Panel 11: Smart and Grid-Interactive Buildings

Panel Leaders: Therese Peffer, CA Institute for Energy & Environment and Marco Pritoni, Lawrence Berkeley National Laboratory

DATE	SESSION	TITLE	LEAD AUTHOR, ORGANIZATION
Mon 8/3	**Session 1** **8:30 am - 10:00 am** Beyond the Meter: Multifamily Load Flexibility	*Splitting the Split Incentive – Novel Program Design to Increase Multifamily Demand Response*	Katy Hernandez, Austin Energy PRESENTED BY: Alexi Miller, New Buildings Institute
		Opportunities for flexible load deployment with commercial heat pump water heaters; results from 10+ field tests and implications for program and incentive design	Mark Frankel, Ecotope
		Domestic Hot Water and Grid Flexibility: A Field Study of Real-Time Price Optimization at Three Affordable Housing Multifamily Sites in CA	Greg Pfotenhauer
	Session 2 **10:30 am - 12:00 pm** Field-Validated Solutions for Grid-Interactive Commercial Buildings	*Portfolio Owner's Guide to Incentive-Based, Demand Response Programs Including Building Selection, Technologies, Building Thermal Mass Storage, and Income Potential*	David Kaiser, City of Alexandria, VA
		Optimized Load-Management Controls for Building Demand and Emissions Reductions	Paul Ward, PAE Consulting Engineers
		Integrating Real-Time Carbon Intensity into HVAC Operations: Insights from the Sydney Opera House	Craig Roussac, Buildings Alive
Tues 8/4	**Session 1** **8:30 am - 10:00 am** Wired for the future: Residential Service Upgrades, Smart panels, Batteries and more	*Understanding the Costs and Barriers of Residential Electrical Panel and Service Upgrades*	Nuria Casquero-Modrego, Lawrence Berkeley National Laboratory
		Smart Panels: Electrifying the connection between smart homes and grid	Bethany Sparn, National Laboratory of the Rockies
		Integrated Smart Home Panels and Modular Batteries for Capacity Management, Load Control, and Grid Resilience in Affordable Housing	Rongxin Yin, Lawrence Berkeley National Laboratory
	Session 2 **10:30 am - 12:00 pm** Flexibility Squared: Scaling Aggregated Demand Flexibility and Creating Distribution System Value	*Unlocking Grid Flexibility: Understanding Challenges for Scaling Aggregated Demand Flexibility for the Distribution System*	Cindy Zhu, Gridium
		Amping Up Flexibility: Quantifying the Grid Value of Load Management via Smart Electric Panels	Margo Bonner, eThree
		Peak vs Panel: Insights from Submetering LMI Electrification	Benjamin King, MNCEE
Wed 8/5	**Session 1** **8:30 am - 10:00 am** VPPs, Thermostats, and Tanks: Field-Tested Strategies for Residential Load Shaping	*Tale of two communities, two streams of data and the duck curve: Field testing results for a residential virtual power plant Pilot*	Michael Zeifman, Fraunhofer Institute
		Comfort First, Flexibility Next: Grid-Interactive Water Heating That Puts People Front and Center	Caton Mande, UC Davis
		Smart Thermostat DR Gets a Makeover: Incorporating price signals and working toward resource adequacy-eligible curtailment	Chelsea Liddell, DNV

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Wed 8/5	**Session 2** **10:30 am - 12:00 pm** Driving Guideline 36: Overcoming Legacy Systems and Accelerating Adoption	*Let Me Speak to Your Supervisor: Overcoming Constraints of Legacy Controls to Deploy ASHRAE Guideline 36*	Armando Casillas, Lawrence Berkeley National Laboratory
		The State of ASHRAE Guideline 36 - Where We Are Now Since Its Publication in 2018?	Xiaohui Zhou, Slipstream
		Fast Lanes and On-Ramps: Driving Adoption of Guideline 36	Hwakong Cheng, Taylor Engineers
Thurs 8/6	**Session 1** **8:30 am - 10:00 am** Connecting the Assets: OpenADR, New Protocols, and the Future of Residential Automated Demand Flexibility	*OpenADR in Practice: Pathways for Automating Device Dispatch on Dynamic Rates*	Mark Martinez, Southern California Edison
		Optimizing the Benefits of Grid-Connected Water Heaters	Eric Olson, NEEA
		From the Cloud to Your Basement: Can New Communication Protocols Solve the Interoperability Nightmare in Demand Flexibility?	Anand Krishnan Prakash, Lawrence Berkeley National Laboratory
	Session 2 **10:30 am - 12:00 pm** Powering the Future: Battery Energy Storage and Vehicle to Grid	*Harmonizing Standards to Unlock Vehicle-Grid Integration*	Jeff Turner, Dunsky
		What's in it for me? Understanding the Stakeholder Value of Code-Compliant Residential Batteries	Mazen Daher, EPRI
		Battery-Powered Future: A Utility BTM Pilot Case Study	Rowan Lavelle, Cadmus Group
Fri 8/7	**Session 1** **8:30 am - 10:00 am** Next-Gen Commercial Building Control: MPC, Peak Demand Management, and Simulation Library	*An Analysis Framework for Grid Planning and Demand-Side Strategy Evaluation*	Craig Simmons, National Renewable Energy Laboratory
		The Hidden Value of Flexibility: Reimagining C&I Electrification Through Benefit Stacking Across Market Structures	Abigail Hotaling, VEIC
		Prime Time for Model-Predictive Control? Assessing the Technical and Market Readiness of Advanced Controls in Buildings	Marco Pritoni, Lawrence Berkeley National Laboratory
	Session 2 **10:30 am - 12:00 pm** Beyond the Tank: Case Studies on Thermal Storage for Demand Response and Peak Shaving	*Two Case Studies of Combi Air-to-Water Heat Pumps with Thermal Storage*	Chris Granda, Energy Solutions
		Performance of integrated thermal storage and heat recovery chillers in all-electric commercial building	Rezvan Mohammad Ziazi, Energy Solutions
		Thermal Storage as Electric Demand Response Technology: Case Study for an Institutional Building in British Columbia	Yingpei (Tina) Liu