

**PANEL 1 ACCEPTED PAPERS**

<b>Title</b>	<b>Category</b>	<b>Lead Author First Name</b>	<b>Lead Author Last Name</b>	<b>Lead Author Organization</b>
The Economics of Cold Climate Electrification	Oral	Scott	Robinson	Guidehouse
Split HPWHs as an efficient solution for multifamily buildings with in-unit water heaters	Oral	Bethany	Sparr	National Renewable Energy Laboratory
Winter is Coming: is the Northeast Ready for Residential Electrification?	Oral	Christie	Amero	Cadmus
Results from Laboratory and Field Studies of Thin Triple-Pane Windows	Oral	Patti	Gunderson	Pacific Northwest National Laboratory
Experimental evaluation of a multi-function compact heat pump for all-electric residential buildings	Oral	Subhrajit	Chakraborty	Western Cooling Efficiency Center
Methods to Analyze the Energy Performance of Window Attachments	Oral	Saniya	Syed	D+R International
Detailed Laboratory Evaluation of Electric Demand Load Shifting Potential of Heat Pump Water Heaters	Oral	Karen	Fenaughty	FSEC Energy Research Center
Two Building's Research Engineers Experiences with Creating Their Own Zero Energy Houses	Oral	Paul	Torcellini	National Renewable Energy Laboratory
Electric and Gas Decarbonization Options for Homes: The Best Option Could Vary by Home and Region	Oral	Steven	Nadel	American Council for an Energy-Efficient Economy
The Climate Impact of Retrofits: Embodied and Operational Emissions in Weatherization	Oral	Megan	Nedzinski	Vermont Integrated Architecture
Decarbonization of Residential Appliances by Operating on Natural Gas and Hydrogen Mixtures	Oral	Yan	Zhao	Gas Technology Institute
Energy Savings and Durability of Phase Change Materials in Residential Attics	Oral	Robert	Hendron	Frontier Energy
Aerosol Sealing of Existing Homes	Oral	Curtis	Harrington	UC Davis Western Cooling Efficiency Center
Field Test Results from Cold Climate Air Source Heat Pump Installations in New York State: Performance, Savings and More	Oral	Gabrielle	Stebbins	Energy Futures Group
Is Efficiency Dead? The Evolving Value of the Saved Kilowatt-hour when Load Flexibility Reigns Supreme	Oral	Lieko	Earle	National Renewable Energy Laboratory
End-Use Level Impacts of the COVID-19 Pandemic on Residential Energy Usage	Oral	Hans	Lehndorff	Evergreen Economics
Radiant Ceilings As A Residential Retrofit: Examining the Myths and Realities	Oral	James	Haile	Frontier Energy Inc.
Why We Should Never Install Another Air Conditioner!	Oral	Ben	Schoenbauer	Center for Energy and Environmnet

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The Elusive Missing Link: Correlating Billing Analysis and Thermostat Data in the Northwest	Oral	Jon	Koliner	Apex Analytics
Large-scale deployment of MPC in the residential sector: proposed methodology and assessment of aggregated impact	Oral	Charalampos	Vallianos	Concordia University
Mind the Gap: Evaluating the Gap Between All-Electric Building Energy Models and Real-World Results	Oral	Jacob	Shimkus Erickson	Cadmus Group
Load Shifting through pre-Cooling via ecobee eco+ TOU Optimization	Oral	Greg	Pfotenhauer	Franklin Energy
Validation of HVAC Hardware-In-the-Loop Simulation for Advanced Control Strategies in Smart Homes	Oral	Sugirdhalakshmi	Ramaraj	National Renewable Energy Laboratory
Variable speed heat pumps can provide effective demand response with a soft touch	Oral	Andrea	Mammoli	Electric Power Research Institute
In Hot Water! The challenges and barriers of decarbonizing water heating in the multifamily buildings	Oral	Sammy	Houssainy	National Renewable Energy Laboratory
Winter is Coming: Sophisticated Decarbonization Strategies in Northern Climates	Oral	Mathieu	Lévesque	Dunsky Energy + Climate Advisors
Heat Pump Water Heaters in the Midwest: Cost, Comfort, and Climate Impacts	Oral	Kevin	Gries	Slipstream
The unintended consequences of electrification and what to do about it	Oral	Jennifer	McWilliams	DNV
Help! I Can't Figure out How to Set the Clock on my Microwave Oven and Now I Need to Program the Controls for my Heat Pumps, Batteries, Solar Panels, and Electric Vehicle Charging?	Oral	Dave	Intner	Southern California Edison
Quantifying Energy Impacts of Residential Comfort System Installation Faults	Oral	Eric	Martin	FSEC Energy Research Center
Timing is Everything: Optimizing heat pump load flexibility for cost, comfort, and carbon emissions.	Alternate	Caton	Mande	UC Davis Western Cooling Efficiency Center
Exploring the impact of building envelope insulation on life cycle sustainability of building and profitability of investments	Alternate	Farshid	Shadram	Division of Civil Engineering and Built Environment, Uppsala University, Sweden
Evaluation of Condensation Risk Mitigation Methods for Residential Radiant Ceiling Cooling Systems	Alternate	James	Haile	Frontier Energy Inc.
Hydronic vs. Hydronic: Comparing Performance of Air-to-Water Heat Pumps Coupled with Radiant Ceilings and Fan Coils	Alternate	James	Haile	Frontier Energy Inc.

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From the Ground Up: The Potential for Geothermal in Peak Load Reduction	Alternate	Jean-Philippe	Hardy	Dunsky Energy + Climate Advisors
PREDICTING IMPACT OF TEMPERATURE SETPOINT ADJUSTMENT UNDER TIME-BASED ELECTRICITY RATE PLANS	Alternate	Mahesh	Naidu	Lawrence Berkeley National Laboratory
Sustainable Affordable Housing at Scale	Alternate	Jonathan	Kinsley	Handel Architects
Accounting for the Multiple Dimensions of Inequality in Utility Programs	Alternate	Karen	Ehrhardt-Martinez	ICF
Decarbonizing Affordable Housing: Overcoming Practical and Energy Affordability Barriers	Alternate	Carolyn	Tolentino	American Council for an Energy-Efficient Economy
Tell me what you use, what you really, really use: improvements in household end-use estimation	Visual	Greg	Lawson	U.S. Energy Information Administration