NEEP 2020 Quarterly Report
Quarter Two

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:

As mentioned in the first-quarter report, NEEP will use its 2020 Building Decarbonization Leadership Forum, initially planned to support the NEEP Summit on Decarbonizing Our Communities, to instead engage and support 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. 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.

In the second quarter, NEEP tracked, assessed, and reported key COVID-19 trends, engaged stakeholders around actions, recommended and built support for regional solutions, and deployed NEEP resources to respond to the disruption. You can see some of our work on our COVID-19 Resources Page.

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 Building Decarbonization Leadership Forum Outcomes	25%	50%	75%	100%
Progress Toward Outcome: New Jersey released its 2019 Energy Master Plan in the beginning of 2020, and following its publication, the Board of Public Utilities (NJ BPU) released the Energy Efficiency and Peak Demand Reduction Plan for energy efficiency programs. Maine is in the process of developing recommendations with the Climate Council that will be submitted in a report to the Governor for policy action in 2021. New York is developing a greenhouse gas (GHG) emissions reduction scoping plan to be released in 2020. The plan will outline actions to help the state meet its goals to reduce GHG emissions 40% by 2030 and no less than 85% by 2050, relative to 1990 levels. Maryland is updating its statewide GHG emissions reduction plan to be released in 2020. The plan will include strategies and policies to support the state's goal of reducing GHG emissions 40% below 2006 levels by 2030.				
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:** Strategic electrification plans are of increasing interest within communities in the region and NEEP is responding to this interest by developing a new module for our Community Action Planning For Energy Efficiency (CAPEE) tool, slated for release in the third quarter, to assist with these initiatives. Additionally, engagements are ongoing with six communities throughout Massachusetts, Vermont, and New York on this topic. NEEP has also been regularly engaged with state partners on this topic.				
Twenty media stories cover NEEP's work in efficient, building decarbonization. **Progress Toward Outcome:** There were four stories in Q2 for a total of nine over the first six months of 2020				

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 significantly impacted NEEP's work in the second quarter. Many legislative sessions came to a close or were solely focused on the COVID-19 response, and regulators also grappled with restrictions for energy efficiency work in buildings. NEEP adapted its policy work in response to COVID-19 to track the impacts and solutions available across the region and provide assistance to states and utilities where possible. We provided public comments to Connecticut and New Hampshire on energy efficiency plan updates and three-year planning processes. We also provided comments on the net zero determination in Massachusetts, which was set to at least 85 percent by 2050, with the remaining to be achieved via carbon sink. Additionally, New Jersey released its Energy Efficiency and Demand Response Program Plan. It is clear that there is much work to be done across the region in response to COVID-19, but also that states are not losing sight of work related to climate and energy efficiency as critical tools in recovering from the pandemic. NEEP continued to track and provide information about policy developments in our policy tracker blog, as well as the legislative tracker. In New England, the New England Power Pool (NEPOOL) announced plans to raise several issues relating to energy efficiency as a Forward Capacity Market resource in ongoing committee meetings; these issues are being tracked and summarized in memos to NEEP's stakeholder group.

NEEP kicked off a webinar series on the Building Decarbonization Policy Framework. The first webinar was held in May on state and utility regulation, and the second in June on building policies. The next webinar will take place in the third quarter. In parallel with the webinar series, NEEP is developing various policy guidance documents to support communities and states in implementing strategies outlined in the framework. The first guidance on building performance standards outlines the considerations that should be taken into account when developing the standard. More guidance documents will be published in the third quarter on the topics of benchmarking, electrification, and residential labeling.

NEEP hosted a webinar on relevant national Advanced M&V protocols that currently exist or are under development. The protocols will help support broader use of Advanced M&V. As part of this project, New York state partners convened a workshop to learn about the Advanced M&V pilots conducted in Connecticut, to share information on existing New York programs that leverage Advanced M&V, and to discuss future opportunities. Advanced M&V is a resource that can help enable rapid feedback about building performance and thus has relevance by supporting policies and programs on building energy use.

NEEP delivered guidance on best practices in data sharing as part of our ongoing loadshape data needs assessment study. The goal of this report was to identify strategies to overcome barriers to data sharing and provide examples of successful cases of data sharing, as well as regulatory activities to overcome barriers. Making loadshape and other building energy data secure but accessible can help enable ISOs, states, and other entities to plan and deliver flexible demand strategies.

Lastly, NEEP secured funding to collect program-year 2018 energy efficiency data for the Regional Energy Efficiency Database (REED). Data will be collected the third quarter and made available by request on the NEEP website in the fourth quarter. Thought is being put into expanding the REED data collection effort and more fully integrating the data into other areas of NEEP's work.

Progress Toward 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:** Massachusetts released a net zero determination that requires at least 85% greenhouse gas (GHG) emission reductions, with the remaining to be achieved via carbon sink including carbon capture and land-use planning. Carbon reduction bills were introduced in Maryland and Rhode Island to establish carbon neutral goals by 2045 and 2050, respectively.				
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:** New Hampshire is still in the planning process for their 2021-2023 Statewide Energy Efficiency Plan. Targets will be presented in the draft plan to be released in the third quarter. An all-fuel target is expected in alignment with the state's energy optimization study. Rhode Island is adopting the maximum savings scenario, which includes an MMBtu target for delivered fuels.				

Progress Toward State & Local Public Policy Tracking, Analysis, and Technical Assistance Outcomes	25%	50%	75%	100%
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:** New Jersey released the Energy Efficiency and Demand Response Program Plan, which includes recommendations to establish a primary cost effectiveness test for the evaluation of energy efficiency and demand response programs to be based off of state policies and called the New Jersey Cost Test**.** NEEP provided a memo on cost-effectiveness and all-fuel targets to the Connecticut Department of Energy and Environmental Protection (CT DEEP) as they consider the adoption of a test developed in 2019. NEEP will continue to provide technical assistance to Connecticut on cost-effectiveness and all-fuel metrics.				
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:** Both the New England and Mid-Atlantic regions participate in forward capacity markets; the delivery of energy efficiency as a resource in this way enables regional capacity planning to take into consideration energy efficiency as a first strategy. In addition, to address localized transmission and distribution constraints, utilities in New York, Maine, and Rhode Island have non-wires alternative projects. In Massachusetts, programs related to integrated energy efficiency and demand response have been launched; these enable demand flexibility. Massachusetts and Maine have set heat pump targets in their three-year efficiency plans, and Massachusetts made fuel optimization a priority to provide all-fuel benefits. New Hampshire, Rhode Island, Vermont, Connecticut, and New Jersey have implemented fuel optimization and heating electrification studies that will impact planning for 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:

The Efficient, Resilient Community Pathways and Resources project works at both the state- and local level to ensure progress is being made toward our regional market transformation goals. Working through a "top-down" approach enables statewide policies that are supportive of community-level efforts, while also utilizing a "bottom-up" approach, NEEP works directly with communities to develop resources and provide technical assistance.

In the second quarter, NEEP developed the Massachusetts Zero Energy Schools Toolkit as part of our Massachusetts Achieving Zero Energy (MAZE) initiative. The toolkit covers the importance of zero energy schools and provides technical guidance and recommendations for communities to plan, design, and finance zero energy school projects. Guidance for ongoing operations and maintenance (O&M) is also provided. While the toolkit was developed for Massachusetts communities, the recommendations can be applied to other communities in the NEEP region.

Throughout the second quarter, NEEP staff have been involved in discussions centered on building energy benchmarking and building performance standards. These discussions are taking place in cities throughout the region such as Boston and Pittsburgh, as well as at the state level in West Virginia and New York. Building off of benchmarking efforts, a number of cities are now exploring how building energy performance standards could be the next step to reduce greenhouse gas emissions from their buildings stock. NEEP will kick off a project in the

third quarter with the objective of developing a flexible software tool building off our Home Energy Labeling Information eXchange (HELIX) project to assist communities with their commercial building needs.

Progress Toward Efficient, Resilient Community Pathways and Resources Outcomes	25%	50%	75%	100%
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. **Progress Toward Outcome:** On the individual project level, zero energy schools remain a constant area of interest for communities. NEEP published a Zero Energy Schools Toolkit to provide stakeholders with a guide for achieving their zero energy goals. We are providing direct technical assistance to communities in Connecticut, Massachusetts, and New Hampshire who are exploring options to achieve zero energy schools. NEEP is also in the process of making upgrades to our Community Action Planning for Energy Efficiency (CAPEE) tool to provide a more interactive online "self-help" experience that allows communities to develop and advance energy plans.				
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:** Strategic electrification plans are of increasing interest within communities, and a new CAPEE module is slated to be released in the third quarter to assist with these initiatives. Additionally, NEEP is engaged with communities in Massachusetts, Vermont, and New York on this topic to strategically electrify end uses. Due to shifting priorities in light of the ongoing COVID-19 pandemic, many zoning discussions have stalled; however, NEEP continues to engage with communities and offer support as needed.				
At least one new state utilizes NE-CHPS as a pathway for high performance and/or zero energy schools. **Progress Toward Outcome:** In New Hampshire, the state's Department of Education implemented a new school building aid program where the Northeast Collaborative for High Performance Schools (NE-CHPS) criteria can be utilized as a pathway. As of July 1, 2020, schools can submit their applications to the N.H. Department of Education and can be ranked higher due to their stated goal of using NE-CHPS. Two additional communities in Connecticut are considering the use of NE-CHPS for their school projects; there are currently no NE-CHPS schools in the state. NEEP is also in				

Progress Toward Efficient, Resilient Community Pathways and Resources Outcomes	25%	50%	75%	100%
the process of developing a case study on a New York City school that was designed to NE-CHPS.				

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:

The COVID-19 pandemic has fundamentally changed NEEP's work to emphasize the overlap between initiatives that address home and building energy use as well as the ongoing public health crisis. To support this, in the second quarter NEEP published new blogs, updated resources and toolkits, and topical webinars that link public health and energy efficiency. This work is ongoing and aimed at illustrating that energy efficiency initiatives can simultaneously improve public health in the face of a pandemic. These new resources include:

- Updated code adoption and code compliance toolkits with new energy code resources, guidance, and best practices.
- New website content that provides increasingly relevant information around energy codes in a more accessible manner to help streamline these efforts.
- Multiple blogs regarding energy codes for a green economy, regional and national energy code trends, and energy codes regarding COVID-19.
- New ArcGIS-powered online energy code trackers to make NEEP's code tracking services more interactive and informational.

Additionally, NEEP's technical assistance led to state action throughout the region. In Delaware, NEEP supported the adoption of a strengthened 2018 IECC, and in Washington D.C., we supported the adoption of a new suite of energy efficient construction codes. With these adoptions, six of the 13 states in the NEEP region have now

adopted the most recent energy code, and 12 of the 13 states in the NEEP region states have adopted one of the two most recent energy codes.

NEEP also provided direct technical assistance to Maine's Building Code Review Board (BCRB) – with support from the state's code collaborative that we facilitate – to support the adoption of an unamended 2015 International Energy Conservation Code (IECC) and zero energy stretch code (pending approval). NEEP and the New Hampshire code collaborative that we facilitate hosted a workshop for New Hampshire's Energy Efficiency and Sustainable Energy (EESE) Board to initiate a discussion on designing its first code compliance program.

NEEP proposed the Energy Zero Stretch Code to the Massachusetts Board of Building Regulations and Standards (BBRS), and we continued to work with advocates and code supporters and provide technical assistance to the BBRS and its subcommittees on the importance of zero energy code adoption. NEEP has also presented the code on two stakeholder webinars and will present to the BBRS' Energy Advisory Committee in the third quarter.

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). **Progress Toward Outcome:** Delaware, Maryland, Massachusetts, New Jersey, New York, and Vermont have adopted or have had the 2018 IECC go into effect; Rhode Island is still considering adoption. Washington, D.C. adopted its zero energy appendix, which serves as a stretch code for commercial buildings; Massachusetts has two and soon to be third stretch code proposal for consideration, though will not adopt one until their base code is adopted in the fall of 2021; Maine is strongly considering a zero energy or zero energy ready stretch code; and New York and Vermont are on a path to reach zero energy buildings in two to three code cycles, but do not have formal zero energy codes proposed. Maine is required to promulgate a stretch code by July 1, 2020, but COVID-19 and state office closures expect to delay this until the fall. State legislature suspension in Connecticut due to COVID-19 delayed work on their stretch- and base code initiatives indefinitely. A code collaborative starting in New Jersey, which will convene for the first time in the third quarter, will support stretch code adoption as the state aims to become a leader in energy efficiency with its new energy master plan. Delaware adopted a strong 2018 IECC, making stretch code adoption unlikely. Rhode Island has a stretch code and must complete an update this year.				

Progress Toward Building Energy Codes and Benchmarking Outcomes	25%	50%	75%	100%
Six Northeast states implement initiatives to achieve 100% code compliance statewide (CT, DE, ME, NH, NJ, PA). **Progress Toward Outcome:** NEEP published a code compliance study for Connecticut to inform its training efforts. Delaware is releasing RFPs for training organizations to support their workforce in light of the 2018 IECC adoption. Maine is considering undertaking training initiatives as part of their adoption of the 2015 IECC and accompanying stretch code, and is also considering distributing best-practice diagrams and other useful tools and potentially conducting a new code compliance study. NEEP, in partnership with other organizations, conducted a workshop for New Hampshire's Energy Efficiency and Sustainable Energy (EESE) Board regarding implementing the state's first code compliance and attribution program in its next three-year energy efficiency plan. Code collaboratives convening for the first time in Pennsylvania and New Jersey this year will support code compliance initiatives, particularly in Pennsylvania.				
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:** Progress toward implementing benchmarking policies was slow in the second quarter due to shifting priorities. NEEP remains engaged with Hartford, Connecticut and Providence, Rhode Island, and is hopeful that progress will ramp up again in the third quarter. NEEP worked with New Hampshire schools to continue progress toward our goal of benchmarking all schools in the U.S. Environmental Protection Agency's (US EPA) Portfolio Manager. The city of Keene, New Hampshire continues to explore opportunities for benchmarking. NEEP has provided information on the benefits of benchmarking to help educate stakeholders when making the decision. The Massachusetts state legislature was focused on its COVID-19 response during the second quarter, but did begin to take up non-COVID-19 bills, and benchmarking has again become of interest.				
One Northeast state and two cities implement building energy performance standards for existing buildings. **Progress Toward Outcome:** NEEP will be working alongside at least two cities that are embarking upon processes to develop and implement Building Energy Performance Standards (BEPS). Through a new grant funded by the U.S. Department of Energy (US DOE), NEEP will be collaborating closely with the cities of Boston and Pittsburgh to				

Progress Toward Building Energy Codes and Benchmarking Outcomes	25%	50%	75%	100%
develop policies and a software solution to help manage the data. This work will ramp up in the third quarter and will help inform best practice guidance on this topic for use by other cities. NEEP is also engaged with Montgomery County in Maryland on the development and implementation of a BEPS. On the state side, NEEP continued work with Massachusetts, Maryland, and New York to provide feedback and help craft a data management platform that will be 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:** As part of adjusting to COVID-19, NEEP seeks to make the connection between COVID-19 relief and energy efficiency, arguing that goals for both can be achieved via energy efficiency initiatives. NEEP will also publish a one-pager in the third quarter focused on existing buildings and retrofit programs to inform state efforts. Maine hopes to consider existing buildings in their stretch code, though the July 1, 2020 deadline was moved; New York has been investigating EnergySprung as a retrofit option; Rhode Island suspended state office activity and is focusing efforts on adopting its new base code; and Massachusetts is conducting a roadmap study to be completed this year to achieve the state's Global Warming Solutions Act goals – the roadmap will include policy pathways for existing homes and buildings. NEEP has also embarked on a new Total Energy Pathways project, 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 began to see the impacts of the COVID-19 pandemic in our region at the start of the second quarter, with a great deal of the energy efficiency workforce out and on-site work for efficiency programs coming to a halt. We adapted in response to this impact on the workforce by identifying opportunities to better serve our region and keep efficiency moving forward.

Also in response to COVID-19, NEEP has continued our work with ClearlyEnergy on our joint tool: Energy Estimator – Powered by HELIX & ClearlyEnergy. Efforts were still ongoing in Vermont as NEEP continued to provide technical assistance on their statewide residential labeling initiative. The Montpelier Energy Disclosure Ordinance (MEDO) Working Group will also be going over the most recent version of the proposed ordinance language and will outline a plan for taking this to City Council in the third quarter.

NEEP released new resources and reports, and hosted webinars and demos to share best practices and solutions throughout the second quarter. We hosted webinars for stakeholders across the region and beyond, including on the *Technical Solutions for Home Energy Labeling Policies and Program* and the Energy Estimator tool. This resulted in more engagement with municipalities across the region that are interested in the tools including Keene, New Hampshire, Pittsburgh, Pennsylvania, New York, and Connecticut. Talks have also begun on Multiple Listing Source (MLS) integration pathways (deep linking, API, and bulk data export). Additional resources have been created for MLSs to better understand the pathways and potential next steps.

The Energy Estimator tool gained traction in the market throughout the second quarter. In Connecticut, the Department of Energy & Environmental Protection (CT DEEP) approved the virtual pre-assessment proposal in their response to COVID-19 and has requested utilities to evaluate Energy Estimator. The New York State Energy Research & Development Authority (NYSERDA) included Energy Estimator in their list of tools that can support remote energy audits, which was presented during a stakeholder webinar hosted by the Authority. NEEP also identified Energy Estimator in a comment letter to the New Hampshire Public Utilities Commission (NH PUC) in response to the state's draft three-year plan. Lastly, NEEP has met with representatives from Montgomery County, Maryland to discuss HELIX and Energy Estimator as tools to support the utility bill disclosure ordinance and any future labeling efforts. NEEP will continue to work with the respective organizations above to provide assistance and demo the tool. By utilizing Energy Estimator as a policy management tool that supports virtual audits, this will help 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.

To capture additional labels, certifications, and solar photovoltaic (PV) data to integrate with the local MLS, NEEP engaged with the District of Columbia, Pennsylvania, Maryland, Georgia, Arizona, and California. Discussions are ongoing with other regional energy efficiency organizations (REEOs) to grow beyond the NEEP region including the Southwest Energy Efficiency Project (SWEEP) and Southeast Energy Efficiency Alliance (SEEA). NEEP also met with EarthCraft, Southface Institute, and other data partners to create a more robust dataset to populate all real estate listings.

NEEP published Opportunities for Home Energy Labeling & HELIX Use in Mid-Atlantic States to examine home energy labeling programs and solar PV use across the Mid-Atlantic region and identify opportunities for HELIX to help meet market transformation goals. NEEP also developed the HELIX State Implementation Toolkit to help

outline the benefits and uses of the tool and guide states through the implementation process. Additionally, NEEP co-authored a paper with the American Council for an Energy-Efficient Economy (ACEEE) on our residential labeling experience and approach in Montpelier, Vermont.

Lastly, NEEP submitted a grant proposal to the Robert Woods Johnson (RWJ) Foundation, partnering with the city of Montpelier, Vermont, ClearlyEnergy, and Energy Futures Group on the Home Energy Information Ordinance. We also secured additional funding for ongoing solar work in Vermont regarding the collection, cleaning, and uploading of solar PV data and automating the retrieval process.

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. **Progress Toward Outcome:** FBS, the creators of Flexmls, is working with NEEP to finalize a data sharing agreement to integrate HELIX with Cape Cod and the Islands, Berkshires, and Maine listings. Conversations have begun with other MLSs that use FBS/Flexmls, such as Monmouth Ocean Regional Realtors in New Jersey. NEEP has also been communicating with Garden State MLS, who have their own MLS system in-house on deep linking and API. The MLS Property Information Network (PIN) will be implementing PowerProduction fields into their system for solar PV, and the NEEP-ClearlyEnergy team will meet with them after implementation, per their request, to discuss API/deep linking. The New England Real Estate Network (NEREN) MLS is still live with auto-population capabilities and NEREN is working to integrate green fields. CoreLogic and the statewide MLS in Rhode Island are in conversations on integrating HELIX for auto-populating the MLS. NEEP is providing information on the API and deep link functionality to determine the most effective pathway forward. Working with CoreLogic and other national data aggregators will help streamline back-end services of MLSs and enable HELIX to be integrated in MLSs across the board.				
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:** NEEP continues to provide technical assistance to Vermont on their statewide residential labeling initiatives, and to the town of Montpelier, Vermont on their proposed home energy information ordinance. NEEP				

Progress Toward HELIX and Residential Labeling Outcomes	25%	50%	75%	100%
hosted a topical webinar for stakeholders across the region and beyond on solutions for home energy labeling, which discussed HELIX and Energy Estimator. Municipalities and organizations across the nation attended, including representatives from Pittsburgh, Penn., CT DEEP, National Grid, NYSERDA, Rhode Island, Washington, D.C., Keene, N.H., Denver, Colo., Somerville, Mass., Concord, Mass., ACEEE, US EPA, and US DOE. The Massachusetts Department of Energy Resources (MA DOER) issued the Massachusetts Home Energy Scorecard Grant Program funding opportunity notice (FOA) in April 2019; NEEP and ClearlyEnergy had discussions with grant applicants regarding questions and clarifications on HELIX.				
Eight Northeast States provide and use solar PV data for properties listed in the HELIX database. **Progress Toward Outcome:** National Grid - Rhode Island confirmed that it can provide key PV data points including customer's address, customer's PV system capacity, customer's PV system installation date, and customer's PV system ownership model (i.e., leased or owned). National Grid is drafting a memorandum of understanding (MOU) that NEEP must sign before data is shared. The Maine Public Utilities Commission (ME PUC) did not grant NEEP's request to waive the data privacy provisions that make addresses confidential information. NEEP is now pursuing another route to request that the PUC amend a rule under net metering rules (Chapter 13 – Standard Contract Application) to use the contract for homeowners to opt-in to share key PV data points. This will provide HELIX access to future solar PV installations. Lastly, NEEP is pursuing alternative pathways to access Pennsylvania solar PV data; the Pennsylvania Public Utility Commission (PA PUC) did not grant access to customer addresses, ownership type, and other key data points. Further outreach will be made to solar data aggregators that collect data from Pennsylvania Solar Renewable Energy Certificate (SREC) programs.				

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 uncertainty related to COVID-19, NEEP's High Performance Air Source Heat Pump (ASHP) Initiative remained active throughout the second quarter. Stakeholders convened in May to focus on industry responses to COVID-19, and those representing various perspectives spoke to their perceived impacts of the health crisis. The region's ability to maintain strong programs during the pandemic will be critical to the long-term trajectory of ASHP adoption. NEEP's suite of resources including COVID-19-specific resource sharing are supporting programs during this challenging time. At the Variable Refrigerant Flow (VRF) Working Group meeting in June, stakeholders shared that COVID-19 presented both challenges and opportunities for the VRF industry. It was noted that although there was a general decrease in VRF sales, the impact was much less on VRF than other heating, ventilation, and cooling (HVAC) equipment types.

One of NEEP's most utilized resources is the cold-climate air source heat pump (ccASHP) product list, which now houses over 7,700 cold-climate systems. In the second quarter, the ccASHP specification and product list were fully integrated into the now-deployed New York Joint Utility-sponsored programs, the Minnesota ASHP Collaborative, and by Energy Transition Québec (TEQ) – a government agency serving the entire Province of Quebec. Recent visitor statistics from the product list website report an average of 300 users per day, the highest average on record thus far. The list has become a go-to resource for ASHP promotion within the region and beyond.

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. **Progress Toward Outcome:** Program goals reflect significant increases in ASHP and VRF adoption, however, the full impact of the COVID-19 pandemic is yet to be realized and will likely slow program participation in the spring and summer of 2020, key purchasing seasons. NEEP will seek ways to support the industry to enable maximum installations. Final determination will not be done until the end of the fourth quarter.				
NEEP's ccASHP product list is used by five new programs joining fifteen others using the list in 2019. **Progress Toward Outcome:** Seventeen programs inside and outside of the region now reference NEEP's ccASHP specification and product list – Massachusetts Clean Energy Center, Massachusetts Alternative Energy Portfolio Standard, Efficiency Vermont, PSEG Long Island, Con Edison, Central Hudson, Orange & Rockland, New York State Electric and Gas Corporation, Rochester Gas & Electric, National Grid - New York, the Minnesota ASHP Collaborative, Holy Cross Energy, Energy Trust of Oregon, Northwest Energy Efficiency Alliance, Efficiency Nova Scotia, and Energy Transition Québec. The New York Joint Utilities, Minnesota, and Energy Transition Québec were new additions in the second quarter.				
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 Clean Energy Lives Here campaign, the Connecticut Green Bank's Smart-E Loan heat pump webpage, and is expected to be included in PSEG Long Island's heat pump marketing materials. 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. NEEP has 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:** Following the second-quarter High Performance ASHP Working Group meeting, NEEP disseminated a survey to: 1) assess 2019-2020 ASHP Market Transformation Strategy implementation progress; 2) collect challenges, opportunities, and responses as they relate to the COVID-19 health crisis; and 3)				

Progress Toward High Performance Air Source Heat Pumps Outcomes	25%	50%	75%	100%
explore how the initiative's market transformation strategies will evolve going forward. Twenty four stakeholders responded to the survey, and results reported "noticeable progress" or above across all market strategy areas. Other information regarding COVID-19 responses and the evolution of the initiative will be integrated into NEEP's 2021 planning process.				

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 continues to accelerate the realization of smart energy homes and buildings across the region through our Home Energy Management Systems (HEMS) Working Group and our Northeast Smart Energy Buildings Working Group. The launch of the Smart Energy Buildings Working Group in April was particularly exciting, as stakeholders highlighted several key 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 Working Group can help to advance these technologies. These initial recommendations and contributions were particularly important, as it will take the collective efforts of several key stakeholder groups to drive long-term adoption of smart homes and buildings in the region.

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. **Progress Toward Outcome:** Through the Home Energy Management Systems (HEMs) Working Group (WG) and the Northeast Smart Energy Buildings WG, NEEP has been encouraging and capturing home and building programs that optimize building energy				

Progress Toward Smart Energy Homes and Buildings Outcomes	25%	50%	75%	100%
performance and enable buildings to serve as flexible grid resources. Smart thermostat programs on the residential side 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.				
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:** 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 Grid-Interactive Efficient Buildings (GEBs) Tri-Region Report. Steps are currently being taken toward comprehensively capturing the prioritized grid services through research and surveys that solicit 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). **Progress Toward Outcome:** Subsequent to the issuing of both an NOI and RFI by US DOE for a "Connected Communities" GEBs-related project, NEEP has been actively considering participants in this project and is working to ensure a regional team is convened and eventually selected by US DOE.				

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:

NEEP continues to encourage Strategic Energy Management (SEM) program adoption in the Northeast (by the industrial, commercial, and municipal sectors) through the SEM Collaborative as a means of driving adoption of SEM in the region. NEEP hosted the first SEM subcommittee meeting of the year in the second quarter, focused on exploring SEM synergies with other activities. Subcommittee members identified several activities with which to coordinate SEM and discussed the advantages and disadvantages of coupling SEM with these activities. Commercial and industrial (C&I) customers are considering an increasing number of opportunities beyond energy efficiency for managing their energy usage. It will be critical for SEM to incorporate decision-making related to demand flexibility, onsite renewables and storage, combined heat and power, etc. The subcommittee will inform future evolution of SEM programs with the goal to make SEM even more attractive – and useful – to C&I customers.

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). **Progress Toward Outcome:** All 13 states in the NEEP region and major stakeholder groups are invited to participate in SEM Collaborative meetings. NEEP is in the process of identifying the Collaborative's active and inactive participants, and reaching out to individual stakeholders to encourage greater meeting participation.				
Energy efficiency programs in seven Northeast states (CT, MA, NH, NY, PA, RI, VT) support SEM as a program measure. **Progress Toward Outcome:** Energy efficiency programs in Connecticut, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont continue to recognize SEM. New York reported that although their SEM work in the industrial sector is on schedule, their second-quarter 2020 plans for water/wastewater and commercial initiatives have been delayed due to the COVID-19 pandemic. Vermont reported that participation in their water/wastewater and college SEM cohorts continue to be high. Massachusetts and Rhode Island reported that despite challenges related to COVID-19, their industrial and water/wastewater cohorts continue to be quite engaged. Connecticut continued to ramp up engagement with industrial cohorts, although their activities related to hospitals have been put on hold. And Pennsylvania reported that although they do not yet have any SEM programs, they continue to provide guidance and training on SEM.				

Progress Toward Strategic Energy Management Outcomes	25%	50%	75%	100%
NEEP provides support to five regional programs around inclusion of 50001 Ready program as a tool in their SEM offering. **Progress Toward Outcome:** Through our SEM Collaborative and SEM webpage, NEEP provides support to existing regional SEM programs in Conn., Mass., N.H., N.Y., R.I., and Vermont. US DOE is invited to speak at every quarterly Collaborative meeting where they provide updates on the latest 50001 Ready tools and resources. NEEP encourages members to attend US DOE's 50001 Ready Network Series webinars, and is available to all regional programs to discuss and provide general information on current 50001 Ready activities.				

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:

After substantial momentum in the first quarter with eight states in the NEEP region having introduced or being close to appliance standards bill adoption, COVID-19 halted any further action for the immediate future. In six states (N.Y., D.C., Mass., Conn., Vermont, and R.I.), appliance standards legislative action for the current session is unlikely. Maine may have a summer session in which their appliance bill could be heard but will most likely contain substantial fiscal reductions. New Jersey appliance standards bill advocates continue to work with state legislators to introduce an appliance standards bill. NEEP expects to build off this important momentum when sessions reopen in the fall and winter. Tracking of the voluminous federal rulemaking for appliances is ongoing, with NEEP signing on to support heat pumps and water heater comments. Additionally, NEEP researched and consulted with state representatives in California and Washington to inform a paper that is currently being drafted on opportunities to proliferate the utilization of connected appliances and buildings through codes and standards.

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). **Progress Toward Outcome:** Seven states in the NEEP region (N.Y., D.C., Vermont, Mass., Maine, R.I., and Conn.) had bills pending either in committee or passed through states house of representatives heading to state senates. All adoption action is on hold due to COVID-19 for the foreseeable future.				
At least three Northeast states adopt new state appliance standards in 2020. **Progress Toward Outcome:** No Northeast states have adopted their appliance standards bills. COVID-19-related issues have completely taken over legislative action across the region. NEEP is hopeful one of two states can adopt by the end of the year.				
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 submitted comment letters to ENERGY STAR/US EPA in relation to their update of the air source heat pump criteria. Several stakeholders from across the region contributed to development of the comments. NEEP did not seek formal sign-on to the letters before submitting as timing did not allow.				