NEEP 2020 Quarterly Report
Quarter One

Advanced Efficiency & Decarbonization Leadership Network

Building Decarbonization Leadership Forum

Mission: Bringing together a diverse cross-section of leaders from business, government, academic, community, and advocacy to inspire, learn, and catalyze regional-scale efforts to accelerate efficient, grid-smart low-carbon homes and buildings.

Building Decarbonization Leadership Forum Long-Term Market Transformation Goals

- By 2025 all Northeast states adopt mandates to reduce carbon emissions 40 percent by 2030 and 80 percent by 2050, and implement statewide plans to reduce building sector carbon emissions.
- By 2030 30 percent of existing homes and building are retrofitted to reduce carbon emissions 50 percent.

Project Narrative:

Traditionally, NEEP's Building Decarbonization Leadership Forum has been tied to the NEEP Summit and used to inform the Summit agenda. As the COVID-19 pandemic takes its toll on the world's collective health and economic strength, NEEP has decided to strategically respond to the crisis by engaging leadership from states, industry, programs and advocates in the Northeast to identify key issues and problems, as well as explore potential solutions for the near and long-term to restore momentum as soon as possible. We will identify, highlight and help advance key solutions to restore policy and market capacities across the Northeast region to accelerate building energy efficiency and decarbonization as key strategies to meet climate stabilization goals as soon as possible.

With the rapid spread of the coronavirus (COVID-19) pandemic, NEEP decided to postpone its 2020 Summit Decarbonizing Our Communities to June 14-16 in 2021. We made this decision with concern for the health and safety of our staff, partners, and industry colleagues as our top priority. Fortunately we were able to re-schedule at the same location, the New Haven Omni, in June 2021 to celebrate NEEP's 25th Anniversary.

Progress Toward Building Decarbonization Leadership Forum Outcomes	25%	50%	75%	100%
At least four Northeast and Mid-Atlantic states join leading cities to adopt roadmaps to accelerate home and building decarbonization to meet state carbon emission reduction goals. **Progress Toward Outcome:** For many, 2020 is the first benchmark for many state climate goals, so states are now looking to 2050 and setting roadmaps for achieving 2030 and 2050 targets. States with legislative mandates are more likely to develop roadmaps because they are obligated to achieve the goal based on state statute.				
At least eight Northeast and Mid-Atlantic states (CT, DC, MA, NJ, NY, PA, RI) and 10 communities implement strategic electrification policies or programs to improve efficiency and decarbonize energy use in existing public buildings. **Progress Toward Outcome:** Communities across the region are leading the development of strategic electrification plans and programs to encourage building owners and residents to adopt clean heating and cooling technologies, amongst other technologies. School buildings are frequently being used to lead-by-example and showcase a community's commitment to reducing emissions. In many cases, these local-level efforts are being supported by state leadership in places such as MA, ME, NH, VT, and NY. These states, in collaboration with utilities, are establishing programs that offer rebates and other funding sources for the electrification of heating systems and vehicles to help meet their greenhouse gas emission reduction goals.				
Twenty media stories cover NEEP's work in efficient, building decarbonization. **Progress Toward Outcome:** There were five media stories in Q1 covering NEEP's work on decarbonization.				

State & Local Public Policy Tracking, Analysis, and Technical Assistance

Mission: Tracking, analyses, reports, and technical assistance to inform state and local public policy adoption, implementation, tracking, and evaluation to reduce building sector energy consumption and carbon emissions to reach carbon neutrality by 2050.

State & Local Public Policy Tracking, Analysis, and Technical Assistance
Long-Term Market Transformation Goals

- By 2025, all Northeast states adopt mandates to reduce carbon emissions 40 percent by 2030 and 80 percent by 2050, and implement statewide plans to reduce building sector carbon emissions.
- By 2025, at least five Northeast states adopt a suite of policies and programs that effectively engage homes and buildings to serve as flexible load and avoid costly T&D additions.
- By 2025, all Northeast states adopt ratepayer-funded demand-side resource programs to improve total building energy performance including electrification to displace direct fossil fuel use, and achieve at least three percent of prior year energy sales.
- By 2030, all Northeast states adopt a suite of policies and programs that effectively engage homes and buildings to serve as flexible load and avoid costly T&D additions.

Project Narrative:

The Northeast region began this year, and the new decade, well-positioned to tackle the challenge of reducing carbon emissions on an ambitious timeline, thanks to relatively strong state economies and leadership in the form of existing aggressive state carbon emissions goals. Opportunities and steps toward these goals include:

- The upcoming three-year (2021–2023) planning cycle for many states in the region
- Increased access to energy and related data to enable tracking and monitoring of carbon emission mandates and programs – e.g.
    - NH SB 284 passed in 2019 the 2020 NY Data Proceeding (Case 20-M-0082) to establish a data warehouse
    - Ongoing NEEP research for Massachusetts and NYSERDA to assess load profile data needs and priorities that could help the region with many applications that support building decarbonization.

NEEP retired its public-facing Regional Energy Efficiency Database (REED) after a comprehensive 2019 review showed NEEP should expand its data collection and analysis efforts beyond REED's narrow range of energy efficiency programs. REED's energy efficiency program data for program years 2011–2017 remains publicly available upon request. NEEP is developing an expanded data collection plan that will include additional demand side programs beyond energy efficiency and new metrics such as all fuel savings (MMBTU). This will help NEEP better track regional progress toward broader policy goals like GHG reductions. More information can be found in the latest REED Rendering blog.

NEEP has begun planning a policy webinar series to highlight the building decarbonization policy framework and opportunities for states to learn from examples across the region. This will take place between May and July. These webinars will help states navigate opportunities for achieving carbon reduction goals (like those identified above) and how to evolve policies like building codes and utility programs to achieve building decarbonization. The policy tracker has been updated for 2020 legislation, and the first blog was published in February. NEEP is a part of the Global Warming Solutions Project in MA, which is working to update the state GHG reduction goal to align with current IPCC recommendations. NEEP is providing resources and guidance during this process.

Progress Towards State & Local Public Policy Tracking, Analysis, and Technical Assistance Outcomes	25%	50%	75%	100%
At least one more state joins NY with laws that require carbon emission reductions aligned with IPCC climate stabilization goals. **Progress Toward Outcome:** MA, RI, and MD have introduced legislation to ramp up the state GHG reduction targets to carbon neutral by 2050 or sooner.				
At least two states join MA and NY in adopting all-fuel savings targets (MMBTU) for ratepayer-funded energy efficiency programs including electrification. **Progress Toward Outcome:** NH completed a study on energy optimization (all-fuels focus) and it is now going through a three-year planning process for EE. Various other states are also going through the planning process, which provides an opportunity to comment during stakeholder process and encourage MMBtu targets. Rhode Island is including an all-fuel metric in its 2021-2023 energy efficiency plan currently under development.				
Two more states join NH and RI to adopt cost-effectiveness analyses that value of all energy efficiency program benefits that align with state policy goals. **Progress Toward Outcome:** CT went through process, but still needs to adopt the test. NEEP has not identified a second state. Public comments to NJ on its Energy Master Plan included recommendations to adopt the NSPM process. NEEP also completed a policy memo for MD Energy Administration and included cost-effectiveness and the NSPM. NEEP can encourage adoption of the NSPM process in states that have planning processes underway, including MD, NH, PA, RI, and VT.				
All states in the NEEP region require demand-side resources, including efficiency, demand response and electrification, as a first strategy to defer more costly electric and gas transmission or distribution additions. **Progress Toward Outcome:** Opportunities to achieve this outcome exist via three-year EE plans. As noted above, these include MD, NH, PA, RI, and VT. Legislation has also been introduced in CT, VT, and MD that would provide opportunities for demand-side resources to be included in programs and policies to achieve carbon reduction goals. These policies specify achieving GHG reduction from transportation, electricity, and buildings.				

Efficient and Resilient Buildings & Communities

Efficient, Resilient Community Pathways and Resources

Mission: Best practice guidance, peer information exchange, and technical assistance to advance resilient, energy efficient, low-carbon public buildings and communities

Efficient, Resilient Community Pathways and Resources Long-Term Market Transformation Goals

- By 2025, all Northeast states adopt mandates to reduce carbon emissions 40 percent by 2030 and 80 percent by 2050, and implement statewide plans to reduce building sector carbon emissions.
- By 2025, 60 percent of Northeast communities have reduced municipal building energy consumption by 20 percent or more.
- By 2030, 60 percent of Northeast communities have programs to reduce residential and commercial building carbon emissions 50 percent.
- By 2030, all Northeast states adopt utility regulatory policies and ratepayer funded demand-side resource programs that support the building sector to be carbon neutral by 2050.

Project Narrative:

Communities across the region continue to implement policies and advance strategies to achieve climate goals. From benchmarking efforts, to zero energy schools, communities are engaging building owners across all building types to make progress. NEEP is uniquely positioned to work across state lines to share best practices and resources to assist with these efforts.

Through the MAZE Initiative, NEEP has continued to convene a MAZE schools working group to share resources and brainstorm policy changes needed to increase funding opportunities for zero energy schools. We have also been working on a ZE schools toolkit for communities that will be reviewed by the working group and published at the beginning of Q2. NEEP continues to offer technical assistance to Belmont, MA on updating its zoning ordinance with sustainability language.

Progress Towards Efficient, Resilient Community Pathways and Resources Outcomes	25%	50%	75%	100%
45 Northeast communities develop or advance energy plans and projects that lead to the reduction of energy consumption in public buildings by 20 percent. **Progress Toward Outcome:** Community-level initiatives vary widely from state to state. In MA and CT, there is a high-level of interest in zero energy schools. NEEP has been engaging with stakeholders in these states to ensure communities are equipped with resources and guidance to help make these projects a reality. In other states, such as West Virginia, the focus is on more fundamental steps such as benchmarking and forming energy committees. Meeting communities where they are is a core component of the success of the Efficient, Resilient Communities initiative. This enables NEEP to provide technical assistance on a broad spectrum of topics, ultimately leading to the achievement of our collective goals.				
Five Northeast communities develop innovative strategies such as zoning requirements or strategic electrification plans to reduce carbon emissions 60 percent by 2030. **Progress Toward Outcome:** NEEP is offering technical assistance to Belmont, MA to help develop sustainable zoning requirements. This work is important because zoning is a crucial tool that communities can use to address building decarbonization at the local level. Belmont is the first community we are offering this type of technical assistance to so it will be a great opportunity to develop best practices and see what can be implemented by municipal governments. Some of the communities in MA that have explored, or are planning to explore, the use of zoning are Cambridge, Somerville, Northampton, Watertown, and Arlington. At the end of Q1, NEEP held a webinar on strategic electrification targeted at communities. Over 200 stakeholders registered for the webinar indicating a strong interest from states and communities across the region. NEEP is also developing resources that will be embedded into CAPEE to assist with local-level electrification efforts. As electrification efforts ramp-up around the region, it will be vital to share successes, challenges, and strategies to ensure these efforts are successful.				
At least one new state utilizes NE-CHPS as a pathway for high performance and/or zero energy schools. **Progress Toward Outcome:** In NH, the state is in the rule-making process to adopt NE-CHPS as the single pathway to meet its "high performance of design" criteria for the state building aid process. NEEP has advised this process and is currently planning for				

Progress Towards Efficient, Resilient Community Pathways and Resources Outcomes	25%	50%	75%	100%
educational and outreach activities to ensure the design community and school decision makers are equipped to utilize NE-CHPS. Ultimately, this work will lead to healthier, energy-efficient learning environments for students in NH. Additional communities in CT are considering the use of NE-CHPS for their school projects. CT currently has no NE-CHPS schools.				

Building Energy Codes and Benchmarking

Mission: Assisting states and communities to reduce energy, costs, and emissions, improve resiliency, and strengthen workforce development through best practices in building energy code adoption, enforcement, compliance benchmarking.

Building Energy Codes and Benchmarking Long-Term Market Transformation Goals

- By 2025, at least six states adopt and support implementation of voluntary zero energy codes and require this of all state funded new construction and renovation.
- By 2030, most Northeast states adopt mandates for all buildings to be carbon neutral by 2050.
- By 2030, At least six Northeast states require zero energy for building energy codes for new and renovated homes and buildings, and have programs to make all state funded homes and buildings carbon neutral by 2050.

Project Narrative:

Kicking off 2020, NEEP focused on convening various working groups – the regional codes, benchmarking, and labeling working group and state-specific code collaborative groups in ME, NH, and MA – and updating online resources, code and policy tracking services, and webpage content to build a foundation towards achieving our short and long term goals. Last year saw unprecedented energy code adoption in the region with all 13 states participating in adoption activity. The foundation built in Q1 will help NEEP support compliance and enforcement initiatives for newly adopted energy codes as they go into effect.

Five states (VT, NJ, MD, NY, MA) have adopted the most recent model energy code (2018 IECC), and three more states (CT, DE, RI) are nearing their official adoption of the 2018 IECC. Washington DC plans the adoption of a strengthened 2015 IECC on April 9 with an effective date in May or June. Among the aforementioned states include four (VT, DC, MA, NY) that are on a path to zero energy building standards and will be among the first to pass zero energy stretch codes in the region. NEEP also published an Energy Codes are Life Safety Codes blog highlighting the benefits of energy codes outside of energy efficiency. NEEP will continue to provide resources that are up-to-date with current energy codes and relevant market trends to help states comply with these newly adopted codes.

In MA, NEEP continues to address zero energy code goals for the state through the MAZE initiative. NEEP has convened a technical working group of zero energy building professionals and experts to determine code language and technical parameters for a zero energy stretch code. NEEP has begun drafting the zero energy stretch code and will be submitting it to the BBRS for consideration and presenting it during the next public hearing in Q2. NEEP has also been engaging with municipalities following the publication of the zoning report and will be publishing an exemplar on zoning later in Q2.

Progress Towards Building Energy Codes and Benchmarking Outcomes	25%	50%	75%	100%
The most recent energy code (2018 IECC) becomes effective or is adopted in six Northeast states (CT, D.C., ME, NH, RI, WV); three Northeast states implement zero energy stretch codes (DC, MA, NY), and four additional Northeast states adopt stretch codes (CT, DE, ME, NJ, RI). **Progress Toward Outcome:** We can achieve these goals, but with some different states. CT preliminarily adopted the 2018 IECC, with formal adoption coming in Q2; DE is finalizing its adoption process of an unamended 2018 IECC; RI is working towards adopting the 2018 IECC sometime this year; MA adopted the 2018 IECC on Feb 7; NJ's 2018 IECC went into effect on March 3; NY's 2018 IECC goes into effect on May 12, and VT's 2018 IECC goes into effect Sept 1. Both DC and ME decided to adopt an amended 2015 IECC as opposed to the 2018 IECC. These will be officially adopted in Q2 – DC's will match and perhaps exceed the efficiency levels of the 2018 IECC, ME's only includes administrative amendments. NH cannot adopt the 2018 IECC until 2021 due to a three year publication requirement written in legislation; WV adopted the 2009 IECC last year and faced legislation this year that would remove all energy codes – that legislation was defeated but eliminated the chances of adopting a new base energy code. DC has incorporated a zero energy appendix for commercial buildings into its code update and it will become the base code in two code cycles; MA is thoroughly reviewing adoption of a zero energy code and NEEP is heavily involved in this effort as part of the MAZE initiative; NY and VT are on a path to reach zero energy buildings in 2-3 code cycles but do not have formal zero energy codes proposed; NEEP is assisting ME in adopting their first stretch code and is encouraging using DOE ZERH's or similar code that will help them achieve zero energy buildings. In CT, legislation is being considered to promulgate an optional stretch code but the legislature has temporarily been suspended; ME is required to promulgate a voluntary stretch code by July 1 and its building board and state offices have also been temporarily suspended. NEEP has recently acquired funding to assist NJ in code activities and this work will begin in Q2, including a new code collaborative which will support adoption of a stretch code; RI has a stretch code; DE looks poised to propose				

Progress Towards Building Energy Codes and Benchmarking Outcomes	25%	50%	75%	100%
an unamended 2018 IECC as its new base code which should trigger opposition, making stretch code adoption unlikely.				
Six Northeast states implement initiatives to achieve 100% code compliance statewide (CT, DE, ME, NH, NJ, PA). **Progress Toward Outcome:** CT has completed a code compliance study and a NEEP report on CT compliance rates is nearing publication. DE is considering conducting newer code compliance studies and is releasing RFP's for training organizations to support their workforce ahead of the 2018 IECC adoption. MD has created a new code compliance checklist for its 2018 IECC base code as a means towards increasing compliance; NEEP also included a compliance study in a policy memo recommendation. NEEP has recently acquired funding to assist NJ in code activities and this work will begin in Q2, including a new code collaborative. NH is interested in expanding training and education surrounding compliance via NEEP's code collaborative group there and has discussed looking for funding for a code compliance study. ME is considering undertaking training initiatives as part of their adoption of the 2015 IECC and accompanying stretch code and is considering distributing best-practice diagrams and other useful tools and potentially conducting a new code compliance study.				
Two Northeast states and two cities commit to create and implement a building benchmarking a policy as a strategy to decarbonize the built environment (e.g., Providence, RI) **Progress Toward Outcome:** In Q1, building energy benchmarking efforts have primarily remained focused on those cities that expressed interest in adopting a policy in 2019; Hartford, CT and Providence, RI. Work in Providence is ongoing through its RePowerPVD initiative, which ultimately will lead to the adoption of a city-wide ordinance. Stakeholders in Hartford, CT were more interested in residential labeling. NEEP plans to meet with both cities in Q2 to advance these important foundational policies in each city respectively. Massachusetts has introduced benchmarking as a part of its next generation climate bill for state owned buildings and privately owned buildings of 35,000 square feet or more. NEEP provided technical guidance on the aspects of a benchmarking policy per request. NEEP also provided guidance to the state of West Virginia to assist with its benchmarking efforts at the statewide level.				

Progress Towards Building Energy Codes and Benchmarking Outcomes	25%	50%	75%	100%
One Northeast state and two cities implement building energy performance standards for existing buildings. **Progress Toward Outcome:** Several cities in the region are actively engaged on the topic of building energy performance standards. Cities such as Pittsburgh, Boston, and Cambridge and states such as Massachusetts, Maryland, and New York, have been engaging stakeholders to start thinking about the policy elements that will be adopted to ensure their standards help achieve their climate goals. While these processes are still in the early stages, NEEP has been providing feedback and helping to craft a data management platform that is customizable for states and cities adopting performance standards.				
Three states (MA, NY, RI) design a policy pathway to retrofit existing buildings to become 50% more efficient. **Progress Toward Outcome:** ME hopes to consider existing buildings in its stretch code; NY has been investigating EnergySprung as a retrofit option. RI has suspended state office activity; MA is conducting a roadmap study to be completed this year to achieve global warming solutions act goals and will include policy pathways for existing; NEEP has also embarked on a new project Total Energy Pathways which will prepare a zero or near-zero energy home retrofit solution best practice that states can employ.				

HELIX and Residential Labeling

Mission: Making the energy efficiency of homes visible and understood at time-of-sale or rental

HELIX and Residential Labeling Long-Term Market Transformation Goals

- By 2025, building energy labels or ratings are populated in all real estate listings across the Northeast.
- By 2030, 30 percent of existing homes and building are retrofitted to reduce carbon emissions 50 percent.

Project Narrative:

NEEP has been working with ClearlyEnergy on Energy Estimator – Powered by HELIX and ClearlyEnergy to provide a cost-effective tool to states and communities for residential labeling policies and programs. This tool overcomes the various barriers to traditional labeling programs such as cost and time. By providing a tool that does not require an in-home audit, more buildings will be able to be labeled throughout the region. This is being tested in Vermont and is available to other states and communities. This will help ensure all buildings have ratings or labels across the region.

Montpelier, VT will be using the Energy Estimator for the city's energy disclosure ordinance. NEEP has been providing technical assistance on the tool, as well as the development of the ordinance language. The framework used in Montpelier will be available to other communities in Vermont. The data in HELIX has been updated and all states in the NEEP region now have LEED for Homes, National Green Building Standard, DOE Zero Energy Ready Homes, ENERGY STAR homes, and RESNET HERS, providing a robust starting point for states to sign on and use HELIX. Access to solar PV data has also been a priority this year and we have added data for D.C. and are working on Maine and Pennsylvania. To ensure this data is in getting into the real estate market to work towards our goal of having all listings include home energy information, NEEP continues to work with multiple listing services (MLS) to integrate HELIX via an API or a newly developed deep link. Progress is underway in Rhode Island, Massachusetts, and in the Mid-Atlantic.

Progress Towards HELIX and Residential Labeling Outcomes	25%	50%	75%	100%
Six additional Multiple Listing Services (MLS) populate home energy information in 20 percent of their monthly residential real estate listings. **Progress Toward Outcome:** Progress is underway with CoreLogic, which will integrate HELIX for the Rhode Island state-wide MLS, with Cape Cod and the Islands, and MLS PIN. We were able to include more MLS in the PVAP advisory committee, which provides a way to engage and provide updates to get more of them to use HELIX.				
Two Northeast states (e.g., MA and VT) and two cities (e.g., Newton, MA; Philadelphia, PA; Burlington, VT) adopt and implement policies to use home energy labeling as a strategy to improve existing home energy efficiency. **Progress Toward Outcome:** Vermont has a statewide working group on residential labeling to provide recommendations for a voluntary program and NEEP is providing invited technical assistance. We are also working with Montpelier on their ordinance and implementation model for the energy disclosure policy. CT has introduced legislation to mandate the inclusion of either energy bills or the Home Energy Score in real estate listings. The legislature is adjourned, but we will continue to work with CT on this in case it opens again this summer. NEEP has provided resources to stakeholders in Newton, MA who are interested in exploring the opportunities for the city to implement a labeling policy.				
Eight Northeast States provide and use solar PV data for properties listed in the HELIX database. **Progress Toward Outcome:** We currently have solar PV data from MA, CT, NH, VT, and DC. NEEP is working on getting data from PA and ME and looking for other opportunities in the Mid-Atlantic.				

Smart, Efficient Low Carbon Building Energy Solutions

High Performance Air Source Heat Pumps

Mission: Accelerating market adoption of high-efficiency residential and commercial air source heat pumps, smart controls and services that provide deep energy savings and carbon reduction.

High Performance Air Source Heat Pumps Long-Term Market Transformation Goals

- By 2025, 10 percent of Northeast homes use high performance ASHPs for heating and 33 percent of installed roof top units are advanced or VRF systems.
- By 2030, 40 percent of Northeast homes use high performance ASHPs for heating.

Project Narrative:

The ASHP Initiative is regionally and nationally recognized as a vehicle for market transformation. NEEP's ccASHP products and consumer and installer resources (NEEP installer and consumer resources webpage) represent the kinds of tools and resources that will enable the market to adopt ASHP technology in a way that ensures consumer satisfaction, a key element to long term transformation. Q1 saw NEEP's VRF working group step into some new areas that will be just as impactful for the commercial market. The initiative is assessing the need for a cold-climate specification for VRFs, as well as helping to guide the region on the topic of refrigerants.

NEEP's cold-climate air source heat pump (ccASHP) product list now houses over 6,300 cold-climate systems. The ccASHP specification and product list became increasingly relevant in 2019, and are projected to remain a mainstay of many ASHP programs in the Northeast through 2020 and beyond.

Progress Towards High Performance Air Source Heat Pumps Outcomes	25%	50%	75%	100%
Twenty percent increase in the adoption of program-rebated ASHP and VRF systems across the Northeast. **Progress Toward Outcome:** While program goals reflect significant increases, the COVID-19 situation is likely to slow program participation in the spring and summer of 2020 (key purchasing seasons). NEEP will be seeking ways to support the industry to enable maximum installations.				

Progress Towards High Performance Air Source Heat Pumps Outcomes	25%	50%	75%	100%
NEEP's ccASHP product list is used by five new programs joining fifteen others using the list in 2019. **Progress Toward Outcome:** Ten programs now reference the ccASHP specification/product list – Mass. Clean Energy Center (MassCEC), Mass. Alternative Energy Portfolio Standard, Eversource-NH, Efficiency Vermont, PSEG Long Island, Efficiency Nova Scotia, Otter Tail Power Company, Holy Cross Energy, and Northwest Energy Efficiency Alliance. With the NY Joint Utilities (Central Hudson G&E, Con Edison, NYSEG, National Grid, Orange and Rockland, and Rochester G&E) taking over ASHP program administration from NYSERDA, new programs are anticipated to use the NEEP ccASHP specification and product list.				
NEEP's consumer and installer guides are used or referenced by six programs in the region. **Progress Toward Outcome:** Content from NEEP's ASHP buying guide is being leveraged by MassCEC's upcoming consumer campaign, the CT Green Bank's Smart-E Loan heat pump webpage, and [expected] PSEG Long Island's heat pump marketing materials. NYSERDA uses NEEP's installer guides for its in-field monitoring pilot, in addition to MassCEC, Mass Save, and Efficiency Vermont who link to the guides on their websites. We have received some anecdotal feedback that the guide contents are being adopted by manufacturers as part of their trainings to contractors.				
ASHP Initiative participants report significant progress in implementing the 2016 ASHP Market Transformation Strategy. **Progress Toward Outcome:** NEEP will be surveying stakeholders in Q2 to measure progress in implementing the seven market strategies within the 2016 ASHP Market Transformation Strategy Report.				

Smart Energy Homes and Buildings

Mission: Enabling building sector decarbonization by transforming homes and buildings to be efficient and flexible grid assets.

Smart Energy Homes and Buildings Long-Term Market Transformation Goals

- By 2025, 50 percent of Northeast homes and buildings are "energy smart" with either two "energy smart" systems or smart building management systems able to respond to grid service needs.
- By 2030, 90 percent of Northeast homes and buildings are "energy smart."
- By 2030, 30 percent of existing homes and building are retrofitted to reduce carbon emissions 50 percent.

Project Narrative:

In 2019 NEEP completed the (Grid-Interactive Efficient Buildings) GEBs report which captured the status of smart energy homes and buildings in the region, and made recommendations on how to accelerate the advancement of GEBs technologies. NEEP's aim for 2020 is to actualize the report's recommendations with the help of the HEMS and Northeast Smart Energy Buildings working groups. NEEP is excited to launch a regional conversation around the needs and opportunities associated with commercial buildings. It will take the collective efforts of several key stakeholder groups to drive long term adoption of smart homes and buildings in the region and NEEP is well positioned to lead.

Progress Towards Smart Energy Homes and Buildings Outcomes	25%	50%	75%	100%
All Northeast States offer smart energy home and building programs that optimize building energy performance and enable buildings to serve as flexible grid resources. **Progress Toward Outcome:** Residential smart thermostat programs and demand response programs continue to be widespread across the region. NEEP seeks to broaden the smart energy homes and building offerings to capture additional end uses and capabilities. Through the HEMs working group and the Northeast smart energy buildings working group, NEEP will encourage and capture home and building programs that optimize building energy performance and enable buildings to serve as flexible grid resources.				
Six regional utilities/energy efficiency programs identify the highest priority grid services to be enabled by smart energy homes and buildings (i.e. demand response, responsiveness to time-of-use signals, load shifting, off peak usage, frequency regulation etc.). **Progress Toward Outcome:** As of now, all Northeast states have programs that offer grid services that can be enabled by smart energy homes and/or buildings. The first step towards comprehensively capturing the prioritized grid services will be through				

Progress Towards Smart Energy Homes and Buildings Outcomes	25%	50%	75%	100%
surveys that solicit information from the HEMS and Northeast smart energy buildings working groups. This is under consideration and the actual capture of the information will take place from Q2 onwards for 2020.				
A multi-state project in the Northeast advances to assess the in-field performance of smart energy homes and buildings (with a focus on HVAC and water heating). **Progress Toward Outcome:** NEEP is currently partnering with key stakeholders through the HEMS working group to review possible project ideas and partnership opportunities to advance in-field performance testing.				

Strategic Energy Management

Mission: Accelerating adoption of strategic energy management as a means of providing integrated commercial and industrial sector solutions that increase efficiency and productivity, reduce costs and carbon emissions, and respond to grid needs.

Strategic Energy Management Long-Term Market Transformation Goals

- By 2025, Strategic Energy Management is adopted by 40 percent of the 69,000 manufacturing plants across the region.
- By 2030, Strategic Energy Management is adopted by 80 percent of the 69,000 manufacturing plants across the region.
- By 2030, 90 percent of Northeast homes and buildings are "energy smart" with either two "energy smart" systems or smart building management systems able to respond to grid service needs.

Project Narrative:

Through the Strategic Energy Management (SEM) Collaborative, NEEP continues to encourage SEM program adoption (by the industrial, commercial, and municipal sectors) in the Northeast. In Q1, NEEP started convening a SEM subcommittee to focus on the topic of exploring SEM synergies with other activities. Through engagement with subcommittee members, NEEP hopes to understand the advantages and disadvantages of coupling SEM with other activities and whether the Northeast can work towards advancing this idea. NEEP represents the Northeast as a contributing member of the North American SEM Collaborative (NASMEC).

Progress Towards Strategic Energy Management Outcomes	25%	50%	75%	100%
NEEP's SEM working gGroup engages stakeholders from all 13 NEEP states and all major stakeholder groups are represented (EE programs, state/local policymakers, SEM service providers, advocates). **Progress Toward Outcome:** The SEM working group includes engagement from eight states in the NEEP region. NEEP will continue to recruit engagement from all 13 states.				
Energy efficiency programs in seven Northeast states (CT, MA, NH, NY, PA, RI, VT) support SEM as a program measure. **Progress Toward Outcome:** In Q1, energy efficiency programs in CT, MA, NH, NY, RI, and VT recognized SEM. NY reported that, after working in the industrial and water/wastewater space for several years, it plans to expand into the commercial sector. VT reported that it will soon be wrapping up its hospital cohort, and starting its colleges and universities cohort. MA and RI are excited to be starting their second year of Industrial and water/wastewater cohorts. Pennsylvania reported that although it still does not have any SEM programs, it is continuing to provide guidance and training on SEM.				
NEEP provides support to five regional programs around inclusion of 50001 Ready program as a tool in their SEM offering. **Progress Toward Outcome:** Throughthe SEM collaborative and SEM webpage, NEEP provides support to the existing regional programs in CT, MA, NH, NY, RI and VT. NEEP invites U.S. DOE to speak at every quarterly collaborative meeting, and they provide updates on the latest 50001 Ready tools and resources. NEEP also offers education on all current 50001 Ready activities and updates.				

Federal & State Appliance Efficiency Standards

Mission: Supporting minimum product efficiency standards that lock in long-term energy and carbon emission savings enabled by regional and national market transformation activities

Federal & State Appliance Efficiency Standards Long-Term Market Transformation Goals

- By 2025, federal appliance standards are updated to secure all cost effective energy and carbon savings and include 2019-2020 Northeast states standards.

Project Narrative:

Activity around state appliance standards was a big focus in Q1. NEEP provided technical support and stakeholder coordination in several states across the region in an effort to gain legislative adoption. Bills in four states (MA, ME, RI, CT) are active. In Connecticut, a bill was heard by committee and will likely pass through with amendments removing products with longer paybacks. In Rhode Island, a bill was heard by committee and held for further study. The Maine Senate passed an appliance standards bill, and the bill is currently being held in the House for a vote expected this summer. Massachusetts Senate voted on its standards bill, which is presently in the House Ways and Means Committee. We were very optimistic that several of these bills would be passed during the spring session, until the coronavirus situation stalled all legislative activity. We continue to be optimistic that the groundwork will pay off with adopted bills, albeit potentially in the summer or fall. Most often, new federal standards are driven by state standards. We anticipate broad adoption in the region of the current package will lead to federal standards across these product categories by 2025.

Progress Towards Federal & State Appliance Efficiency Standards Outcomes	25%	50%	75%	100%
At least six Northeast states propose new state appliance standards in 2020 (NY, MA, RI, CT, DC, ME, PA). **Progress Toward Outcome:** **Connecticut** - SB178 was introduced and heard in February by the state's Energy and Technology Committee. The bill will most likely proceed out of committee potentially with some products removed that have longer paybacks. **Rhode Island** - S2043 was filed in January, H7866 was filed in February, and the bills were heard before committee in March; the committee held the bill for further study. **Maine** - LD1750 in January passed through work session and was sent back to back to committee with amendments to 10 CEC products. The bill passed the House 86-54 in March, and the Senate is holding the bill as it focuses on COVID-19 bills. LD1750 may be heard when the chamber is called to session in summer 2020. **Massachusetts** - H2832/S2478; The Senate version passed out of the Senate in January. The House version passed through committee and is pending consideration in The House Ways and Means Committee. **New Jersey** - Appliance Standards advocates are seeking legislative sponsorship for the ASAP model appliance standards bill with the expectation a bill can be introduced in 2020. New Jersey's most recent Energy Master Plan supports updated appliance standards.				

Progress Towards Federal & State Appliance Efficiency Standards Outcomes	25%	50%	75%	100%
Vermont - H767 electric vehicle and appliance standards bill was read in January and is currently pending in the Committee on Transportation. **DC** - The 2019 appliance standards bill has not seen any movement so far in 2020. **New York** - No standards bill has been introduced to date.				
At least three Northeast states adopt new state appliance standards in 2020. **Progress Toward Outcome:** At least three states (CT, RI, MA, ME) seem likely to pass bills in 2020. NEEP continues to track the bills and provide technical assistance along with our partners, including ASAP.				
At least 10 Northeast states and associated stakeholders actively engage (via co-signing comment letters) the U.S. DOE Appliance Standards and EPA Energy Star programs to increase product energy efficiency standards and criteria. **Progress Toward Outcome:** NEEP provided direct comments to EPA on its process to update its air source heat pump criteria. The letter did not include state sign-ons but was informed by our regional ASHP working group.				