MISSION

Projects, research, and technical assistance to advance understanding and standardization of information and approaches needed to plan, forecast and assess energy resource value and impacts.

ABOUT THIS PROJECT

Two major regional trends – building decarbonization to meet aggressive state carbon emission reduction goals and the evolving role of homes and buildings as flexible electric grid resources – invite new approaches and information to plan, forecast, and assess the value and impacts of building efficiency integrated with other demand-side solutions, including efficient electrification, to provide comfort heating. Whole building and systems analysis approaches are increasingly relevant, as is the need to understand the value of demand-side resources relative to the full range of relevant public policy goals (i.e., environmental sustainability, energy affordability and reliability, resilience, economic productivity, public health and safety). Load shapes, metrics, analytical tools, data sources, non-energy benefits, and methodologies using automated data collection and analyses are among the topics of NEEP's 2019 project to address these needs. Building on and leveraging U.S. DOE and national lab research as well as regional thought leadership and field research, our 2019 focus includes load shape research, Measurement and Evaluation 2.0 (M&V 2.0), as well as best practices to align demand-side resource cost-effectiveness evaluation with the full range of public policy goals served by efficiency and distributed resources.

LONG-TERM MARKET TRANSFORMATION GOALS

2025

All Northeast states:

- Adopt resource evaluation practices that reflect the full energy and non-energy impact and value of demand-side resources to meet public policy goals.

- Adopt program metrics and EM&V for demand-side resource programs that reflect total building energy efficiency performance as well as carbon efficiency.

- Use M&V 2.0 to assess demand-side resource impacts, and to optimize programs to serve customer as well as grid needs for energy reliability, flexibility and affordability.

2019 PROJECT OUTCOMES

1. Three additional Northeast states include non-energy impacts of energy efficiency in their cost-effectiveness and evaluation frameworks.

2. Five Northeast states contribute to NEEP's development of a regional M&V 2.0 best practices manual to evaluate efficiency programs, optimize efficiency programs and customer service, and support home and building energy benchmarking.

3. Two Northeast states adopt program metrics and EM&V for demand-side resource programs that reflect total building energy efficiency performance as well as carbon efficiency.

4. Six Northeast states participate in the prioritization of loadshape and planning/forecasting information needs for the region to address strategic electrification and advanced efficiency.

REGIONAL TRENDS & LEADERS

- CT, NH, NY, RI, and VT are supporting research on automated data collection and analyses (M&V 2.0) to inform more timely and less costly efficiency EM&V, and to optimize program performance.

- MA, NY, RI and VT now include strategic electrification in statewide energy planning and forecasting.

- DC, MA, NJ, NY, and VT are piloting pay-for-performance programs that support integrated and whole building demand-side solutions as grid reliability resources.

- DC, RI, and VT are aligning their cost-effectiveness practices to value carbon emission reduction and other non-energy impacts of energy efficiency.

- Advanced Metering Infrastructure (AMI) is now fully deployed in DC, MD, ME, and VT, and regulators in CT, MA, and NY are considering AMI deployment built on the lessons of early adopters.

- Smart technology (e.g., smart thermostats and commercial lighting controls) deployment across the region provides new opportunities to leverage data streams for program evaluation as well as loadshape research.

2019 Strategies with Associated Products, Services and Technical Assistance

STAKEHOLDER ENGAGEMENT

NEEP will bring together key stakeholders to share information on best practices, resources, and research needs to build understanding and use of advanced efficiency planning, forecasting, and evaluation practices and resources.

- Quarterly webinars of M&V 2.0 State Partners Working Group

- *New* Northeast Advisory Group on Advanced Efficiency EM&V (includes loadshapes and planning and forecasting)

- Participation in NEEP working groups (e.g. Strategic Energy Management, HEMS, Buildings, Strategic Electrification, Advanced Efficiency Leadership Forum)

- *New* Web-based directory of EM&V providers and software as a service vendors

- Communication via webinars, topical blog posts, and quarterly newsletters

- Two public meetings (M&V 2.0 and Advanced Efficiency EMV/Loadshape)

TECHNICAL ASSISTANCE

NEEP provides customized assistance, facilitation, research or technical review by request.

- Examples include: Mid-Atlantic TRM updates; 2018 EIA-sponsored research on states' trends in efficiency measures; survey of tools and data for strategic electrification planning and forecasting; CT 2017 Cost-effectiveness Workshop; State Partner M&V 2.0 workshops

TRACKING & ANALYSIS

NEEP follows key state and industry developments pertaining to M&V tools, plans and practices to identify and report on trends and issues concerning measurement of demand-side resources in support of advanced efficiency and decarbonization in the region.

- Maintained web-based M&V 2.0 Building Analytics Software Tracker

- *New* Tracking states' loadshape studies as part of National Lab Loadshape project – shared at working group meetings

- Quarterly EM&V newsletter

- Tracking of cost-effectiveness practices – shared in webinars/meetings

- Tracking use of advanced M&V – shared in webinars/meetings

TOOLS & GUIDELINES

NEEP's work will advance the development of strategies, tools and best practices to support advanced efficiency in planning, forecasting and evaluation to meet the evolving policy needs for efficiency as a core element of grid-integrated demand-side solutions and state carbon emission reduction strategies.

- Maintained NEEP loadshape library/catalog and data collection protocols (EM&V Forum Products)

- M&V 2.0 Resource Guide and Regulatory Handbook/Best Practice Guidance shared with state partners and U.S. DOE

- Recommendations to address information gaps for state and local strategic electrification planning and forecasting shared in meetings/working group

RESEARCH & REPORTS

NEEP prepares newsletters, blogs, webinars, and reports on topics and issues that help the region address measurement of the full potential of demand-side resources, including their value as grid and decarbonization assets.

- *New* Scope for and update to Regional End-Use Loadshape Catalog

- Blogs on advanced efficiency M&V industry developments and trends (2017 example)

- *New* White paper on evolving role for EM&V and loadshapes for advanced efficiency and decarbonization

NATIONAL / REGIONAL COLLABORATION

NEEP collaborates nationally and regionally to facilitate the development and dissemination of best practices regarding measurement and reporting and to fill data gaps pertaining to use of demand resources in energy and decarbonization planning, forecasting and integrated efficiency solutions.

- Participation in relevant national/regional leadership groups (e.g., IEPEC Board and Conference, AESP, National Loadshape Project Working Group, Efficiency Valuation Organization (EVO), National Standard Practice Manual Steering Committee, LBNL M&V 2.0 Stakeholder Group, US DOE SEE Action Network, Consortium for Energy Efficiency)

- Assist in conference planning, presentations, technical review of materials