

Panel 12: Smart and Grid-Interactive Buildings

Panel Leaders: Paul Mathew & Therese Pepper

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| MONDAY, AUGUST 22 | SESSION 1 (8:30 am - 10:00 am) | TUESDAY, AUGUST 23 | SESSION 1 (8:30 am - 10:00 am) |
| | 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> Andrew Satchwell, Lawrence Berkeley National Laboratory | | <i>Engaging Contractors: a Critical Partner to Realize the Load Shifting Potential of HPWHs</i> Emily Kehmeier, Energy Solutions |
| | <i>Large-scale Simulation of Regional Demand Flexibility Implementation and Customer Economic Impact</i> Hayden Reeve, Pacific Northwest National Laboratory | | <i>Field Study of Grid-connected Heat Pump Water Heaters in the Southeast U.S. - The Next Right Thing</i> Joshua Butzbaugh, Pacific Northwest National Laboratory |
| | <i>Towards an Equitable Grid-Interactive Efficient Building Landscape: Visualizing Technology Adoption in the State of New York</i> Danielle Preziuso, Stevens Insitute of Technology | | <i>Decarbonization Impact of Grid-Interactive Efficient Buildings – An Affordable Housing Use Case</i> Agatha Kazdan, Electric Power Research Institute |
| | SESSION 2 (10:30 am - 12:00 pm) | | SESSION 2 (10:30 am - 12:00 pm) |
| Metrics and Ratings | Data Analytics | | |
| <i>GridFlex: Introducing Metrics to Benchmark Building-grid Interactivity</i> Kevin Carbonnier, New Buildings Insitute | <i>A Multi-level Load Shape Clustering and Disaggregation Approach to Characterize Patterns of Energy Consumption Behavior</i> Samanvitha Murthy, Lawrence Berkeley National Laboratory | | |
| <i>RESNET Load Flexibility Task Group: Developing Ratings that Incentivize Demand Responsive Buildings and a Cleaner Grid</i> David Goldstein, NRDC | <i>At Long Last: Realizing the Promise of Non-intrusive Load Monitoring</i> Jennifer McWilliams, DNV | | |
| <i>Methodology for Modeling Savings for Home Energy Management Systems</i> Robert Hendron, Frontier Energy | <i>Towards a Stronger Foundation: Digitizing Commercial Buildings with Brick to Enable Portable Advanced Applications</i> Carlos Duarte Roa, University of California, Berkeley | | |
| WEDNESDAY, AUGUST 24 | SESSION 1 (8:30 am - 10:00 am) | THURSDAY, AUGUST 25 | SESSION 1 (8:30 am - 10:00 am) |
| | People and Process: Stakeholder Engagement | | Where the Rubber Meets the Rroad: 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> 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> Jing Wang, National Renewable Energy Laboratory |
| SESSION 2 (10:30 am - 12:00 pm) | SESSION 2 (10:30 am - 12:00 pm) | | |
| 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> 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> Kurt Roth, Fraunhofer USA | <i>Unsupervised Learning for Detecting VAV Anomalies in Commercial Buildings</i> Hao Huang, Buildings Alive | | |
| <i>Solar+ Optimizer: Integrated Control of Solar, Batteries, and Flexible Loads for Small Commercial Buildings</i> Lazlo Paul, Lawrence Berkeley National Laboratory | <i>A Low Cost Centralized HVAC Control Ssystem Solution for Energy Savings, Load Shedding, and limproved Maintenance</i> Nicolas Fauchier-Magnan, University of California, Davis | | |

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