



## NEEP 2018 QUARTERLY REPORT QUARTER ONE



### *Leadership Recognition and Policy Tracking*



#### **Advanced EM&V Solutions**

**Hosted a public webinar on Advanced Measurement & Verification (M&V):** On March 2, 2018 NEEP hosted a one-hour public webinar on [Tools, Data, and Trends Towards Advance M&V](#). This webinar was attended by over 100 stakeholders. The presentation featured six speakers, each presenting a unique perspective on new tools and opportunities for Advanced M&V. In a post-event survey, participants gave favorable responses to the webinar content and made several requests for additional topics to cover in subsequent webinars.



#### **Policy and Program Trends and Progress Tracking**

**Data for program year 2016 was published to the Regional Energy Efficiency Database (REED):** Data was published to [REED](#) along with supporting state information, including utility energy efficiency savings information for Mass., R.I., Conn., N.H., Me., Vt., N.Y., Md., Del., and D.C.



### *Resilient, High Performance Buildings and Communities*



#### **Pathways for Efficient and Resilient Communities**

**Finalized and launched the Community Action Planning for Energy Efficiency (CAPEE) tool:** NEEP's newest community-focused resource – [CAPEE](#) – was developed to help small- to mid-sized and rural communities plan and prioritize projects targeting energy and carbon reductions. Users of the tool will start by answering a series of questions about their municipality's current status in regard to energy initiatives. The tool will then generate a customized action plan with fact sheets, statistics, and additional resources to take on projects. CAPEE was designed with input from regional stakeholders and is meant to overcome challenges faced by communities preventing them from implementing energy saving projects.



## Building Energy Codes and Benchmarking

**Supported advancement of Rhode Island’s commercial stretch code and adoption of a residential stretch code:** NEEP provided extensive technical assistance to the state of Rhode Island to update its commercial stretch code and promulgate, for the first time, a residential stretch code. The commercial stretch code was updated from the 2012 [International Green Construction Code](#) (IGCC) to the 2015 IGCC. The residential code utilized the [Department of Energy’s](#) (DOE) [Zero Energy Ready Homes Program](#) (ZERH). The use of the DOE ZERH program as a stretch code is a first for the region. The statewide adoption of the [residential](#) and [commercial](#) voluntary stretch code became effective on February 16, 2018. The stretch code will assist Rhode Island to reduce greenhouse gas (GHG) emissions by 80% below 1990 levels by 2050.



## Home Energy Labeling Information Exchange (HELIX)

**The [Home Energy Labeling Information Exchange \(HELIX\)](#) went live and is ready for full implementation of the pilot in seven states (New England and New York):** This takes HELIX out of the development phase and into the production phases where real data can be imported and exported from the database. The database will be capable of automatically populating real estate listings (whether they are accessed through local Multiple Listing Services [MLS] or portals like Trulia and Zillow) with home energy information from Home Energy Score and other sources when it is available and approved by the seller.



## *Integrated Advanced Efficiency Solutions*



## Air-Source Heat Pumps and Smart Energy Homes

**Prepared for the upcoming [Renewable Heating and Cooling Workshop](#), to be held in Saratoga Springs, N.Y. on June 18-19:** NEEP is jointly hosting the workshop with the Renewable Thermal Alliance. The event will explore how the region can work collaboratively to accelerate the adoption of renewable heating and cooling technologies that will ultimately transform the way we heat and cool our homes and businesses. We expect 150 attendees to be a part of the two-day event.



## Efficient, Low Carbon Commercial and Industrial Solutions

**Finalized the planning phase of our new pilot activity to drive the use of [DOE’s 50001 Ready Program](#):** NEEP will be engaging a number of key stakeholder groups including energy efficiency program administrators, strategic energy management (SEM) implementation vendors, and those in the municipal water sector. The pilot will also incorporate SEM resources for water-sector stakeholders into NEEP’s [CAPEE](#) resource. NEEP attended DOE’s

50001 Ready Network meeting on March 21, 2018 to coordinate with other REEO partners designing and implementing pilots. We will begin implementation of the pilot plan in Q2.



## Federal and State Appliance Standards

**States advanced appliance efficiency standards:** States in the Northeast and Mid-Atlantic are eager to pick up the efficiency lost through federal inaction on appliance standards. NEEP has been working with stakeholders throughout the region to advance the collective understanding of and commitment to appliance standards. We hosted state-specific discussions regarding appliance standards efforts in R.I., N.Y., and Mass., as well as continued discussions with stakeholders in Vt. Rhode Island ([senate](#) and [house](#)), [Mass.](#), and [Vt.](#) all have standards legislation being considered in their 2018 sessions, with N.Y. expected in Q2. Additionally, discussions have begun and will continue into Q2 with stakeholders from D.C., N.J., and Conn, on their standards opportunities.



## Strategic Electrification



## Strategic Electrification

**Published the [Action Plan to Accelerate Strategic Electrification in the Northeast](#):** The action plan maps out an initial pathway forward, focusing on near-term (next five years) actions to more aggressively move strategic electrification forward in the Northeast. This plan will serve as a strategy framework from which regional stakeholders can work to coordinate implementation of various activities. Thirty-five regional stakeholders contributed directly to the action plan through their participation in the Strategic Electrification Advisory Committee.



## Leadership Recognition and Policy Tracking

### *Events & Stakeholder Engagement*

- **Prepared for the [EM&V Annual Public Meeting](#):** The goal of the meeting, held on May 8 in Nashua, N.H., was to work through the most critical evaluation considerations related to the evolving industry. Agenda topics include: EM&V in the Integrated Distributed Energy Resources Environment, Controls as an Efficiency Measure, Cost Effectiveness and Non-Energy Impacts of Efficiency, and Evolving Technical Reference Manuals for the Future.
- **Facilitated national and regional collaboration and engagement via two sessions at the [National AESP Conference](#):** NEEP staff moderated a session on Demand Reduction Demand Response Pilot Programs and Preliminary Results, and helped facilitate a panel discussion on Residential Whole Building Metering.
- **Presented at the International Energy Agency’s workshop on the [multiple benefits of energy efficiency](#):** NEEP participated in a panel for policymakers on what is needed to bring non-energy impacts (NEIs) into cost-effectiveness testing, highlighting NEEP’s research, our [NEI report](#), and the [National Standard Practice Manual](#) as resources. Attendees included stakeholders from across the NEEP region, and countries from six continents.
- **Engaged with state energy efficiency boards and council meetings:** NEEP engaged with environmental advocacy groups to stay updated on state and local legislative and regulatory policy happenings. NEEP participates in New York’s Clean Energy Organizations Collaborative (CEOC), Maryland Energy Efficiency Advocates, the Massachusetts Global Warming Solutions Group, and others to provide educational materials and to gain insights into policy updates.
- **Engaged with other regional energy efficiency organizations (REEOs) and the California Efficiency + Demand Management Council:** This group will hold quarterly teleconferences for information sharing and to identify areas of common interest among the REEOs’ policy work to provide assistance and share resources. This led to coordination between NEEP and the California Efficiency + Demand Management Council on energy efficiency and distributed energy resources (DER) integration and new utility business models.

### *Research, Analysis, Reports, and Case Studies*

- **Continued research on efficiency program measure impacts:** Research focused on collection of measure-specific, cost-effectiveness inputs from representative large utilities, as well as on regional trends in lighting program impacts examined by ISO New England (ISO-NE). Results of this research will inform regional inputs to the U.S. Department of Energy’s (US DOE) national models such as the [Annual Energy Outlook](#).
- **Submitted a proposal to support regional stakeholder engagement targeting advances in cost-effectiveness and non-energy impacts in the region:** This effort builds on previous NEEP



guidance and research and will supplement E4TheFuture's current activities building awareness and adoption of the National Standard Practice Manual.

- **Continued research on M&V 2.0 with Connecticut and state partners:** NEEP continued to contribute to the US DOE-funded M&V 2.0 project through participation in bi-weekly technical team teleconferences, development of an outreach plan, monthly meetings with US DOE, and early stage planning for a Vermont State Partner Workshop and a regional workshop in November 2018. This project will continue through 2019 with the current focus on conducting a pilot of commercial advanced M&V tools compared to traditional M&V approaches, followed later by a residential pilot.
- **Published two policy trackers:** The tracker is used to highlight the latest trends in legislative and regulatory proceedings. This effort puts a regional pulse on policy; for instance, the [January](#) tracker highlighted state activity as we entered the 2018 legislative session, which would be heavily focused on carbon emissions and meeting greenhouse gas reduction goals. This is important in order to remain on the trajectory to reach 80 percent carbon reduction by 2050. The [March](#) tracker focused on state efforts to push initiatives forward that tackle carbon reduction through clean energy programs and policies.
- **Published a REED Renderings issue:** This is part of a series of blogs on interesting trends that we see in the data and the stories behind those trends. The latest issue focused on the 2016 [Regional Energy Efficiency Database \(REED\)](#) data for 10 states – Connecticut, Delaware, the District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont – and the results of the 2016 energy efficiency programs run by those states.

### *Technical Assistance and Resource Centers*

- **Began updates of the [Mid-Atlantic Technical Reference Manual \(TRM\)](#) to version 8:** This jointly funded technical assistance was kicked off in January 2018. For this cycle, the update was supported with in-kind assistance from District of Columbia stakeholders and financial support from the Delaware Department of Natural Resources and Environmental Control (DNREC) and Maryland electric utilities. The project subcommittee finalized the list of efficiency measures to address (modify or add) and research was launched. A draft and then final products will be delivered in Q2.
- **Proposed EM&V technical assistance to N.H. stakeholders:** NEEP attended working group meetings convened in N.H. on the subjects of EM&V and cost-effectiveness and provided suggestions for possible areas of technical assistance.
- **Participated in Future Grid Coalition Committee meetings:** This group was formed in late 2017 and has begun reviewing emerging guidance such as products developed by [CalTRACK](#). The group collaborates on development of recommendations of best practice relating to use of M&V 2.0 software for building analysis and program evaluation.
- **Provided resources and information to the Natural Resources Defense Council (NRDC):** This information was to be used during the development of a comprehensive energy efficiency plan for New York and at technical sessions with the New York State Energy Research and

Development Authority (NYSERDA) and the New York State Department of Public Service (NY DPS).

- **Participated in the N.H. Energy Efficiency & Sustainable Energy (EERE) Board Energy Efficiency Resource Standard (EERS) Working Group:** Discussions focused on development of proposals for possible technical assistance to the Cost-Effectiveness Working Group.
- **Updated our [online policy tracking tool](#) to include 2018 policies:** NEEP uses PowerSuite for automatic policy updates, which ensures the resource center is as accurate as possible. The tool was modified this year to make it simpler to understand.

### *Regional Market Transformation Strategies*

- **Received US DOE funding for research on regionally available data to inform strategic electrification energy planning:** Following the approval of the scope of work and funding, NEEP completed contracting arrangements with Synapse Energy Economics; the project was scheduled to kick off early in Q2.



## **Resilient, High Performance Buildings and Communities**

### *Events & Stakeholder Engagement*

- **Convened the Regional High Performance Buildings Leadership Group:** NEEP hosted a webinar on March 28 to highlight [CAPEE](#), which officially launched two days later on March 30. The webinar provided a demonstration of CAPEE and gave attendees a sense of the detailed information that can be gathered from its use. This webinar also highlighted NEEP’s upcoming publication on strategic energy management (SEM) opportunities within the public water sector. Information from this report will be built into a future CAPEE module to help communities drive down energy usage in municipal water facilities.
- **Presented at the National Governor’s Association (NGA) Leading by Example Workshop:** The primary topic of discussion was focused on the challenges and opportunities that states face when rolling out building energy benchmarking programs across portfolios of state-owned facilities. Participants of the two-day workshop included state government officials from across the country. NEEP presented to the group on best practices and lessons learned from leading-edge initiatives occurring in three Northeast and Mid-Atlantic states. The workshop was a valuable forum for discussion for partners, such as NEEP, to better understand the widespread issues that prohibit state agencies from systematically benchmarking energy use across all facilities. The national-level dialogue provided an opportunity for peers to learn from each other and discover new best practices.
- **Presented at the Northern New England Facilities Masters Conference:** This annual conference is a gathering primarily of school facilities directors and business administrators from New Hampshire, Maine, Vermont, and Massachusetts. Presentation topics included using energy



benchmarking data to justify projects and the latest technologies schools are deploying. Over 50 attendees participated in sessions to learn about free resources available to assist with the ongoing operations of existing school facilities with a focus on energy efficiency.

- **Presented on zero energy buildings and communities to the city of Amherst, Mass.:** Sponsored by [Amherst Mothers Out Front](#) and [Climate Action Now Western Massachusetts](#), NEEP staff presented on “Zero Energy Buildings and the Leading Role of Municipalities in Creating the Energy Landscape of the Future” to Amherst residents, the Amherst City Council, and other interested stakeholders. Additionally, the presentation drew connections between zero energy buildings (ZEBs), local energy resources, climate, resilience, and community-wide energy management. In November 2017, Amherst, Mass. passed [bylaws](#) that require new municipal buildings to be zero energy and that the city itself be zero energy by 2050. NEEP provided technical assistance toward passage of the bylaws and will continue to assist the city throughout implementation.
- **Hosted a Regional Building Energy Codes Working Group Webinar & Code Compliance Attribution Webinar:** On March 2, NEEP hosted a webinar on Code Compliance Attribution with a guest presenter representing National Grid in Massachusetts and Rhode Island to discuss best practices and lessons learned from code compliance enhancement programs in those states. This was a follow-up to NEEP’s 2013 NEEP report, [Attributing Building Energy Code Savings to Energy Efficiency Programs](#). Forty-two attendees from eight states attended the webinar, including representatives from utilities, state energy offices, and energy efficiency programs. Rhode Island’s successful compliance enhancement program provided attendees with the knowledge to explore implementing these programs in their states, further increasing code compliance and reducing energy consumption in the residential and commercial sectors.
- **Facilitated the Pennsylvania Energy Code Collaborative Meeting:** NEEP organized and facilitated the Pennsylvania Energy Code Collaborative meeting on February 12 in Harrisburg, Penn, with eight stakeholders attending in person and an additional 10 via teleconference. Attendees included Pennsylvania Department of Environmental Protection (PA DEP) staff, builders, and non-profit advocacy groups. The meeting focused on revising the [Roadmap to 100% Code Compliance by 2020](#) to focus on 2018 initiatives. The initiatives will further improve compliance through real estate professional education, code compliance enhancement programs, and circulating information about code compliance training.
- **Engaged the HELIX Advisory Committee during a quarterly meeting:** NEEP continues to engage this group of stakeholders for input during the development and deployment of the Home Energy Labeling Information Exchange ([HELIX](#)). The Committee provided feedback on the types of data fields that would be useful to have in HELIX, which is being used as a “wish list” for further production of the resource. The HELIX Advisory Committee is a forum for information dissemination and exchange between real estate professionals, state energy offices, utilities, and other stakeholders within the states participating in the project. This group convenes for webinars to accelerate the HELIX project process and provide input on the various stages throughout.
- **Engaged with the National Association of Realtors:** In February, NEEP met with representatives from the National Association of Realtors to gather input and/or ideas for the communication



plan of HELIX to real estate professionals, including content for one-pagers which will be developed in Q2.

- **Held a meeting with the Massachusetts Department of Environmental Resources (MA DOER):** This meeting provided MA DOER an opportunity to ask questions about beta testing HELIX and what the next steps were to get its data into HELIX. This led to a call between NEEP, project consultant ClearlyEnergy, and MA DOER to ensure HELIX is compatible with the data format that Mass. uses for its pilot program. These in-person meetings ensure strong relationships between HELIX partners.
- **NEEP and HELIX team members met with NEREN to discuss the export functionality of HELIX:** At this call, the application programming interface (API) export format and approach was approved by the New England Real Estate Network (NEREN). NEREN covers all of the New England states as a multiple listing service (MLS) and their CRS platform is a data aggregator that would feed the information from HELIX, so it is crucial that the HELIX data export functionality is compatible with CRS, a function that will move forward with pilot testing.

### *Research, Analysis, Reports, and Case Studies*

- **Developed new exemplars on high performance schools:** In preparation for healthy schools week and three tours taking place in April, NEEP produced three new high performance school exemplars for [Morton Middle School](#) (Fall River, Mass.), [Wells High School](#) (Wells, Me.), and [Mill Brook Primary School](#) (Concord, N.H.). These exemplars showcase the beneficial outcomes that schools built to a higher standard have on students, staff members, and entire communities. These resources will be shared with other stakeholders from around the region interested in exploring school improvement projects.
- **NEEP paper on building energy codes referenced and staff quoted in regional publication:** The Northeast Sustainable Energy Association's (NESEA) Building Energy Magazine ran a [feature article on stretch codes](#) as a high-impact strategy to achieve energy savings. NEEP staff peer reviewed the article and, as a recognized leader in assisting states in the development and implementation of stretch codes, was quoted in the article. NEEP's paper [Building Energy Codes for a Carbon Constrained Era - A Toolkit of Strategies and Examples](#) was also referenced in the article as a resource for state adoption of zero energy codes.
- **Conducted research at the Pennsylvania Review & Advisory Committee (RAC) meeting:** NEEP attended the February 13 RAC meeting to compile research around the public comments submitted during the RAC 2015 International Code Council (ICC) re-review process. NEEP attended the meeting with three other stakeholders, one who made public comments in support of the 2015 IECC. At the meeting, NEEP was able to capture the perspectives of builders, contractors, and manufacturers in Pennsylvania, which have informed how NEEP communicates about updated energy codes within the state.
- **Published a blog on market transformation to zero energy codes:** The blog, titled [Building Energy Codes: A Critical Piece of the Climate Change Puzzle](#), delves into NEEP's latest code paper [Buildings Energy Codes for a Carbon Constrained Era](#), which draws parallels between codes, carbon reduction, and climate change, and presents a roadmap to zero energy codes in the region by 2040.





- **Analyzed data for an update to NEEP’s paper, Construction Codes in the Northeast: Myths & Realities:** As part of the update to the paper, [originally published in 2015](#), construction permit data from 2014-2017 is being analyzed to determine the patterns of construction as they relate to energy code adoption and compliance in the residential and commercial building sectors.
- **Published an [exemplar](#) on Connecticut’s Home Energy Solutions program and its connection to HELIX:** This exemplar highlights the relevance of home energy labeling in achieving energy efficiency goals in the residential sector, as well as taking the Home Energy Solutions program to the next step by populating the MLS with the data via HELIX.
- **Beta tested HELIX data access structure and functionality:** The database access structure of owners, members, and viewers within HELIX was tested for organizations and sub organizations within HELIX. This ensured that the permissions for each user type was set up correctly and that the operational policies were functional.

### *Technical Assistance and Resource Centers*

- **Provided technical assistance to Rhode Island:** Over the course of the first quarter of the year, the Rhode Island Office of Energy Resources (RI OER) facilitated three meetings for the zero energy public buildings working group focused on breaking down barriers that prohibit ZEBs. The major outcome of these meetings is that the group will be hosting an educational event series for key stakeholders to help remove the negative stigmas surrounding ZEBs. This includes an informational tour and development of fact sheets and presentations tailored to the particular needs of the different stakeholders groups – such as facility directors, school boards, etc.
- **Convened the Rhode Island High Performance Schools Working Group:** The group developed a plan for the year that prioritizes designing and disseminating a survey for key stakeholder groups in the state. The purpose of the survey is to gain a better understanding of the opportunities and needs of school stakeholders to help inform efforts moving forward. The state currently has a strong high performance school program for new construction and major renovation projects. Therefore, the working group is focusing efforts on existing schools to ensure they are put on the pathway to high performance through proper operations and phased capital improvements.
- **Convened the New Hampshire High Performance Schools Working Group:** NEEP is working with stakeholders in New Hampshire, including the state’s Department of Education, to develop a plan to increase the number of schools benchmarking their energy usage on an ongoing basis. NEEP is also providing technical assistance to help set Energy Use Intensity (EUI) targets for schools in New Hampshire. Information gleaned from benchmarking will be used by the state to inform efforts related to a statewide school construction program.
- **Provided code adoption technical assistance to Connecticut and Pennsylvania:** NEEP provided comments on proposed adoptions of the [International Energy Conservation Code \(IECC\)](#) in Connecticut and Pennsylvania, which are both considering adoption of the [2015 IECC](#). Connecticut is currently on the [2012 IECC](#), which the state adopted over a year ago, and Pennsylvania is on the [2009 IECC](#). NEEP’s comments recommend adoption of the 2015 IECC without amendments to assure buildings in the states contain the latest energy saving



technologies and construction methodologies. Both states are expected to adopt the code in the summer of 2018. The 2015 IECC is roughly 15 percent more efficient than the 2009 IECC. With adoption of the 2015 IECC in both states, seven states in the NEEP region will then use the code.

- **Supported the Delaware Code Coalition:** NEEP provided technical assistance to the [Delaware Codes Coalition](#), which is in the process of adopting the [2018 International Energy Conservation Code](#). We provided information during the Coalition's February meeting on the Energy Rating Index and stretch codes to achieve zero energy buildings. The state's Executive Order 18 requires residential buildings to be zero energy capable by 2025 and commercial buildings by 2030. Delaware may be the first state in the NEEP region to adopt the 2018 energy code.
- **Provided technical assistance to New Hampshire:** New Hampshire is considering adoption of new residential and commercial codes. Additionally, the state has several pieces of energy-related legislation that would establish various committees to study energy codes and energy code compliance. NEEP provided state representatives with resources, case studies, and technical information to inform the process and the numerous options and opportunities the state is currently exploring.
- **Provided technical assistance and guidance to the city of South Portland, Maine:** To assist with South Portland's implementation of their new benchmarking ordinance, NEEP finalized the benchmarking [How-to-Comply Guide](#) and developed drafts of fact sheets, as requested by the city, on green leasing and turning data into action. NEEP also collaborated with the city to organize a training workshop on the requirements set forth in the ordinance. NEEP presented on the subject of using benchmarking data to justify and make upgrades within facilities. The workshop and How-To-Comply Guide are integral pieces to ensuring a smooth rollout of the ordinance and high compliance rates amongst covered buildings.
- **Supported New Hampshire to increase the number of benchmarked schools in the state:** Through the New Hampshire High Performance Schools Working Group, NEEP is supporting the state's Department of Education to collect energy use data using the U.S. Environmental Protection Agency's (US EPA) Portfolio Manager. NEEP brought in a representative from EPA Region One to work with the group on this initiative. The group identified a number of pilot districts that will utilize a simplified benchmarking worksheet, making it less onerous on those inputting the data into Portfolio Manager. The goal of this work is to empower districts with their energy consumption data and to help inform potential school construction regulations going forward.
- **Assisted Rhode Island with their benchmarking goals:** One of the recommendations of state's [Zero Energy Building Pathway to 2035](#) whitepaper is to make energy consumption data more accessible and understood. NEEP is working with RI OER and National Grid to plan a stakeholder training on EPA's Portfolio Manager. Information collected through building energy benchmarking will be used to guide the development of policies and programs that support the advancement of zero energy buildings in the state.
- **Provided technical assistance in Connecticut and Rhode Island on home energy labeling and data/privacy concerns:** NEEP assisted Connecticut in adding opt-out language to the Home Energy Score program which enables data to be shared with HELIX. NEEP also helped National

Grid-Rhode Island with the language used in the opt-in form for the Home Energy Score pilot program.

### *Regional Market Transformation Strategies*

- Began updates to the Northeast Collaborative for High Performance Schools (NE-CHPS)**  
**Criteria:** NEEP convened and facilitated a stakeholder meeting to discuss the latest update to NE-CHPS v3.1. The primary focus of this update is to enhance the energy and acoustics sections of the criteria. Concerns have been raised about the documentation requirements of the acoustics section. The updated version will simplify the process while still maintaining a high-quality acoustics requirement. Updates to the energy section will ensure the latest energy code updates are reflected in the criteria and will continue to drive schools to lower overall energy consumption. Stakeholder input will be collected throughout the update to ensure the final version meets the needs of the region.
- Invited to serve on the [Pioneer Valley Planning Commission](#) - Pioneer Valley Climate Action and Clean Energy Advisory Committee:** This committee will revise and assist in the implementation of the [Pioneer Valley Climate Action and Clean Energy Plan](#) for Western Massachusetts. The plan is intended to assist the citizens of the region to respond to climate-related changes in their communities by creating workable strategies and regional actions to reduce greenhouse gas emissions. The updated plan will address moving the region to 100 percent renewable energy through zero energy buildings and communities.
- Finalized beta testing of the data import functionality for HELIX:** Multiple CVS and XLS import formats were tested to ensure a smooth import function for HELIX. The import functionality is also equipped with a default set of standard green certifications and can be expanded to include state- or local-level certifications, which will enable HELIX to work with national or local home energy labeling programs.



## **Integrated Advanced Efficiency Solutions**

### *Events & Stakeholder Engagement*

- Convened our regional Air-Source Heat Pump (ASHP) Working Group:** NEEP held the first ASHP Market Transformation Working Group meeting of the year, with 65 stakeholders in attendance. Discussion focused on important strategies to advance ASHP technologies being implemented across the region, followed by how these strategies can be more effectively implemented/leveraged by the regional market.
- Convened the Home Energy Management Systems (HEMS) Working Group:** NEEP hosted the first HEMS Working Group meeting of the year via webinar, attended by 35 participants



representing organizations and states from around the region, as well as the US DOE, US EPA, and the National Renewable Energy Laboratory (NREL).

- **Organized Smart Home content for a national home performance audience:** For the fourth year, NEEP organized a Smart Home component for the [HPC National Conference](#), developing a nine-session track and happy hour focused on the subject. Additionally, NEEP presented in two of the sessions on our recent brief on [smart home resources for contractors](#) and on upcoming research into the integration of HEMS with strategic electrification and distributed energy resources (DER).
- **Hosted the Northeast Regional Research and Development (R&D) Connector Workshop:** The Northeast Regional R&D Connector explored opportunities for collaboration among R&D organizations in the Northeast region that aim to bring advanced energy efficiency technologies to market. Several recommendations for an effective ongoing framework for the advancement of promising energy efficiency technologies in the Northeast came out of [the workshop](#).
- **Convened a webinar for the Strategic Energy Management (SEM) Collaborative:** This was the first SEM Collaborative gathering hosted by NEEP, as a follow-on from a previous Continuous Energy Improvement (CEI) discussion group that had been hosted by the Vermont Energy Investment Corporation (VEIC) since 2013. By providing this platform for collaboration with policy makers, program administrators, and commercial and industrial energy managers, NEEP hopes to accelerate the adoption of SEM in the commercial and industrial sectors.
- **Supported development of a North American SEM Collaborative:** NEEP contributed to a Governance Sub-Committee charged with scoping the governance structure for a new North American Collaborative aimed at driving adoption and improving effectiveness of SEM in the commercial and industrial sectors. NEEP joined several discussions and contributed content to planning documents.
- **Participated in a variable refrigerant flow (VRF) stakeholder event hosted by the Massachusetts Clean Energy Center (MassCEC):** This event provided an opportunity for NEEP to learn about the progress that MassCEC is currently making with their VRF incentive programs aimed at accelerating the adoption of VRF in Massachusetts. Representatives from Mitsubishi and Daikin were in attendance and gave updates on their experience with the marketing of VRF.
- **Discussed federal and state appliance efficiency standards at a regional working group meeting:** NEEP hosted the first Appliance Standards Working Group meeting of the year, with 22 in attendance representing states from across the region, as well as a national perspectives from the Appliance Standards Awareness Project (ASAP). The meeting agenda was split between updates on federal activities and on state standards progress.
- **Began planning for an in-person meeting of the Appliance Standards Working Group:** After the success of the in-person meeting in September 2017, NEEP and ASAP again decided to host an in-person meeting in 2018 to strategize for moving forward state standards. The meeting will take place on October 1 in conjunction with the [NEEP Summit](#) in Middletown, R.I.



### *Research, Analysis, Reports, and Case Studies*

- **Began research on integrating the smart home with strategic electrification and distributed energy resources:** NEEP is producing a whitepaper on the integration of home energy management systems with strategic electrification and distributed energy resources. NEEP began this research with initial scoping conversations with stakeholders, development of a project plan, and hosting an internal kick-off meeting. The final report is expected later in the year.
- **Began development of a paper focused on ASHP:** NEEP is co-authoring a paper for the American Council for an Energy-Efficient Economy (ACEEE) focused on the opportunity that air-source heat pumps present for the U.S. for the advancement of energy efficiency. NEEP joins authors from the Northwest Energy Efficiency Alliance (NEEA), the Bonneville Power Administration (BPA), and ACEEE, pulling from our experience managing a regional market transformation initiative to inform the report.
- **Began drafting the Regional R&D Connector Report:** NEEP began drafting the report as a follow-up to the [R&D Connector workshop](#), which takes the reader through NEEP's journey toward achieving the objectives of the Northeast Regional R&D Connector project. It represents the groundwork for a deeper dive into what can be done to bridge the commercialization gaps in the Northeast, with the ultimate goal of accelerating the R&D commercialization pipeline in the Northeast.
- **Created informational resources on state appliance standards opportunities:** NEEP and ASAP have been working together to create fact sheets with key information about state-level appliance standards. In the first quarter, educational resources were developed on appliance standards efforts in R.I., Mass., and Vt.

### *Technical Assistance and Resource Centers*

- **Maintained NEEP's web-based HEMS resource center:** NEEP made strategic updates to the [HEMS landing page](#) to make information more accessible and more clearly connected to other regional priorities. Additionally, we completed an update to the online products list of smart energy home devices, adding 45 new products and updating several fields in the product list of information.
- **Began updates to NEEP's ASHP installer guides:** NEEP began to improve the [best practice guides for sizing, selecting, and installing ASHPs in cold climates](#). To inform the updates, we developed a survey to circulate to stakeholders, which will be distributed in Q2. The two guides are linked from MassCEC and Efficiency Vermont's websites, and have been downloaded over 3,000 times.
- **Engaged stakeholder networks to drive awareness and usage of NEEP's ASHP installer guides:** NEEP presented at several regional conferences and trainings to educate stakeholders on the installer guides. Events presented at included Efficiency Vermont's Better Buildings by Design Conference, the Home Performance Coalition's Regional Conference, and NESEA's Build Boston Conference.
- **Informed an ASHP integrated controls pilot:** The development of integrated control systems that can manage the operation of ductless heat pumps in concert with other heating systems is



a key strategy area for NEEP's ASHP Initiative. NEEP has partnered with NEEA, BPA, and the Pacific Northwest National Laboratory (PNNL) to inform a pilot to study the effectiveness of various control technologies/strategies to maximize the use of ductless heat pumps.

- **Informed the development of next generation rating methods for ASHPs:** NEEP attended a stakeholder meeting in Washington D.C. to discuss the development of a new rating method for ASHPs. The group is facilitated by ACEEE and includes efficiency advocates and manufacturers. NEEP contributed insights into the benefits of a new test/rating method being developed by CSA as a potential model from which to start. NEEP also brought perspective gained through management of [our ccASHP specification](#).
- **Assisted Rhode Island stakeholders in advancing state appliance standards:** NEEP worked closely with a variety of Rhode Island stakeholders – including RI OER, National Grid, members of the state efficiency advisory board, and energy organizations – to build awareness and understanding of appliance standards through education and technical assistance, including preparing a fact sheet to provide more information on the potential impacts of a standards bill being considered. NEEP participated in an [educational briefing](#) at the R.I. State House as well as provided testimony when requested to present the regional context and technical analysis for the [House](#) version of the standards bill.

### *Regional Market Transformation Strategies*

- **Began updates to our cold-climate air-source heat pump specification:** Working with the [ccASHP specification](#) sub-committee, NEEP is developing a revised specification – version 3.0. The process will include an opportunity for public, stakeholder review and comment before any changes to the specification are finalized.
- **NEEP's ccASHP products list continued to grow:** By the end of the first quarter of 2018, seven leading programs – including MassCEC, Efficiency Vermont, and NYSERDA – had adopted the specification and products list as part of their qualification for incentives. The [specification and associated products list](#) includes over 900 products and has been downloaded over 4,745 times thus far in 2018. The list is a mechanism for the market to differentiate ASHP systems that can operate efficiently in cold climates.
- **Began a market assessment of variable refrigerant flow technology:** NEEP is currently conducting research and analysis of the current VRF market. This research includes characterization of the supply chain, market size, applications, potential savings, relevant metrics, market barriers, technology barriers, and current interventions.
- **Hosted a webinar on opportunities for SEM in the municipal water sector:** NEEP presented findings from its forthcoming report which will identify opportunities and provide recommendations related to driving use of SEM in municipal water-sector facilities.
- **Weighed in on the value of federal appliance standards:** NEEP worked with our regional Appliance Standards Working Group and other partners to respond to two US DOE Requests for Information. The first was regarding updating [DOE's Process Rules](#) for the appliance standards program and the second was regarding potentially incorporating additional flexibility into [DOE's approach for setting standards levels](#). In both letters, NEEP stressed the US DOE's

congressionally mandated responsibility to advance standards, [many of which have lapsed in the last year](#), in order to continue achieving energy savings in the region and beyond.

- **Engaged with the US EPA ENERGY STAR Program:** NEEP coordinated with other efficiency stakeholders to contribute to the continued success and funding of the ENERGY STAR program through efforts led by the Alliance to Save Energy and the Retail Products Platform. NEEP also coordinated with regional stakeholders to create a letter regarding [ENERGY STAR’s Request for Information](#) on potential process improvements.



## Strategic Electrification

### *Events & Stakeholder Engagement*

- **Presented findings from our [Northeastern Regional Assessment of Strategic Electrification report](#):** NEEP presented at the Environmental Business Council of New England’s Energy Resources Program, [Renewable Thermal Meeting](#). The gathering included policy makers, industry actors, and others and offered NEEP an opportunity to communicate the benefits of strategic electrification to a number of influential stakeholders.

### *Technical Assistance and Resource Centers*

- **Provided expertise on strategic electrification to partner organizations across the country:** NEEP provided information about strategic electrification to several stakeholders including the Western Electricity Coordinating Council (WECC), Sierra Club, and the Rocky Mountain Institute.