

## **Panel 6: Utilities and the Future**

Utility energy efficiency and integrated demand-side management programs can be “the core of a clean energy future.” However, customer-facing programs will require an evolution in goals, measurement, and program design to align with the technology opportunity from ubiquitous connected devices, the reliability needs of a grid with higher quantities of variable generation, and changing customer expectations. Historically, this was done through simplistic energy efficiency and demand response programs that were pivotal to systemic energy efficiency and avoiding additional generation resources. However, in the future, it is important to make grid integration seamless and minimize the impact on customers' lives to enable wide-scale adoption.

This panel will explore best practices in utility EE portfolio design and implementation; innovative policy and evaluation to enhance the success of utility EE and DSM efforts; targeted DSM leveraging interval data and/or customer segmentation analysis; quantifying incremental system value of grid-interactive and efficient building (GEB) systems when compared to traditional energy efficiency and demand response; how energy efficiency and DSM programs can be optimized for carbon reduction; shifts in energy efficiency targets, utility performance incentives, and cost-effectiveness rules to support decarbonization and maximize value of distributed resources to the grid, opportunities for coordinated efficiency and electrification initiatives to decarbonize the energy system; establishing the reliability and firmness of behind-the-meter assets (such as EVs, HVAC, WH, and IoT devices) to the customer and to the grid operators; quantifying the impact of flexible loads on the distribution system and on customer comfort and participation; mitigating the need for and/or replacing peaker plants with distributed assets, on a reliable and quantifiable basis at scale; impact of decarbonization of the building sector on grid flexibility; market, technological, and regulatory barriers and solutions to the integration of customer-sited assets.