# NEEP 2020 Quarterly Report
# Quarter Four

## *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:**

Since the 2020 NEEP Summit on Decarbonizing Our Communities was cancelled due to COVID-19, NEEP shifted the purpose of its Leadership Forum to focus on engaging and supporting regional leadership to address key issues around the COVID-19 crisis and energy efficiency impacts, and to examine solutions to restore and regain energy efficiency policy and program momentum.

Across the year, we identified, highlighted, and helped 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.

Some of the resources and tools NEEP developed to assist stakeholders during the COVID-19 interruption include:

- Brief: Electronic Permitting Raising Efficiency
- Webinar (as part of U.S. DOE's Building Energy Codes Seminar Series): Electronic Construction Permitting – Best Practices and Implementation
- Blog: Codes, COVID-19, Climate Change, and Catastrophe
- New Tool: Energy Estimator – Powered by HELIX and Clearly Energy
- Guidance: Operations Guidance for Schools During the Pandemic

NEEP continued to track, assess, and report key COVID-19 trends, engage stakeholders around actions, recommend and build support for regional solutions, and deploy NEEP resources to respond to the disruption. For a more complete list of resources, visit our COVID-19 Resources Page.

Additionally, NEEP continues to stress the importance of long-term planning and strategic electrification as strategies to effectively decarbonize the building sector and achieve aggressive carbon-reduction goals. 2020 saw the release of a 2050 decarbonization roadmap in Massachusetts, and a four-year climate action plan in Maine. NEEP provided technical assistance and guidance to the Connecticut Department of Energy and Environmental Protection (CT DEEP) in support of release of an update and progress report on Connecticut's 45% by 2030 roadmap. States continue to establish climate councils to coordinate climate efforts across state agencies and achieve climate mitigation, adaptation, and resiliency goals. In 2020, NEEP highlighted the development and impact of climate councils and decarbonization/climate roadmaps during webinars.

Interactions with leaders at both the state- and community level highlight the interest and importance of strategic electrification in achieving their goals. However, there are many barriers including funding, lack of education, and developing markets that make it a challenge. NEEP provides resources and guidance to tackle these challenges and will use information attained from stakeholder engagement to focus on policy implementation in 2021.

| 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.**<br><br>**Progress Toward Outcome:** Massachusetts released a 2050 Building Decarbonization Roadmap along with an interim 2030 Clean Energy Climate Plan in December 2020. Also in December, Maine released a Four Year Climate Action Plan. Rhode Island, and Connecticut both developed roadmaps with recommendations and strategies to achieve their states goals. Connecticut's roadmap supports their 45% by 2030 interim goal, and Rhode Island's is a 2050 roadmap for building heating decarbonization. Vermont developed an analysis of decarbonization methods to inform policy makers, but is not meant to be treated as policy itself. New York is working on a Building Decarbonization Roadmap and has signed legislation establishing a net-zero carbon target. Carbon neutral legislation has also been introduced in Mass., N.H., R.I., and Md. | | | | |
| **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.**<br><br>**Progress Toward Outcome:** In 2020, NEEP worked with several state and local jurisdictions to provide resources, education, and technical assistance about strategic electrification. Communities such as Keene, N.H., Barrington, R.I., Bedford, N.Y., | | | | |

| Progress Toward Building Decarbonization Leadership Forum Outcomes | 25% | 50% | 75% | 100% |
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| Belmont, Mass., and Burlington, Vt. are all at various stages in their efforts to electrify end uses across their portfolio of buildings. In most instances, these communities are adopting new strategic energy plans and are incorporating electrification as a key component to achieving their long-term climate goals. States such as Mass. and N.Y. are working on roadmaps that will incorporate strategic electrification as a key pathway to achieving statewide goals. NEEP provided guidance on various public building projects with the aim of electrifying buildings. Additionally, we focused on sharing best practices and information from these engagements by documenting information for future resource development and sharing the information with the rest of the region through webinars. | | | | |
| **Twenty media stories cover NEEP's work in efficient, building decarbonization.**<br>**Progress Toward Outcome:** There were 22 media stories covering NEEP's work in 2020, including the following highlights:<br>• January 8 – Yale Climate Connections: Laws in New York City and beyond take aim at carbon pollution from buildings<br>• March 13 – Energy News Network: State goals, policy help Massachusetts utilities take lead on energy efficiency<br>• May 1 – Clean Technica: Building Electrification – Opportunities for Job Training While Sheltering in Place<br>• August 3 – E&E News: As natural gas bans go national, can cities fill the gap?<br>• November 24 – Bloomberg: Replace a Fossil Fuel Furnace to Lower Emissions – and Your Bills | | | | |

## 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 COVID-19 pandemic drastically impacted the course of energy efficiency policy and evaluation, measurement, and verification (EM&V) in 2020. The energy efficiency workforce suffered as policymakers and regulators put new safety measures in place. Many program administrators increased incentives for various programs to reinvigorate the market and reduce customer utility bills. The last six months of the year saw states using different approaches to tackle arrearage management and utility shutoffs. Some, like Massachusetts, offered arrearage forgiveness programs while others, like Maryland, relied on fuel assistance to keep residents from being disconnected. NEEP tracked and reported on utility and state responses to COVID-19 and participated in a national bi-weekly call to share updates with the other regional energy efficiency organizations (REEOs).

Maryland, New Hampshire, New Jersey, Rhode Island, and Vermont are all moving on to 2021-2023 energy efficiency plans, and Massachusetts continues to develop its 2022-2024 plan. Despite the uncertainty of COVID-19, the three-year plans continue to have the same or increased energy efficiency targets. New Hampshire's plan increased electric savings targets from 3.2% to 5% and natural gas targets from 2.1% to 3%. It is clear that states are not losing sight of climate and energy efficiency work, as they are critical tools to help recover from the pandemic.

During the fourth quarter of 2020, NEEP's Policy and EM&V team was short staffed, limiting our scope of work. Despite this, the team had several significant accomplishments, including participating in two regional webinars and submitting comments on the Final Report of the Progress on Mitigation Working group to the Connecticut Governor's Council on Climate Change. Many of the comments were used in the final draft to support building decarbonization. Earlier in the year, NEEP provided input on the Energy Foundation's New Jersey 2021 strategy and goals, and developed our relationship with the state to further their goals. NEEP also continued to track policy developments and provide updates in our legislative tracker and will produce a policy tracker blog bi-monthly in 2021.

In the second and third quarters, NEEP hosted a three-part webinar series on NEEP's Building Decarbonization Public Policy Framework. The events were well attended and promoted solutions-based thinking to achieve decarbonization goals. To complement these webinars, NEEP is developing policy guideline documents to help communities and states implement the framework's strategies. In the third quarter, we released a benchmarking guide to highlight important considerations when developing a benchmarking policy. NEEP will produce additional guidelines in 2021 on topics including electrification and residential labeling.

NEEP wrapped up a highly collaborative three-year Advanced M&V research project to explore how Advanced M&V can meet multiple needs in an evolving energy industry. Importantly, the project provided our partners access to a wealth of information and data analytics that they otherwise would not have had access to given their individual resources. The project also demonstrated that Advanced M&V is a resource that can help enable rapid feedback about building performance and can be used to support policies and programs on building energy use.

In the third quarter, a paper by the National Renewable Energy Laboratory (NREL) and others, including NEEP, was presented at the ACEEE Summer Study that chronicled data collection and data sharing efforts in the development of national end-use load profiles. The paper echoes and underscores the findings and recommendations in NEEP's report on data sharing best practices. Making loadshape and other building energy data secure and accessible can help enable ISOs, states, and other entities to plan and deliver flexible demand strategies, and supports future evaluations of building decarbonization programs.

NEEP was active in the area of cost-effectiveness screening practices throughout 2020. This included ongoing tracking of Northeast states' plans for cost-effectiveness and helping update the Database of Screening Practices (DESP). We also helped facilitate delivery of a public webinar by the International Energy Program Evaluation Conference (IEPEC) on Cost-Effectiveness and DERs in September. This webinar provided an opportunity to share information about the National Standard Practice Manual (NSPM) for DERs which was released by the National Energy Screening Project in the third quarter. This manual is a comprehensive resource that can help support single and multiple DER benefit-cost analysis and could be helpful to states that are preparing to update multi-year plans.

In the fourth quarter, NEEP finished collecting program year 2018 energy efficiency data from states across the region for the 2020 update of the Regional Energy Efficiency Database (REED). A Master REED Workbook including REED data from 2011-2018 and an accompanying REED Supporting Information report was made publicly available by request on the NEEP website in December. NEEP also released two REED Rendering blogs in the fourth quarter:

- REED Rendering #18: Northeast Energy Efficiency Programs Still 'Best in Show' discusses how the Northeast region and New England states in particular are among the states and localities with the highest energy efficiency targets. It draws on REED data, NEEP public policy research, and state rankings from ACEEE's 2019 State Energy Efficiency Scorecard to highlight the region's energy efficiency programs.
- REED Rendering #19: New REED Data announces the availability of the program year 2018 REED data by request and outlines the information included in the Master REED Workbook and REED Supporting

Information report. It also links to the NEEP REED website and provides high-level takeaways from the latest REED data.

These REED Renderings complement the issue released in the third quarter, REED Rendering #17: Energy Efficiency Program Results and Goals in the COVID-19 Era, which discussed how COVID-19 is affecting energy efficiency programs' ability to meet savings targets and impacting goal setting and planning processes across the region.

In the fourth quarter, NEEP developed a Data Inventory to support a more comprehensive understanding of the data NEEP collects so that we can better plan how the data can be used. The inventory can also be used to help identify any gaps in available data that NEEP may want to collect in the future. Knowing exactly what data we already have will also prevent duplicative research and/or data collection efforts. The inventory provides a central repository for outside data and research of particular interest.

| Progress Toward State & Local Public Policy Tracking, Analysis, and Technical Assistance Outcomes | 25% | 50% | 75% | 100% |
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| **At least one more state joins NY with laws that require carbon emission reductions aligned with IPCC climate stabilization goals.**<br><br>**Progress Toward Outcome:** Massachusetts bill S2995 passed the Senate and House and was introduced to the Governor in the first week of January 2021. If passed, the bill would codify the net zero determination signed earlier in 2020. Maryland, Rhode Island, and New Hampshire have also introduced bills. And while not carbon neutral, Vermont passed legislation that brings the greenhouse gas (GHG) reduction target up to 80% by 2050. | | | | |
| **At least two states join MA and NY in adopting all-fuel savings targets (MMBTU) for ratepayer-funded energy efficiency programs including electrification.**<br><br>**Progress Toward Outcome:** Rhode Island adopted the maximum savings scenario, which includes an MMBtu target for delivered fuels. New Hampshire will use the 2021-2023 energy efficiency plan to evaluate energy optimization, which could lead to an MMBtu target in the future. | | | | |
| **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.**<br><br>**Progress Toward Outcome:** New Jersey adopted the New Jersey Cost Test, which aligns the cost-effectiveness test with public policy goals and includes various non-energy benefits. This test has been used in the current filing for the state's 2021-2023 energy efficiency programs. CT DEEP continues to consider whether to adopt the Connecticut test developed in 2019 and recommended by the Governor's Council on | | | | |

| Progress Toward State & Local Public Policy Tracking, Analysis, and Technical Assistance Outcomes | 25% | 50% | 75% | 100% |
|---|---|---|---|---|
| Climate Change (GC3) Working Group. NEEP provided comments to the working group supporting this recommendation. | | | | |
| **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.**<br><br>**Progress Toward Outcome:** New Hampshire included an energy optimization pilot in the state's 2021-2023 energy efficiency plan that will include air source heat pumps and active demand management. Massachusetts is starting the 2022-2024 planning process and there is opportunity to build upon current efforts in the state targeted at strategic electrification and demand response. Per the draft Maryland EmPOWER plan, state utilities intend to establish a workshop for addressing next-cycle goals and framing metrics to reflect carbon reduction. New Hampshire, R.I., Vt., Conn., and N.J. have implemented fuel optimization and heating electrification studies that will impact planning of future three-year cycles. | | | | |

## *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:**

NEEP participated in and led a number of different initiatives throughout 2020 to engage stakeholders and advance energy efficiency within communities. In the first quarter of 2020, zero energy schools were a topic of significant interest amongst a couple of states – primarily Massachusetts and Connecticut. NEEP developed resources to support these initiatives going forward and will continue to provide direct technical assistance to those that need it. One of these new resources, the Zero Energy Schools Toolkit, was the focus of a webinar in the second quarter, in which real-world exemplars on zero energy school projects were also shared. NEEP also addressed the challenges of COVID-19 and school reopenings.

In Massachusetts, NEEP continued to work with communities to determine strategies for reducing carbon emissions. We offered technical assistance to communities such as Belmont, Lexington, Wellesley, and Brookline on zoning bylaw changes to address carbon emission reductions. The goal of these zoning changes is to better address decarbonization in a way that the current stretch code does not. Work is ongoing, but communities like Brookline have been empowered to work around the Attorney General's decision on their combustion ban to address decarbonization through zoning. NEEP provided guidance and resources on the need for improved ventilation and the need to focus on healthy school buildings and energy efficiency. More broadly, Massachusetts

published its 2050 Decarbonization Roadmap and Interim Clean Energy and Climate Plan for 2030. Both of these resources establish targets and outline measures for reducing carbon emissions for communities in the state.

| Progress Toward Efficient, Resilient Community Pathways and Resources Outcomes | 25% | 50% | 75% | 100% |
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| **Forty five Northeast communities develop or advance energy plans and projects that lead to the reduction of energy consumption in public buildings by 20 percent.**<br><br>**Progress Toward Outcome:** NEEP's community-level work is focused on engaging a variety of stakeholders to understand needs, provide direct technical assistance, and develop resources that advance energy efficiency in communities. Throughout 2020, NEEP hosted three webinars on the topics of strategic electrification, zero energy schools, and energy storage, as requested by our stakeholders. In total, 398 stakeholders participated in these webinars in 2020.<br><br>Multiple resources were developed including the Massachusetts Zero Energy Schools Toolkit, Transforming Data into Action Report, Operating Guidance for Schools During the Pandemic, and more. These resources are developed from the community perspective with the intention of providing self-help resources so communities can take on projects and learn from others. NEEP also embarked upon a significant update to our Community Action Planning for Energy Efficiency (CAPEE) tool, which will be finalized early in 2021.<br><br>Additionally, NEEP collaborated with many communities across the region on a wide variety of topics. In West Virginia, NEEP worked with partners to create a green team in the State's Capital, Charleston. Work is ongoing with the Town of Barrington, Rhode Island on an update to their Strategic Energy Plan. In Keene, New Hampshire, staff members are helping the city to be the first to adopt a benchmarking and labeling program in the state. Maintaining the ability to meet communities where they are has proven to be an effective strategy to providing guidance to jurisdictions on a variety of topics to help meet their energy and climate goals. | | | | |
| **Five Northeast communities develop innovative strategies such as zoning requirements or strategic electrification plans to reduce carbon emissions 60 percent by 2030.**<br><br>**Progress Toward Outcome:** NEEP partnered with Rocky Mountain Institute on their Building Decarbonization Accelerator to host a webinar on zoning as a tool for reducing carbon emissions at the local level. This resulted in NEEP offering zoning | | | | |

| Progress Toward Efficient, Resilient Community Pathways and Resources Outcomes | 25% | 50% | 75% | 100% |
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| technical assistance to Lexington and Wellesley, Mass. on zoning changes they were considering.<br><br>The topic of strategic electrification gained momentum at the community level in 2020. NEEP hosted a webinar on this topic in the first quarter and developed resources for CAPEE that will be published in 2021. Engagements with specific communities on this topic included Bedford, N.Y., Wellesley, Mass., and Barrington, R.I. where processes are ongoing to develop plans and take on projects focused on strategic electrification. | | | | |
| **At least one new state utilizes NE-CHPS as a pathway for high performance and/or zero energy schools.**<br><br>**Progress Toward Outcome:** 2020 presented a year full of challenges for schools as the focus shifted to safe operations amidst COVID-19, and subsequently away from energy efficiency and zero energy. However, in New Hampshire, 2020 was the first year of the state's new School Building Aid process. This meant that schools submitting applications for state funding could receive a higher ranking for attempting to adhere to Northeast Collaborative for High Performance Schools (NE-CHPS) criteria.<br><br>In the early part of 2020, there was significant interest from several communities in Connecticut on the topic of zero energy schools and NEEP provided direct technical assistance to multiple communities. This local-level leadership is important to help the state meet its climate goals and potentially open the door for more statewide programs focused on zero energy schools.<br><br>NEEP completed the first exemplar on a NE-CHPS project in the state of New York, The Friends Seminary School. | | | | |

## 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:**

In the fourth quarter of 2020, NEEP continued engagement with code adoption and compliance activity by participating in proceedings in four states (Maine, N.H., Conn., and Mass.), promulgating six new briefs, reports, and studies on the topic, publishing five blogs, and hosting roughly 20 state and regional working group meetings and nine codes collaborative meetings. We provided comments for Pennsylvania's 2018 IECC adoption public hearings and convened the Pennsylvania Energy Code Collaborative to support code initiatives going forward as the state looks to adopt this code in 2021. Maine also continued its adoption of the 2015 IECC and its first stretch code – likely the 2021 IECC with zero energy appendices included. As a member of the Maine Energy Technical Advisory Group (TAG), NEEP provided input from the Maine Energy Code Collaborative we facilitate as well as technical expertise on stretch code costs and requirements. These code adoptions – the first in over 10 years in Maine – should be finalized in 2021 and will put Maine on track to meet statewide climate goals of reducing carbon emissions and achieving zero energy for all new buildings – in line with NEEP's long-term goals. New Hampshire and Rhode Island continue to consider the 2018 IECC for adoption, while Connecticut postponed its energy code initiatives and has opted to adopt a hybrid 2018/2021 IECC as its new base code in 2021.

A robust collaborative effort in New Hampshire between the Code Collaborative, the Energy Efficiency and Sustainable Energy (ESSE) Board, partner organizations, and utilities led to the inclusion of energy code adoption and compliance support, energy code attribution program development, and energy code training support into the state's Energy Efficiency Resource Standard (EERS) Three-Year Policy plan, the first time this support has been incorporated in the plan. NEEP will continue to support the collaborative as it looks at these and new market transformation strategies in the state to support energy code initiatives.

Overall, 2020 saw activity regarding energy codes despite the obstacles posed by COVID-19. Washington, D.C. adopted a new suite of energy codes including the first zero energy code in the region, Appendix Z for commercial buildings. Delaware adopted an un-amended 2018 IECC. Massachusetts continues to consider several zero energy stretch codes and is legislatively mandated to adopt one in 2021 along with the adoption of the 2021 IECC as the base code. One of these stretch code proposals in Mass. is an updated Energy Zero Stretch Code 2.0, created by NEEP and peer-reviewed, that addresses electrification while considering legal issues around phasing out combustion. Several states (Mass., Vt., N.Y., and Maine) also included or are considering electrification

requirements in their new codes, such as electric vehicle (EV) charging or readiness, supported by NEEP's new Strategic Electrification and Codes resource and guidance. Once ongoing adoption proceedings are finalized in 2021, only West Virginia will remain on an antiquated code (2009 IECC), while every other state will be operating under the most recent energy code options (2015 or 2018 IECC). This pushes several states closer to zero energy pathways as NEEP supports the adoption of more zero energy codes in the region.

New Hampshire and Connecticut are also exploring code savings attribution programs like those used in Rhode Island and Massachusetts, while Maine is exploring funding options to support energy code trainings in light of the new code adoptions and low statewide compliance rates. NEEP supported the state's focus on compliance by compiling statewide code compliance studies, conducting a survey on compliance barriers, and publishing survey and research findings in a new brief and tracker.

As the 2021 IECC is considered by states and municipalities, NEEP will be active in providing resources and information to states; Mass., Md., and Maine have already expressed interest. NEEP's 2020 fourth-quarter Regional Codes Working Group covered the changes expected in the 2021 IECC and what states should consider as they explore its adoption.

| Progress Toward 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).**<br><br>**Progress Toward Outcome:** The 2018 IECC became effective in Delaware, Maryland, Massachusetts, New Jersey, New York, and Vermont. Rhode Island is undergoing a cost-effectiveness study for its 2018 IECC adoption.<br><br>Washington, D.C. adopted a zero energy appendix with its 2015 IECC adoption, which serves as a stretch code for commercial buildings. Massachusetts is considering several zero energy stretch code proposals for consideration and is legislatively mandated to adopt one in 2021 along with the adoption of the 2021 IECC as the base code. Maine is strongly considering an advanced stretch code that may include a zero energy option that will be finalized this year. New York and Vermont are on a path to zero energy buildings in two to three code cycles but do not yet have zero energy code proposals. State legislature suspension in Connecticut due to COVID-19 delayed work on the Connecticut base code initiative until summer 2021, including adoption of the 2018 IECC. New York has released an RFI for the next version of its NYStretch Code, with which NEEP will engage. | | | | |

| Progress Toward Building Energy Codes and Benchmarking Outcomes | 25% | 50% | 75% | 100% |
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| New Hampshire included stretch code development support in its new three-year policy plan, the first time it has included intent to develop a statewide stretch code. Rhode Island has a stretch code and is working on completing an update. A New Jersey Building Energy Code Collaborative will convene for the first time in fall 2021 as the state aims to become an energy efficiency leader with its 2019 New Jersey Energy Master Plan commitment to building decarbonization, leading to a statewide stretch code initiative in 2021. Delaware adopted a strong 2018 IECC, making stretch code adoption unlikely, and Connecticut delayed its stretch code initiative until summer 2021 due to COVID-19. | | | | |
| **Six Northeast states implement initiatives to achieve 100% code compliance statewide (CT, DE, ME, NH, NJ, PA).**<br><br>**Progress Toward Outcome:** NEEP technical assistance helped drive CT DEEP to commit to developing an energy code savings attribution program in 2021. NEEP provided extensive technical assistance and guidance in partnership with other organizations and the N.H. Code Collaborative to assist the state's EESE Board in incorporating the design of the state's first energy code compliance and attribution program in its next three-year energy efficiency plan. Delaware is reviewing RFPs for training organizations to effectively build workforce capabilities to implement the 2018 IECC state energy code effectively. Maine is exploring funding to support training initiatives following the implementation of the 2015 IECC and the state's first stretch code to improve the state's low compliance rates. Energy Code Collaboratives convening for the first time in Pennsylvania and New Jersey will support code compliance initiatives to help them achieve 100% compliance with their respective codes. | | | | |
| **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)**<br><br>**Progress Toward Outcome:** Throughout 2020, two cities in the NEEP region have remained committed to adopting building energy benchmarking policies. First, in Keene, N.H., NEEP has been engaged with city staff since 2019 as the community embarked upon a rigorous energy plan update process. Two main components of the plan include the adoption of commercial building benchmarking and residential labeling programs. NEEP participated in multiple events throughout this process with the latest coming at a public event in October 2020. The city's goal is to introduce both programs to the City Council in January 2021. Keene would become the first | | | | |

| Progress Toward Building Energy Codes and Benchmarking Outcomes | 25% | 50% | 75% | 100% |
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| municipality in the state to adopt such policies, signaling its continued leadership on climate change efforts and hopefully spurring others to follow in their footsteps.<br><br>Second, in Providence, R.I., where there have been aspirations to adopt a benchmarking ordinance for the past few years, NEEP met with city staff to discuss their plans to introduce the ordinance to City Council in January 2021. We provided additional resources on the topic of turning data into action, and there were discussions about utilizing NEEP and Building Energy Analysis Manager (BEAM) tool for managing their data going forward. If all goes according to plan in Providence, 2022 would be the first year of reporting for buildings covered under the ordinance. The lengthy timeline to get to this point indicates the continued challenge these communities face when trying to adopt benchmarking and labeling programs, and reinforces the need for multi-year support to ensure the successful implementation of such programs.<br><br>At the statewide level, NEEP's primary involvement on this topic occurred in West Virginia and Massachusetts. West Virginia has been benchmarking state-owned facilities and requested guidance on how to manage their data and utilize this data to inform projects going forward. NEEP remains engaged in the state and is preparing resources to help move the state forward, which will be shared in January 2021. In Massachusetts, a bill was introduced to require buildings of a certain size to measure and report their energy consumption to the state. The bill language about benchmarking ultimately did not pass in 2020, but NEEP remains engaged with a group committed to ensuring the benchmarking language is reintroduced in early 2021. The adoption of a statewide benchmarking program is a key first step toward a subsequent building energy performance standard, both of which play critical roles in the state's ability to achieve their climate goals. | | | | |
| **One Northeast state and two cities implement building energy performance standards for existing buildings.**<br><br>**Progress Toward Outcome:** Several cities that already have benchmarking programs in place are now ramping up efforts to develop and adopt building performance standards (BPS). NEEP engaged with several cities in 2020 – including Boston, Cambridge, Montgomery County, and Pittsburgh – on the development of these programs. These discussions have been focused on two facets of BPS: 1) the development of a software management tool; and 2) policy considerations. While no new cities formally adopted BPS in 2020, prospects are very high for 2021 with multiple jurisdictions looking to take action. By working with these early adopters in | | | | |

| Progress Toward Building Energy Codes and Benchmarking Outcomes | 25% | 50% | 75% | 100% |
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| the region, NEEP is able to document best practices and develop solutions that will help a variety of stakeholders moving forward.<br><br>NEEP also remains engaged with the state of Massachusetts and state of New York on the development of BPS. In both instances, the states are currently focused on the rollout of benchmarking programs statewide, but BPS remain the ultimate goal. | | | | |
| **Three states (MA, NY, RI) design a policy pathway to retrofit existing buildings to become 50% more efficient.**<br><br>**Progress Toward Outcome:** Several states (N.Y., Mass., R.I., and Conn.) are considering action to retrofit existing buildings. NEEP's new resources on pathways to decarbonize existing homes and buildings and strategic electrification and codes will inform efforts as they gain momentum in 2021, following delays and priority shifts due to COVID-19. NEEP also embarked on a new Total Energy Pathways project to prepare a replicable zero or near-zero energy home retrofit solution for statewide deployment. | | | | |

## 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:**

Throughout 2020, NEEP continued to make strides despite the difficulties that arose from the COVID-19 pandemic with the energy efficiency workforce and on-site work for efficiency programs coming to a halt. Building off our efforts with Vermont and software contractor ClearlyEnergy on developing Energy Estimator – Powered by HELIX & ClearlyEnergy, NEEP redirected our efforts to fill this gap in the industry with no on-site visits. Energy Estimator was originally developed to provide a cost-effective, simple way to identify a home's energy cost estimate. With the pandemic, NEEP identified Energy Estimator as an opportunity to better serve our region and keep efficiency moving forward by providing a way to perform virtual assessments of a home.

NEEP continued to promote the Home Energy Labeling Information eXchange (HELIX) and Energy Estimator through various webinars, speaking engagements, resources, and through our existing networks and state partners. We began to work collaboratively with more cities and communities looking to implement virtual energy

assessments and residential labeling. As these efforts gained more traction and visibility in the market, states like New York, Connecticut, and New Hampshire identified the potential for virtual assessments in their markets. NEEP provided comments in response to both Connecticut's and New Hampshire's approval of virtual assessments in their efficiency plans. Additionally, NYSERDA included Energy Estimator in their list of tools that can support remote energy audits on their website. Utilizing Energy Estimator as a policy management tool that supports virtual audits helps engage customers in a low-cost manner while also connecting with HELIX to pull data from and create a customizable home energy label. In turn, this will increase transparency and education for homeowners and encourage efficiency improvements. NEEP also met with various communities throughout the year including Keene, N.H. and Princeton, N.J. to discuss HELIX and Energy Estimator and pathways for residential labeling initiatives.

We continued to work with states and communities to support HELIX and residential labeling initiatives. NEEP provides support for Montpelier, Vermont for bringing the Montpelier Energy Disclosure Ordinance to City Council in February 2021. As virtual assessments gain traction in the market, we will provide support and tools to consider for the virtualization of home energy audits and grow a replicable model for use across the nation.

NEEP continued to grow a more robust dataset and upload additional labels, certifications, and solar photovoltaic (PV) data. We reengaged with various states, communities, and data providers across the nation to grow HELIX beyond the Northeast and Mid-Atlantic region. Discussions are also ongoing with other regional energy efficiency organizations (REEOs) including Southwest Energy Efficiency Project (SWEEP) and Southeast Energy Efficiency Alliance (SEEA). NEEP also met with EarthCraft, Southface Institute, Solar United Neighbors, and various utilities across the Mid-Atlantic to create a more robust dataset to populate all real estate listings.

The HELIX PVAP Advisory Committee met throughout the year. By bringing the multiple listing services (MLSs) into this advisory committee, the MLSs can get a regional sense of how this data is being integrated into the market and also leverage opportunities where multiple MLSs use the same data aggregators to streamline integration and share costs. This collaborative approach helps maintain interest from the MLSs in the region. We have seen a lot of movement with MLSs come out of the advisory committee work, with data aggregators making connections with MLSs, MLSs learning about the different HELIX integration methods, and learning from the first suite of MLSs who have or will be integrating HELIX.

NEEP continued to otherwise engage with MLSs throughout the region to work on integrating HELIX into local markets. The MLS integration process is slow moving, but over the course of the year we maintained progress by working with national data aggregators who supply services to various MLSs across the region and nation. Collaboration with national data aggregators will help streamline back-end services of MLS system infrastructure and data/analytics across a suite of MLSs. FBS, creators of FlexMLS, will be rolling out HELIX integration through a suite of MLSs across the Northeast, including Cape Cod and the Islands, Berkshires MLS, Maine Listings, and Monmouth Ocean Regional REALTORS. Additionally, Garden State MLS in New Jersey will be integrating HELIX through a deep-link and will be conducting a demo for other MLSs in the region.

| Progress Toward 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.**<br><br>**Progress Toward Outcome:** Garden State MLS will be integrating HELIX through a deep link. A deep link demo will be presented to the HELIX PVAP Advisory Committee and MLSs across the nation.<br><br>NEEP and FBS are in the end stages of finalizing a data sharing agreement to integrate HELIX. This is a slow moving process as it was not a priority for FBS, though the suite of MLSs involved in the data sharing agreement have all expressed interest.<br><br>In the final quarter of 2020, MLS PIN successfully implemented PowerProduction fields into their system for solar PV. NEEP will work with MLS PIN throughout 2021 to integrate HELIX into their MLS system. | | | | |
| **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.**<br><br>**Progress Toward Outcome:** NEEP continues to provide support and technical assistance for both Vermont's statewide residential labeling initiative and Montpelier's Home Energy Information Ordinance. The City of Montpelier will be ready to introduce the ordinance to city council in Q1 2021.<br><br>NEEP has engaged with various communities and states across the region who are looking to adopt and implement residential energy labeling and disclosure policies. These communities include Keene, N.H., Princeton, N.J., and Montgomery County, Md. States such as Connecticut, Vermont, and Rhode Island continue to look at energy labeling and cost disclosure in the real estate market. | | | | |
| **Eight Northeast States provide and use solar PV data for properties listed in the HELIX database.**<br><br>**Progress Toward Outcome:** NEEP continued to retrieve and update solar PV data from Mass., Conn., N.H., Vt., and Washington, D.C. National Grid finalized a data sharing agreement for the project, and is currently in talks regarding customer consent forms and data sharing processes.<br><br>We are currently working to acquire data and look for opportunities in the Mid-Atlantic region by working with Solar United Neighbors, who have field programs with robust data in New Jersey, Pennsylvania, Maryland, Virginia, and West Virginia, as well as in Arizona, Colorado, Florida, Indiana, Minnesota, Ohio, and Texas. | | | | |

*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:**

Despite anticipated challenges from COVID-19, regional activity in the heat pump market was vibrant throughout 2020. States and utilities made significant strides in implementing heat pump programs to help meet their decarbonization and energy savings goals; contractors hit the hardest by the pandemic received great support from utilities and state energy offices; advocates made significant progress in pushing the most ambitious energy legislation in recent history; and industry members further demonstrated the effectiveness of heat pumps in residential and commercial settings. Regional programs have reported surpassing their 2020 air source heat pump (ASHP) installation targets, and this trend provides an optimistic outlook toward meeting NEEP's 2025 and 2030 long-term market transformation goals. In 2020, variable refrigerant flow (VRF) programs saw an increased potential for incentives on existing equipment and expansion of eligible equipment, and have found that market actors have been able to focus more effort on leveraging programs, despite the many setbacks posed by the pandemic.

Stakeholder engagement in NEEP's ASHP initiative was consistently high throughout 2020, with approximately 56 participants on average attending quarterly working group meetings. In the fourth quarter of the year, NEEP held its annual ASHP and VRF Market Transformation Workshop virtually, which was attended by 133 stakeholders and sponsored by industry leaders such as Mitsubishi, Trane, and Daikin. For comparison, 135 stakeholders attended the in-person workshop in 2019. Slightly different from past workshops, this year's online event featured a more conversational format to facilitate collaboration. NEEP staff used existing networks to assemble expert panelists and prepare four sessions covering pressing issues facing the ASHP and VRF industry, including program design and quality assurance for customers.

New programs inside and outside the region have leveraged best practices from NEEP's installer and consumer resources, and have adopted the NEEP cold-climate air source heat pump (ccASHP) Specification and Product List

which now houses 8,600 cold-climate systems from over 90 industry-leading brands. In the Midwest, the Minnesota Center for Energy and Environment became a new subscriber of the initiative in mid-2020, followed by other Midwest programs including Wabash Valley Power Alliance and Central Iowa Power Cooperative. In Canada, Energy Transition Québec became a new subscriber followed by efficiencyPEI. Signing on at the end of the year as our twentieth program subscriber was ENERGY STAR.

In the third quarter, NEEP published an ASHP Market Transformation Progress Report using survey data collected from members of our High Performance ASHP Working Group. In analyzing the data, survey respondents made clear that more attention is required in each of the seven market transformation strategies contained in NEEP's Northeast/Mid-Atlantic Air Source Heat Pump Market Strategies Report. This is a strong indication to NEEP to continue this work into 2021 in order to report with confidence that significant progress has been made in each of the strategy areas.

| Progress Toward 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.**<br><br>**Progress Toward Outcome:** ASHP program administrators have reported surpassing their installation targets despite the anticipated challenges presented by COVID-19. NYSERDA data has demonstrated a trend of growing ASHP sales in the Northeast from 2013-2019, with three times more systems sold in 2019 than 2013. With 2020 data available soon, NEEP is optimistic that 2020 sales will further make evident this positive market trend, with a twenty percent increase in adoption considered to be very feasible. | | | | |
| **NEEP's ccASHP product list is used by five new programs joining fifteen others using the list in 2019.**<br><br>**Progress Toward Outcome:** At year end, there were twenty programs inside and outside of the region referencing the ccASHP specification/product list: Mass. Clean Energy Center (MassCEC), Mass. Alternative Energy Portfolio Standard, Efficiency Vermont, National Grid-Rhode Island, PSEG Long Island, Con Edison, Central Hudson, Orange & Rockland, NYSEG, Rochester G&E, National Grid-New York, the Minnesota ASHP Collaborative, Holy Cross Energy, Northwest Energy Efficiency Alliance, Efficiency Nova Scotia, Energy Transition Québec, efficiencyPEI, Wabash Valley Power Alliance (Power Moves), Central Iowa Power Cooperative, and ENERGY STAR. | | | | |

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|---|---|---|---|---|
| **NEEP's consumer and installer guides are used or referenced by six programs in the region.**<br><br>**Progress Toward Outcome:** Content from NEEP's ASHP buying guide is being leveraged by MassCEC's Clean Energy Lives Here campaign, the CT Green Bank's Smart-E Loan heat pump webpage, [expected] PSEG Long Island's heat pump marketing materials, [expected] Corn Belt Power Cooperative's newsletters, and [expected] Rocky Mountain Institute. The breadth of heat pump information in the consumer buying guide has proved relevant to groups in different regions.<br><br>NYSERDA uses NEEP's installer guides for their in-field monitoring pilot, in addition to MassCEC, Mass Save, and Efficiency Vermont who link to the guides on their websites. Furthermore, the Northwest Energy Efficiency Alliance and the Minnesota Air Source Heat Pump Collaborative have leveraged content from NEEP's installer guides to produce training modules and guides tailored to their own jurisdictions. | | | | |
| **ASHP Initiative participants report significant progress in implementing the 2016 ASHP Market Transformation Strategy.**<br><br>**Progress Toward Outcome:** NEEP published an ASHP Market Transformation Progress Report in the third quarter using survey data collected from 24 members of the High Performance ASHP Working Group earlier in the year. Respondents reported "noticeable progress" or above across all market strategy areas and stated further attention in each of the strategy areas is necessary. We plan to integrate the findings contained in the progress report to help guide 2021 heating electrification activities, and aim to report "significant progress" upon redistribution of this survey before refining the strategic direction of the initiative. | | | | |

## 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:**

NEEP's aim for our 2020 work related to smart energy homes and buildings was to actualize the recommendations made in our 2019 Grid-Interactive Efficient Buildings (GEBs) report, with the help of our home energy management systems (HEMS) and Northeast Smart Energy Buildings Working Groups. (Note: While the HEMS Working Group (WG) has been active for over five years, the Smart Energy Buildings WG was convened in April 2020). The kick-off meeting for the Smart Energy WG held in the second quarter was particularly important, as stakeholders highlighted several key Smart Energy Buildings topics that were of interest to them, suggested important and/or immediate steps toward the advancement of smart energy building technologies, and recommended ways in which the WG can help to advance smart energy building technologies in the Northeast region. In the third quarter, we hosted the Smart Energy Homes and Buildings Virtual Workshop on August 27, 2020, which focused on two key areas – the current state of smart energy homes and buildings, and advancing smart energy homes and buildings in the Northeast. The workshop covered technologies, policies, and regional coordination necessary to accelerate the realization of smart energy homes and buildings across the region, and mapped out current and future opportunities that will get us there. By the fourth quarter of 2020, we saw steady progress with smart energy homes and buildings initiatives throughout the region. On the residential side, utilities worked toward the development of integrated homes initiatives, analyses were conducted on new home energy monitors, and research was conducted on residential smart vents and their energy savings potential. On the commercial side, interoperability and adequate buildings communications systems were still two high priority topics for stakeholders, with ways to overcome these issues while deploying smart energy homes and building system technologies being a topic that was heavily researched, analyzed, and discussed.

| Progress Toward 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.**<br><br>**Progress Toward Outcome:** Through the HEMS and Northeast Smart Energy Buildings WGs, NEEP encouraged and captured home and building programs that optimized building energy performance and enabled buildings to serve as flexible grid resources. Through the first and second quarters, on the residential side, demand response programs continued to be widespread across the region. In the third quarter, although we saw an increasing focus on interoperability and expansion of integrated systems for resiliency, smart thermostat programs (on the residential side) and demand response programs continued to be the most popular across the region. And in the final quarter of the year, utilities continued to work toward the development of integrated homes and buildings initiatives, and analyses and research were conducted to support building energy performance and enable buildings to serve as flexible grid | | | | |

| Progress Toward Smart Energy Homes and Buildings Outcomes | 25% | 50% | 75% | 100% |
|---|---|---|---|---|
| assets. Looking forward to 2021, NEEP seeks to broaden smart energy homes and building offerings to capture additional end uses and capabilities. | | | | |
| **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.).**<br><br>**Progress Toward Outcome:** All Northeast states currently have programs that offer grid services that can be enabled by smart energy homes and/or buildings. Much of this was captured in NEEP's GEBs Tri-Region Report. In 2020, steps were taken toward capturing the prioritized grid services through soliciting information from the HEMS and Northeast Smart Energy Buildings WGs. | | | | |
| **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).**<br><br>**Progress Toward Outcome:** Subsequent to the issuing of both an NOI and RFI for a "Connected Communities" GEBs-related project, NEEP was developing a project concept on this topic supported by multiple states. Concept development and applications for funding to the U.S. Department of Energy (US DOE) will occur in the first quarter of 2021. | | | | |

## 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:**

Throughout 2020, NEEP encouraged strategic energy management (SEM) program adoption in the Northeast industrial, commercial, and municipal sectors, primarily through our work with the Northeast SEM Collaborative. In the first quarter of the year, NEEP convened an SEM Subcommittee to focus on the topic of "exploring SEM synergies with other activities." Through engagement with subcommittee members, NEEP was able to gain an understanding of the advantages and disadvantages of coupling SEM with other clean energy and demand management activities. It was noted that commercial and industrial (C&I) customers are considering an increasing number of opportunities beyond energy efficiency when it comes to energy management. Going forward, it will be critical for SEM to incorporate decision making related to demand flexibility, on site renewables and storage, combined heat and power, etc. Many states including N.Y., Conn., and Vt. noted that their SEM programs were very much restricted by COVID-19 in 2020, which impacted their SEM recruitment, cohort workshops, and treasure hunts. Most states shifted to virtual cohort delivery, but several cohorts were temporarily put on hold pending the ironing out of some COVID-19-related kinks. In the fourth quarter, New York shared that they were putting measures in place to include 50001 Ready as part of their virtual cohort delivery.

| Progress Toward Strategic Energy Management Outcomes | 25% | 50% | 75% | 100% |
|---|---|---|---|---|
| **NEEP's SEM Working Group engages stakeholders from all 13 NEEP states and all major stakeholder groups are represented (EE programs, state/local policymakers, SEM service providers, advocates).**<br><br>**Progress Toward Outcome:** Throughout 2020, all states in the NEEP region and major stakeholder groups participated in Northeast SEM Collaborative meetings. While there was strong geographical representation in our Collaborative throughout the year, there is still room for improved attendance by some states. Hence, after exploring ways to increase attendance, NEEP began to encourage individual stakeholder participation in these meetings by direct outreach. | | | | |
| **Energy efficiency programs in seven Northeast states (CT, MA, NH, NY, PA, RI, VT) support SEM as a program measure.**<br><br>**Progress Toward Outcome:** Throughout 2020, energy efficiency programs in Conn., Mass., N.H., N.Y., R.I., and Vt. continued to implement SEM programs. At the end of 2020, New York reported that they had paused recruitment for new cohorts for the time being, but were enhancing their "self-serve" option to deliver SEM virtually to new participants. Vermont reported that participation in their water/wastewater and college SEM cohorts continued to be high, and they are currently considering the implementation of independent SEM models. Massachusetts and Rhode Island reported that despite challenges related to COVID-19, their industrial and water/wastewater cohorts continued to be quite engaged. Connecticut reported that | | | | |

| Progress Toward Strategic Energy Management Outcomes | 25% | 50% | 75% | 100% |
|---|---|---|---|---|
| Eversource had started to evaluate the potential for virtual treasure hunts as standalone offerings, and that United Illuminating (UI) is very close to awarding a purchase order (PO) to a vendor to assist with SEM in UI service territory. Pennsylvania reported that although they still do not have any SEM programs, they continue to provide guidance and training on SEM through webinars and toolkits and they intend to continue this in 2021. | | | | |
| **NEEP provides support to five regional programs around inclusion of 50001 Ready program as a tool in their SEM offering.**<br><br>**Progress Toward Outcome:** NEEP provided support to existing regional SEM programs in Conn., Mass., N.H., N.Y., R.I., and Vt. around inclusion of 50001 Ready through the SEM Collaborative, SEM Subcommittee, and our SEM online resources. We invited US DOE to speak at each quarterly meeting of the Collaborative where they provided updates on the latest 50001 Ready tools and resources. NEEP encouraged Collaborative members to attend US DOE's 50001 Ready Network Series webinars, and also offered all programs our availability to discuss and provide general information on 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:**

Due to state legislatures primarily focusing on COVID-19 relief, only one appliance standard bill was enacted in 2020. The District of Columbia passed a standards bill that included air purifiers, a first for the nation. New York, Penn., Me., R.I., N.J., Vt., and Conn, had bills in committee or were set to introduce bills before shutting down most state proceedings due to COVID-19. Both houses of the Massachusetts Legislature passed appliance standards bills. The bills were combined via conference committee, which reported out with a bill for the Governor's signature early in 2021. If passed, the Massachusetts bill would be the first in the nation to include electric vehicle charging stations. New Jersey advocates succeed in securing sponsors for a standards bill, which is expected to be heard in committee in early 2021.

NEEP provided technical assistance to eight states in 2020. We conducted four quarterly stakeholder meetings and two workshops with national partners. Planning for a state standard implementation database continued and is anticipated to be built out in early 2021. A paper titled "Opportunities to Advance Grid Connected Appliances Through Codes and Standards" was completed in the fourth quarter and will be published in early 2021. NEEP participated in several national planning sessions related to advancing standards under the Biden administration.

2021 is expected to be a busy year for appliance standards bills, with potentially nine NEEP states adopting bills within the year.

| Progress Toward 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).**<br><br>**Progress Toward Outcome:** Massachusetts, R.I., Conn., Washington, D.C., Me., Penn., and N.J. all introduced standards bills in early 2020, which were ultimately impacted by COVID-19-related state shutdowns and delays. | | | | |
| **At least three Northeast states adopt new state appliance standards in 2020.**<br><br>**Progress Toward Outcome:** While many states introduced state standards in 2020, only Washington, D.C. adopted new state appliance standards by year-end. Efforts were significantly impacted by COVID-19-related shutdowns and delays.<br><br>Two other states – Massachusetts and New Jersey – came very close to adopting standards bills by the end of 2020. The Massachusetts bill passed both houses of the State Legislature, and was reported out of conference committee and awaits signature by the Governor. In New Jersey, appliance standards advocates obtained sponsors for a bill to be heard in committee early 2021. NEEP provided technical assistance to New Jersey advocates to support this effort. | | | | |
| **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.**<br><br>**Progress Toward Outcome:** NEEP continued to track and communicate to the region the various opportunities to weigh in on federal appliance standards rulemakings and ENERGY STAR criteria revisions. Several state Attorney's General (Connecticut, Maine, Massachusetts, New Jersey, New York, Vermont, and Washington, D.C.) collaborated to file joint lawsuits against a number of US DOE actions in 2020, including the agency's revised process for setting appliance efficiency standards. | | | | |