and Analysis		Heat Pumps and More
	<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 Insitute of Technology</i>		<i>Agatha Kazdan, Electric Power Research Institute</i>
SESSION 2 (10:30 am - 12:00 pm) - Paul Mathew	SESSION 2 (10:30 am - 12:00 pm) - Therese Peffer		
Metrics and Ratings	Data Analytics		
<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 Insitute</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

WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am) - Therese Peffer	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am) - Paul Mathew
	People and Process: Stakeholder Engagement		Where the Rubber Meets the Road: Case Studies and Field Studies
	<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: 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)
	SESSION 2 (10:30 am - 12:00 pm) - Paul Mathew		SESSION 2 (10:30 am - 12:00 pm) - Therese Peffer
Integrating Storage, PV and Load Management	HVAC Controls Optimization		
<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: Guanjing 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)		

PANEL 12: SMART AND GRID-INTERACTIVE BUILDINGS

Solar+ Optimizer: Integrated Control of Solar, Batteries, and Flexible Loads for Small Commercial Buildings
 Panel Leaders: Paul Mathev
 Lazlo Paul, Lawrence Berkeley National Laboratory

A Low Cost Centralized HVAC Control Ssystem Solution for Energy Savings, Load Shedding, and limproved Maintenance
 and Therese Peffer
 Nicolas Fauchier-Magnan, University of California, Davis

FRIDAY, AUGUST 26	SESSION 1 (8:30 am - 10:00 am) - Therese Peffer
	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> 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
	SESSION 2 (10:30 am - 12:00 pm) - Paul Mathew
	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

(Meeting Room: Scripps)

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

MONDAY, AUGUST 22	SESSION 1 (8:30 am - 10:00 am) - Rachel Scheu	TUESDAY, AUGUST 23	SESSION 1 (8:30 am - 10:00 am) - Jennifer Somers
	Energy Insecurity, Extreme Heat and Climate Resiliency		Equitable Building Decarbonization in the Real World: Urban, Rural and Health & Safety - Barriers and Solutions
	<i>Who's Energy Insecure? Results from the 2020 Residential Energy Consumption Survey (RECS)</i>		<i>Overcoming Health and Safety Barriers to Weatherizing Homes: Lessons Learned from Connecticut</i>
	<i>Presented by: D. Ross Beall, U.S. Energy Information Administration (Lead Author: Carolyn Hronis, U.S. Energy Information Administration)</i>		<i>Liz Bourguet, Energy Futures Group</i>
	<i>Cooked: Survival by Zipcode (Film screening 20 minute version)</i>		<i>Elevating the Voice of Rural Communities: Real-World Strategies and Solutions for Equitable Decarbonization and Resiliency Planning (no paper)</i>
	<i>Kartemquin Films and Judith Helfand Productions Judith Helfand, Director/Producer Fenell Doremus, Producer</i>		<i>Courtney Henderson, See Change Institute</i>
	<i>Facing Two Tasks: Preserving and Expanding Equity in Climate Mitigation and Adaptation Action (invited speaker)</i>		<i>Choose Your Own Adventure: Funding the Decarbonization of Under-resourced Residential Buildings</i>
	<i>Carlos Martín, Harvard University Joint Center for Housing Studies</i>		<i>Bridgett Neely, Firefely Energy Consulting</i>
SESSION 2 (10:30 am - 12:00 pm) - Jennifer Somers	SESSION 2 (10:30 am - 12:00 pm) - Jacqui Patterson		
Equitable Building Decarbonization and Focus on Residents	Transformative Policy		
<i>Decarbonization Retrofits for Affordable Housing: A Chicago Case Study</i>	<i>Equity Provisions in Illinois' Climate and Equitable Jobs Act</i>		
<i>Abby Francisco, Elevate</i>	<i>Delmar Gillus, Elevate</i>		
<i>Equitable Electrification: Helping Gas Customers Electrify Without Increasing Their Short-Term or Long-Term Costs</i>	<i>Fighting for Energy Equity in MA: Frontline Resistance and Legal Reforms (video, no paper)</i>		
<i>Emily Levin, VEIC</i>	<i>Sarah Dooling, Massachusetts Climate Action Network</i>		
<i>Energy Efficiency to Preserve Affordable Rental Housing in Minneapolis</i>	<i>First to Reside, Last to Receive Retrofits: Funding and Policies Preventing Tribal Efficiency</i>		
<i>Rebecca Olson, Center for Energy and Environment</i>	<i>Maddie Wazowicz, Midwest Energy Efficiency Alliance</i>		

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) - Jennifer Somers	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am) - Jacqui Patterson
	Racial Equity and Models to Support Community-Driven Climate Investments		BROADCASTED SESSION
	<i>The Power for Change: Energy Policy and Racial Equity</i> <i>(invited speaker)</i> Aditi Bansal, Columbia University and Carlos Martin, Harvard University Joint Center for Housing Studies		Community-Led Decarbonization Solutions
	<i>Resource Mobilization for Home Electrification and a Just Transition</i> <i>(invited speaker)</i> Bridget Vial, Energy Democracy Organizer, Michigan Environmental Justice Coalition		<i>Integrating Housing, Workforce, Health and Energy Equity in Building Decarbonization in Los Angeles, California</i> Presented by: Chelsea Kirk, SAJE and Lauren Ahkiam, LAANE (Lead Author: Veena Singla, NRDC)
	<i>Realizing Equitable Community-based Climate and Clean Energy Investments</i> Angelina Benson-Glanz, Elevate		<i>Equity and Energy Burden in Orlando</i> <i>(invited speaker)</i> Ernesto Vargas, PODER LatinX
SESSION 2 (10:30 am - 12:00 pm) - Jacqui Patterson	SESSION 2 (10:30 am - 12:00 pm) - Rachel Scheu		
Climate Feminism, Environmental Justice, and Conquering Stereotypes: Stories from the Frontlines	Decarbonizing Housing and Communities		
<i>Conquering Stereotypes and Telling the Stories of EJ Residents + Activist</i> <i>(video, no paper)</i> Daphany Rose Sanchez, Kinetic Communities Consulting	<i>Promising Building Electrification Models: When Communities Lead, We All Win</i> Jacqui Patterson, Chisholm Legacy Project		
<i>Exploring Climate Feminism in Canada: A Podcast Episode</i> <i>(podcast, no paper)</i> Meghan Bennett, Summerhill	<i>Rapid Deployment of Energy Upgrades Through a Community-Scale Approach: Leveraging Partnerships to Achieve Equitable Clean Energy Goals</i> Anna McCreery, Elevate and Angela Tovar		
<i>Title TBD</i> <i>(invited speaker)</i>	<i>Nothing For Us, Without Us: What Do Households of Color Actually Want (And What are Their Landlords Willing to Do)?</i>		

PANEL 13: ENERGY EFFICIENCY AND EQUITY

Pamela Miles, Alternatives for Community and Environment (Meeting Room: Scripps)

Hal Nelson, Portland State University

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

FRIDAY, AUGUST 26

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

Tools and New Methods to Influence Equitable Climate Policy and Deployment

Where to Target LMI Electrification Upgrades: Gaining Insights from New York Housing Data

Dale Kruchten, Guidehouse

Urban Building Energy Modeling to Target Energy Efficiency Retrofits for Equitable Community Emissions Reduction Planning

Zachary Berzolla, Massachusetts Institute of Technology

Severe Weather, Building Efficiency, Resilience, and Human Mortality

Presented by Chitra Nambiar, Pacific Northwest National Laboratory

(Lead: Mark Weimar, Pacific Northwest National Laboratory)

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

Title: TBD

Driving Displacement: Energy's Role in Urban Gentrification

Manogna Mantripragada, Greenlink Analytics

Engaging a Diverse Workforce in the Building Sciences Through the JUMP Into STEM Program: Impact Study

Presented by Kim Trenbath, National Renewable Energy Laboratory

(Lead: Kerry Rippy, National Renewable Energy Laboratory)

Energy Efficiency is Part of the Solution

Dan Streit, Slipstream

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

Panel Leader: Kristen Parrish

TUESDAY, AUG
POSTER TITLE
<i>DSM benefits all financially! – We just have to show a more complete picture of the DSM financials!</i>
<i>Laboratory Performance Assessment of High Efficiency Refrigerated Display Cases with Low GWP Refrigerants</i>
<i>Benchmark Datasets Development and Applications</i>
<i>A New Disaster-Resistance Construction Tool in the Building America Solution Center</i>
<i>Healthy Homes and Occupant Comfort: The Hidden Benefits of Energy Retrofit</i>
<i>Data Highlights from the 2018 Commercial Building Energy Consumption Survey (CBECS)</i>
<i>Energy in Design: Toward Performance-based Recognition in Architectural Design Awards</i>
<i>Bridging the Knowledge Gap on Advanced Building Controls</i>
<i>Affordable, All-electric Cold Climate Homes: a Look Inside the Winning 2021 Solar Decathlon Build Challenge House</i>
<i>The Policy Mullet: Good Intentions in Front, Bad Policy in Back</i>
<i>High Rise Low Carbon; Office Deep Retrofit Profiles</i>
<i>Testing the Waters: Why Challenging Department of Energy Assumptions is Vital for Our Energy Future</i>
<i>Helping cities efficiently navigate building decarbonization around the world</i>
<i>Residential Modeling Enhancements to Identify Least-Cost Pathways to Net Zero Carbon Homes</i>
<i>Designing for Accessibility: Lessons from User Experience Research</i>
<i>Recruitment for Representative In-Home Research During COVID-19: Strategies and Lessons Learned from the Front Line</i>
<i>From Purchasing to Viewing – Tuning in to Customer Practices with Televisions</i>
<i>The Lost World of Energy Savings: Part III</i>
<i>The Case for Holistic Energy Efficiency Programs, featuring the City of Pomona</i>
<i>Everyone’s a Winner!</i>

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

Panel Leader: Kristen Parrish

TUESDAY, AUGUST 2	
POSTER TITLE	
<i>Advancing Equity, Urban Resilience and Energy Savings Through Heat Mitigation Strategies</i>	
<i>The Many Faces of HVAC Performance through TSPR</i>	
<i>A Brick Enabled and Mortar Tested Application to Detect Passing Valves in Hot Water Distributions Systems</i>	
<i>Watt are they waiting for? Potential and Barriers to Decarbonizing Commercial New Buildings</i>	
<i>Quantifying the community health impacts of delayed commercial energy code adoption</i>	
<i>High-bays, Hangars, and Hoops: Validating Wireless Lighting Controls for Military Installations</i>	
<i>How Much Green are We Talking About? – Estimating Customer Bill and Green House Gas Impacts from DR Load Increase and Decrease Event</i>	
<i>Building Resilient Communities through Equitable Financing Strategies</i>	
<i>Battery storage behavior – cutting through the hype with real world data</i>	
<i>Price-Based Grid Coordination</i>	
<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>	
<i>“If One GEB is Good, a Community of GEBs is Better”</i>	
<i>How to Build a Connected Community: Government Policies to Promote GEBs</i>	
<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>	
<i>Some like it hot – but well-insulated is better</i>	
<i>Building Energy Efficiency Policy and Social Innovation: the Green Remodeling Project in South Korea</i>	
<i>What is Inclusive Utility Investment for Site-specific Energy Upgrades, and What Can We Learn from Reported Field Experience</i>	

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

Panel Leader: Kristen Parrish

THURSDAY, AU	
POSTER TITLE	
<i>Connecticut Department of Energy Home Energy Score Initiative</i>	
<i>Celebrating 20 Years of Advancing the Buildings Industry</i>	
<i>Implementing an Eclipse VOLTRON-based Software Platform to Make a Building "Grid-Interactive"</i>	
<i>Revisiting Zion: Evaluating Passive Design Strategies for Net Zero Ambitions</i>	
<i>Home Work: How Students Designed a Net-Zero Energy Tiny House</i>	
<i>Expanding outreach and services to low-income communities</i>	
<i>Building Blocks of Whole Facility Savings Analytics Platform</i>	
<i>Comparing Wall Retrofit Systems by Performance, Cost and Constructability</i>	
<i>Almost DIY: Nonintrusive Way to Make Your Home Grid Integrated</i>	
<i>It's Getting BETR: The Building Electrification Technology Roadmap</i>	
<i>There's Underserved Customers in Them There Hills: Identifying and Understanding the Needs of Underserved Communities</i>	
<i>The New Grid Demands Flexibility: How Utility Programs Can Encourage Buildings to Play an Active Role in Grid Transformation Through Demand Flexibility</i>	
<i>Building a framework to support geographically focused efforts to support peak demand reductions, carbon emissions reductions, or increased demand response participation</i>	
<i>Exploring an Advanced Role for DERs in Ontario's Electricity Market</i>	
<i>Energy Equity Metrics: Examples and Best Practices for Measuring the Impact of Clean Energy Policies and Programs</i>	
<i>One size fits none: An analysis of regional differences in building and equipment stock for utility program planning</i>	
<i>A New Ruleset Application Testing Standard to Support Performance-Path Compliance and Above Code Programs</i>	
<i>Digitizing the Manufacturing Process using Industry 4.0 Strategies and Building Systems Optimization</i>	

THURSDAY, AUGUST

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

Panel Leader: Kristen Parrish

POSTER TITLE
<i>Increasing Equity for Growers through Strategic Energy Management</i>
<i>Is There Gold in Them There Hills? Mining Public Records for Commercial HVAC System Details</i>
<i>A window into the future of lighting programs</i>
<i>Building Resiliency into Operational Improvements with Combined Heat and Power (CHP) and Microgrids</i>
<i>To count or not to count, now that is the question: accounting for pandemic related effects in programs</i>
<i>Development of an Annual Air Handling Unit Fault Dataset for FDD Tools: Lessons Learned and Consideration for FDD Developers</i>
<i>Building Envelope Campaign - Program Design and Stakeholder Engagement</i>
<i>Identifying Savings Potential for Simple Buildings through Regression-based Modeling Tools</i>
<i>Engaging a Diverse Workforce in the Building Sciences through the JUMP into STEM Program: Impact Assessment</i>
<i>Electrification's Massive Opportunity: promote equity or promote a different shade of status quo?</i>
<i>NOx, NOx - Who's There? Decarbonizing Buildings through NOx Emissions Standards</i>
<i>History of Residential Energy Code Progress Toward Net-Zero</i>
<i>Heat Pumps with Phase Change Thermal Storage: Flexible, Efficient, and Electrification Friendly</i>
<i>Refrigerated Display Cases – Can They Flex Their Power?</i>
<i>Energy Credits Let Energy Codes Break Free from Prescriptive Inertia</i>
<i>Custom Block Rate Design: A Policy Innovation to Accelerate the Rate and Scale of Energy Efficient Technology Adoption in Facilities</i>
<i>100% Means Everyone: The Imperative for Inclusive Financial Solutions for Equitable Decarbonization</i>
<i>Understanding electricity use in student apartments: small percentages of residents use disproportionate amounts of electricity</i>
<i>An Interactive Data Viewer for a National End-Use Load Profile Dataset Covering All Major Building Types, End Uses, and Geographies</i>
<i>Developing a Tool to Quickly Assess a Customer's Readiness for Participation in a Connected Communities Program</i>

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

Panel Leader: Kristen Parrish

AUGUST 23 4-6 PM
AUTHOR
Ali Bozorgi, ICF
Ramin Faramarzi, National Renewable Energy Laboratory
Tianzhen Hong, Lawrence Berkeley National Laboratory
Theresa Gilbride, Pacific Northwest National Laboratory
Samuel Rosenberg, Pacific Northwest National Laboratory
Presented by: Tuncay Alparslan, U.S. Energy Information Administration (Lead: Joelle Michaels, U.S. Energy Information Administration)
Christopher Meek, University of Washington
Dave Vigliotta, Slipstream
Jennifer Scheib, University of Colorado, Boulder
Christopher Payne, Lawrence Berkeley National Laboratory
Richard Yancey, Building Energy Exchange
Kayla Kirksey, Evergreen Economics
Kayla Rakes, World Resources Institute
Ben Polly, National Renewable Energy Laboratory
Katie Cary, TRC
Kevin Price, Evergreen Economics
Presented by: Liandra Chapman, Evergreen Economics (Lead: Jenny Hughes, Evergreen Economics)
Matt Tyler, Pacific Northwest National Laboratory
Rachel Pennington, The Energy Coalition
Amy Buege, Verdant Associates

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

Panel Leader: Kristen Parrish

23 4-6 PM (continued)
AUTHOR
Samarth Medakkar, Midwest Energy Efficiency Alliance
Supriya Goel, Pacific Northwest National Laboratory
Carlos Duarte Roa, Center for the Built Environment, University of California, Berkeley
Keith Rivers, Evergreen Economics
Madison Johnston, Midwest Energy Efficiency Alliance
Bryan Urban, Fraunhofer USA
Presented by William Marin, Verdant Associates (Lead: Lauren Robinson, Verdant Associates)
Patrick Ngo, Lincus, Inc.
Brian McAuley, Verdant Associates
Bruce Nordman, Lawrence Berkeley National Laboratory
Sooria Narsiah, Summerhill Group
Presented by Cindy Regnier, Lawrence Berkeley National Laboratory (Lead: David Nemetzow, U.S. Department of Energy)
David Nemetzow, U.S. Department of Energy
Jingjuan Dove Feng, TRC Companies, Inc.
Glenn Gavi, DNV
Soojin Shin, University of Delaware
Jill Ferguson, LibertyHomes

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

Panel Leader: Kristen Parrish

AUGUST 25 4-6 PM
AUTHOR
John Karyczak, Avangrid
Holly Carr, National Renewable Energy Laboratory
Presented by Scott Hackel, Slipstream (Lead: Xiaohui Zhou, Slipstream)
Zachary Berzolla, MIT
Mariana Sanchez, Western Washington University
Jean Perez, Oncor Electric Delivery
Abigail Hotaling, VEIC
Presented by Cheryn Metzger, Pacific Northwest National Laboratory (Lead: Patti Gunderson, Pacific Northwest National Laboratory)
Michael Zeifman & Hannah Fontenot, Fraunhofer
Alexi Miller, New Buildings Institute
Joe Van Clock, Apex Analytics
Alexi Miller, New Buildings Institute
Presented by Tracy Scott/Andrew Shepard, Energy Trust of Oregon (Lead: Quinn Cherf, Energy Trust of Oregon)
Ahmed Hanafy, Dunskey Energy + Climate Advisors
Roxana Ayala, ACEEE
Maddie Koolbeck, Slipstream
Amir Roth, U.S. Department of Energy
Bhanu Kaini, Eversource Energy

25 4-6 PM (continued)

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

Panel Leader: Kristen Parrish

AUTHOR
Evan Gutierrez, TRC
Presented by Bretnie Eschenbach, Cadeo Group (Lead: Jonah Hessels, Cadeo Group)
Meryl Compton, Esource
Rosemary Jojic, Pepco Holdings Inc.
Santiago Rodriguez-Anderson, SBW Consulting
Armando Casillas, Lawrence Berkeley National Laboratory
Anthony Aldykiewicz, Oak Ridge National Laboratory
Chitra Nambiar, Pacific Northwest National Laboratory
Presented by Kim Trenbath, National Renewable Energy Laboratory (Lead: Kerry Rippy, National Renewable Energy Laboratory)
Carl Samuelson, Michaels Energy
Nancy Seidman, Regulatory Assistance Project
Rob Salcido, Pacific Northwest National Laboratory
Dre Helmns, Lawrence Berkeley National Laboratory
Grant Wheeler, National Renewable Energy Laboratory
Reid Hart, Pacific Northwest National Laboratory
Eric Mazzi, Mazzi Consulting
Holmes Hummel, Clean Energy Works
Claudia Bustamante, Clarkson University
Eric J.H. Wilson, National Renewable Energy Laboratory
Kristen Parrish, Arizona State University