



NEEP 2022 Quarterly Report Quarter Three



Building Energy Codes and Appliance Standards

The NEEP region continues to lead the way with adoptions of the 2021 International Energy Conservation Code (IECC). New Jersey has adopted the 2021 code with an effective date of March 6, 2023 and Connecticut has adopted the code with an effective date of October 1, 2022. Other states in the NEEP region proceeding with adoption of 2021 IECC include Massachusetts, Vermont, Maine, Rhode Island, Delaware, Maryland, and the District of Columbia. West Virginia and New Hampshire adopted the 2018 IECC in 2022, with West Virginia's going into effect on August 1, 2022 and New Hampshire's on July 1, 2022. New York has decided to skip the 2021 IECC in favor of adopting the 2024 IECC when it becomes available. NEEP provided technical expertise by serving on the International Code Council (ICC) 2024 IECC Commercial Consensus Committee and Building Model Subcommittee to review proposals for inclusion in the 2024 IECC, which will be published in 2023. The first draft version of the 2024 commercial code was published in late September, and NEEP has assisted interested parties in understanding the new and updated provisions. NEEP will launch a 2024 IECC webpage and one-pager to summarize the 2024 changes in late 2022.

We continue to engage new states in using NEEP's [State Appliance Standards Database](#) (SASD) and toolkit to assist in the implementation of state standards. We are in active discussions with New York, Rhode Island, and the District of Columbia to join Massachusetts and New Jersey in signing on to utilize the database. We hope to include product listings for Maine and Connecticut in SASD in 2022 as well. NEEP collaborated with the Appliance Standards Awareness Project (ASAP) and United States Climate Alliance (USCA) in October to host a national coordinating call to move states toward adopting and implementing state appliance standards and to support federal standards rulemaking.

Convening regional and state code collaboratives remains an important part of NEEP's stakeholder engagement. These include the Maine Code Collaborative, the New Hampshire Code Collaborative, the Massachusetts Code Collaborative, and the Regional Codes Working Group. We continue to work with Massachusetts stakeholders to support development of the state's stretch code and specialized opt-in stretch code, final versions of which will be issued by December 2022.

NEEP hosted a webinar as part of the U.S. Department of Energy's (US DOE) [summer seminar series of the 2022 National Energy Codes Conference](#). The topic was [Taking Charge of Climate Change through Stretch Codes](#), with



speakers from forward-thinking jurisdictions including Washington, D.C., the town of Ithaca, New York, and Illinois – the latter of which was represented by the Midwest Energy Efficiency Alliance (MEEA).

NEEP released an update to our one-pager, [The Nexus of Energy Codes and Building Standards](#), including addition of an interview with staff at Washington D.C.’s Department of Energy & Environment (DOEE). Additionally, we published two summaries of our Energy-Zero Code – the [Massachusetts Commercial Energy-Zero \(E-Z\) Code Summary](#) and the [Massachusetts Residential Energy-Zero \(E-Z\) Code Summary](#). We also published a brief on [Air Regulations and Emissions from Appliances](#), examining the advantages of state energy offices working with state air regulators.

NEEP published two issues of the Codes and Standards newsletter, The Code Word. We also updated and reposted the online ArcGIS [codes tracker](#) and updated both our [appliance standards webpage](#) and the [main codes webpage](#).

Lastly, we continue to support New Castle County, Delaware toward their adoption of a stretch code. A public webinar and kick-off for the public stakeholder process is scheduled for the fourth quarter.

Progress Toward 2022 Outcomes	% Complete at Q3
<p>1. Four additional Northeast and Mid-Atlantic states adopt electrification/zero energy stretch codes (DE, MA, NY, RI); Two additional Northeast and Mid-Atlantic states adopt stretch codes (CT, NJ)</p> <p>Progress Toward Outcome: We are working with Delaware on options for a stretch code and are actively supporting New Castle County, Delaware to design, adopt, and implement their own stretch code. We look forward to working with New York and Rhode Island as they begin the process of updating their stretch codes. We are also in active conversations with New Jersey regarding development of a state stretch code in 2023. In Maryland, we are discussing development of building energy performance standards (BEPS) and an all-electric code, with possible additional topics on energy codes in the future. Lastly, we continue to support the Massachusetts Department of Energy Resources (MA DOER) as they work toward adoption of an updated stretch code and a municipal opt-in specialized code, both of which are expected to be finalized in late 2022.</p>	50%
<p>2. Municipalities in six states (CT, DE, MA, MD, NH, WV) adopt zero energy building codes</p> <p>Progress Toward Outcome: New Jersey adopted the 2021 IECC with an effective date of March 6, 2023 and Connecticut adopted the same code with an effective date of October 1, 2022. Maryland and Delaware are expected to begin the adoption process</p>	50%



Progress Toward 2022 Outcomes	% Complete at Q3
<p>of the 2021 IECC with strengthening amendments in 2022. Washington D.C., Vermont, Maryland, Delaware, and Maine are all in the process of adopting the 2021 IECC. New York has decided to skip the 2021 IECC and instead plans to adopt the 2024 IECC in 2023.</p>	
<p>3. Three additional states (CT, NH, PA) adopt code and standards attribution requirements and improve code compliance through workforce development, specifically code official retention and training</p> <p>Progress Toward Outcome: NEEP is laying the groundwork and securing funding to conduct a code compliance study in Pennsylvania and Delaware. We are also creating a new resource on attribution and claiming savings from appliance standards.</p>	30%
<p>4. Five states (CT, MD, NY, PA, VT) adopt appliance standards, and four (MA, ME, NJ, RI) implement adopted standards</p> <p>Progress Toward Outcome: New York adopted appliance standards through Assembly Bill A10439 and we began discussions with the New York State Energy Research and Development Authority (NYSERDA) to assist their use of SASD for compliance. New York joins New Jersey and Maryland in the adoption of standards in 2022. NEEP is actively working with Rhode Island, New Jersey, New York, Maryland, and Washington, D.C. as they begin their standards research, and we continue to support Massachusetts' implementation of standards.</p>	60%



Grid-Interactive Homes and Buildings

Grid interactive homes and buildings are a key complement to the region’s decarbonization efforts, enabling broad building electrification as well as helping to manage intermittent renewable power supply. In the near term, these homes and buildings are serving to reduce the need for expensive grid/pipeline infrastructure investments and prevent expensive summer spikes on the grid. Work toward this initiative in the third quarter reflected a shifting focus from grid-interactive technology deployment to highlighting the underlying policies that will support a more compelling value proposition for broad customer participation in grid-interactive activities, especially residential customers. In addition to updating a regional tracker of policy and program activity for the region, NEEP is developing a brief on advanced meter infrastructure (AMI) and its role in enabling flexible homes and businesses.

Progress Toward 2022 Outcomes	% Complete at Q3
<p>1. Three states consider adopting policies and regulations that identify grid-interactive homes and buildings as alternatives to investing in additional grid infrastructure build out (i.e., non-wires or non-pipes alternatives)</p> <p>Progress Toward Outcome: New York is rolling out a series of non-pipeline alternative projects throughout the state, many including grid-interactive buildings as a key solution.</p>	33%
<p>2. Three states offer incentive programs for grid-interactive appliances and equipment (including storage) with special consideration for overcoming equity barriers</p> <p>Progress Toward Outcome: Connected Solutions programs in Connecticut, Massachusetts, Rhode Island, and New Hampshire offer incentives for connected water heaters, electric vehicle (EV) chargers, and batteries.</p>	100%
<p>3. Three states launch grid-interactive homes and buildings demonstration projects</p> <p>Progress Toward Outcome: Three Connected Communities projects are set to launch in the region supported by US DOE funding in New York, Maine/New Hampshire, and Massachusetts.</p>	100%



Heating Electrification Market Transformation

NEEP's Heating Electrification initiative supported the market development of heat pumps in a number of impactful ways in the third quarter. The [cold climate air source heat pump \(ccASHP\) product list](#) continues to grow as a key market resource, with over 300 daily visits, as an increasing number of consumers and installers are using the list to effectively select systems appropriate for cold-climate applications. NEEP's [new sizing tool](#) is being leveraged to improve the sizing and selection of heat pumps by making performance data in the product list more actionable for installers. To effectively maximize performance of heat pumps, high performance systems must also be designed, sized, installed, and operated well. This new tool and other NEEP [supporting resources](#) contribute to this objective.

We are working closely with manufacturers to ensure a smooth transition to the new Version 4.0 of the [ccASHP specification](#), which coincides with other shifts in the industry's testing and rating methods. This new version was designed to provide continuity to the market during a time of change and uncertainty. Included are specifications for variable refrigerant flow (VRF) systems, appropriate for larger commercial applications.

NEEP leads a number of collaborative research projects aimed at advancing knowledge related to heating electrification technologies. The research includes a US DOE-funded VRF in-field performance validation study, as well as another study co-funded across eight organizations exploring opportunities to improve heat pump test procedures. The projects bring together organizations from across the region and country to advance these technologies. In both cases, the projects successfully collected in-field performance data for the cooling season.

On the water heating front, NEEP co-launched the Northeast Heat Pump Water Heater (HPWH) Alliance, a collaborative effort to drive both near-term and long-term adoption of HPWHs through enhanced program activities and designs. NEEP is partnering with the U.S. Environmental Protection Agency (US EPA)/ENERGY STAR, US DOE, ICF, D+R International, and others in bringing program administrators from around the region together to bring innovative enhancements to various markets.

Significant effort in the third quarter went toward planning for NEEP's annual [Heating Electrification Workshop](#), scheduled for October 19-20, 2022. This will be the ninth annual installment of this workshop, aimed at bringing together regional stakeholders to engage and collaborate on key strategies to drive market transformation of the heating, ventilation, and air conditioning (HVAC) industry.



Progress Toward 2022 Outcomes	% Complete at Q3
<p>1. Five new programs use NEEP’s ccASHP product list as a qualified products list (QPL) and product selection tool to help ensure high performance ASHPs are being selected by the market, and sized appropriately</p> <p>Progress Toward Outcome: PSEG and Jersey Central were two new programs to leverage the ccASHP product list in the third quarter.</p>	40%
<p>2. 30 percent increase in annual sales of residential-size ASHP systems across the NEEP region</p> <p>Progress Toward Outcome: The New York-New England region saw a 28% increase in sales of residential-size ASHP systems from 2020 to 2021.</p>	90%
<p>3. Regional heating electrification programs exceed their own 2022 goals for ASHP, VRF, GSHP and HPWH sales, with particular emphasis on surpassing their specific goals for LMI customers</p> <p>Progress Toward Outcome: NEEP is gathering data on program goals for these technologies to establish a baseline. We also support the successful implementation of these regional programs.</p>	Q4 Reporting
<p>4. Fifty regional stakeholders engage NEEP’s new regional Advanced Water Heating working group to establish highest priority regional market transformation strategies</p> <p>Progress Toward Outcome: NEEP – in partnership with US EPA/ENERGY STAR, US DOE, ICF, and D+R International – convened a group of 45 regional program administrators to kick off the Northeast HPWH Alliance project. The project aims to assist regional programs in identifying and implementing enhancements to their HPWH program offerings.</p>	90%



Public Policy and Programs

NEEP tracks, analyzes, and aids in the implementation of policies that pursue building electrification across the Northeast region. In addition to this work, in the third quarter NEEP released the [Centering Equity with Metrics report](#) and [webpage](#), researched and wrote portions of the West Virginia State Energy Plan, contributed to Connecticut’s Comprehensive Energy Strategy Planning, and assisted Delaware in the redesign of a program that prioritizes installation of heat pumps for low-income residents across the state.

The [Centering Equity with Metrics](#) report breaks down the energy efficiency evaluation, measurement, and verification (EM&V) process into steps that states can follow to center equity: starting an equity advisory group, conducting an equity gap analysis, adjusting the cost-benefit analysis, and tracking metrics, goals, and performance incentives. Each step discusses why it is important to include considerations of equity, highlights how policymakers can start the process in their jurisdiction, and provides examples of states where these policies are already in action. The report was informed by a survey on metrics that went out to advocates, program implementers, and government staff. It is available as a full report or in sections that allow you to access only the information and resources needed. Additionally, NEEP hosted a [Ready, Set, Scale webinar on Metrics for Equity](#). The webinar featured a presentation of the report, and panelists from Vermont and Connecticut discussed how each state used tools in the report to center equity in their energy efficiency programs. Finally, the report was featured on the [ProGov21 podcast](#) released in August.

NEEP published six policy-related blogs in the third quarter. Two of the blogs highlighted climate legislation in the region from Maryland ([Ravens Fly High, Setting one of the Most Ambitious Climate Targets in the Nation](#)) and Massachusetts ([Massachusetts Continues to Lead in Climate Action](#)). Three looked at policies on the national level. One of these examined the Supreme Court case – West Virginia v. EPA – and its impacts on building electrification policies ([What West Virginia vs. EPA means for Decarbonization Policy](#)). Another discussed the upcoming deadline for state energy plans under the Bipartisan Infrastructure Law ([Billing it In: New Guidance for State Energy Programs](#)). The third provided an overview the energy efficiency executive orders and legislation that passed over the summer ([Hot Efficiency Summer: An Overview of Federal Legislation](#)). Lastly, we published an EM&V-focused blog on how to determine the social cost of carbon for cost-benefit analysis ([Turning Policy Into Performance: Determining the Cost of Carbon](#)).

NEEP tracks regulatory proceedings and participates in state-run working groups to advance decarbonization policies throughout the region. In the third quarter, we submitted comments to Connecticut on the Department of Energy and Environmental Protection’s (CT DEEP) Comprehensive Energy Strategy (CES) proceedings and



organized presentations to highlight policies that could help the state accelerate building electrification, including those related to heat pumps, stretch codes, and workforce training. We are also tracking the Performance Based Rates Proceeding in Connecticut. Both of these processes will be continuing through stakeholder meeting groups and proceedings throughout the year.

NEEP provided direct technical assistance to Delaware and West Virginia in the third quarter. In Delaware, we assisted the Division of Climate, Coastal, and Energy (DCCE) modify the Replacing, Repairing Heaters and Conserving Energy (RRHACE) programs to direct contractors to install electric equipment and discontinue the current practice of replacing combustion furnaces with another combustion furnace. NEEP made suggestions for the RRHACE statement of work (SOW) and provided additional suggestions and considerations, such as weatherizing the home and ensuring a properly trained workforce. In West Virginia, we were the lead for development of the state's Energy Plan. The team convened an advisory group, researched, identified recommendations, and wrote sections of the plan. Specifically, NEEP highlighted goals for the state to pursue around energy efficiency, weatherization, codes, appliance standards, and workforce in the state. NEEP will be holding public meetings on the plan and finalizing it in the fourth quarter.

We also secured multi-year funding for the [Regional Energy Efficiency Database \(REED\)](#), an ongoing NEEP project since 2011. We began this year's REED data collection process, which will collect key energy efficiency program metrics for program year 2020 (and 2021 where available) across the NEEP region, to be made publicly available by the first quarter of 2023. REED currently includes energy efficiency program results through program year 2019 in the form of an Excel-based Master REED Workbook (with program savings and expenditures) and a [REED Supporting Information](#) report). Additionally, NEEP began a multi-year partnership with the Association of Energy Services Professionals (AESP) on a BENEFIT Grant project with the US DOE to develop a series of accredited online courses focused on new grid-interactive energy technologies, also commonly referred to as demand flexible loads. NEEP's initial tasks included issuing a Call for Subject Matter Experts (SMEs) to our contacts who may be able to make a valuable contribution to this project, and promoting an AESP survey designed to help inform the project's approach to course content and delivery.

In addition to these deliverables, NEEP continues to engage with state-level advocates throughout the region by attending meetings in Connecticut, Maryland, New York, and New Jersey. We attend regional meetings throughout New England where policies and priorities are discussed, including in Massachusetts, Connecticut, Rhode Island, Vermont, New Hampshire, and Maine. Finally, we continue to track bills across the region with our [legislative web tracker](#) that also includes legislation from the past three years. The tracker is updated weekly and highlights are shared with NEEP's Allies network via the Allies newsletter. NEEP follows new bills closely to identify key target areas and trends, with an emphasis on climate goals and roadmaps, workforce development, equity, and building codes and standards.



Progress Toward 2022 Outcomes	% Complete at Q3
<p>1. Three states (Maine, Maryland, Vermont) adopt a regulatory policy to use a Total Systems Benefit metric or similar measurement that considers real-time energy generation and use for energy efficiency and/or grid planning</p> <p>Progress Toward Outcome: This outcome remains at 0% because no state regulatory agency had adopted the Total Systems Benefit metric or considered adoption of a similar metric that breaks down energy usage by the hour. NEEP is monitoring opportunities where the total system benefit metric could be considered in states across the region. Below are the states and proceedings that we are tracking:</p> <ul style="list-style-type: none"> • New York has opened an Interim Review concerning their energy efficiency programs. This review is intended to provide an opportunity to assess progress to date and consider modifications that will improve the management of the portfolios, increase the effectiveness of the programs, and ensure alignment with evolving state policies. For energy efficiency programs, the review will assess all meaningful aspects of program design and administration, innovation, government oversight, and adjustments to targets and budgets. • Connecticut is preparing a new Comprehensive Energy Strategy, which examines future energy needs in the state and identifies opportunities to reduce costs for ratepayers, ensure reliable energy, and mitigate the public health and environmental impacts of Connecticut’s energy use. • Massachusetts in their Grid Modernization Docket has considered Time Varying Rates. The total system benefit metric can help to implement this policy and other policies that look at hourly energy generation and conservation costs. 	<p>0%</p>
<p>2. Three states (Connecticut, Maryland, Massachusetts) embed additional climate and equity considerations in energy efficiency policies, with metrics tied to performance – i.e. GHG goals/tracking metrics, approaches to cost-benefit analysis</p> <p>Progress Toward Outcome: NEEP assisted Delaware to expand access to beneficial electrification of equipment through changing the requirements for its low-income heater replacement program. This change did not include metrics tied to performance, but it did embed both equity and climate considerations into the program.</p>	<p>110%</p>



Progress Toward 2022 Outcomes	% Complete at Q3
<p>Previous progress toward this goal was achieved when:</p> <ul style="list-style-type: none"> • Massachusetts released its energy efficiency plans in January. They included additional tracking metrics and a performance incentive tied to equity. • Maryland released the order for their 2024 energy efficiency plans, and NEEP was part of the public workgroup for the plans. The plans included the social cost of carbon and an adder for low-income and health and safety benefits to the cost effectiveness test. They also approved a greenhouse gas emission goal for the portfolio with a carve-out for low-income savings. • Connecticut DEEP approved the state’s energy efficiency plans and mandated that additional climate and equity considerations be a part of the plan. These changes included: development of a Comprehensive Strategic Plan to Address Barriers to Heat Pump Deployment, creation of a new Connecticut Efficiency Test (CTET) that includes metrics to capture greenhouse gas (GHG) emissions and other utility system benefits including reduced arrearages, review of the definition of “equitable distribution,” creation of a statewide definition of weatherization, transition to only all-electric new construction programs by 2023, and investigation into the continuation of natural gas incentives. 	
<p>3. Three states (Maine, Massachusetts, Vermont) advance beneficial electrification policies for implementation by the regulatory agency over electric and/or gas utilities</p> <p>Progress Toward Outcome: Progress toward this goal is unchanged from the second quarter. NEEP is monitoring and participating in regulatory proceedings that can advance beneficial electrification policies. These proceedings include the Massachusetts Commission on Clean Heat and New Jersey Clean Buildings Working Group.</p> <p>Previous progress toward this goal was achieved when:</p> <ul style="list-style-type: none"> • In Connecticut, CT DEEP started initiatives to advance beneficial electrification. These included a standard definition for weatherization, development of a Comprehensive Strategic Plan to Address Barriers to Heat Pump Deployment, transition to only all-electric new construction programs by 2023, and investigation into the continuation of natural gas incentives. • In Massachusetts, the MA DPU approved Mass Save energy efficiency programs that prioritize beneficial electrification. The state increased incentives and deployment for heat pumps. It is also focusing workforce efforts 	<p>66%</p>



Progress Toward 2022 Outcomes	% Complete at Q3
<p>on heating electrification to ensure contractors can serve the new market. Additionally, the DPU has mandated that all homes that receive a heat pump system also receive weatherization within six months of installation. The DPU has also aligned performance incentives with the state’s electrification goals, creating an incentive that is tied to program administrators installing heat pumps with weatherization.</p>	
<p>4. Three states (Connecticut, Massachusetts, New York) set long-term grid planning policies that prioritize energy efficiency and other demand side resources over the expansion of pipes and wires infrastructure</p> <p>Progress Toward Outcome: Progress toward this goal is unchanged from the second quarter, but NEEP is watching many states in the region that have opened dockets on grid planning and/or the future of natural gas, as it will likely be in these proceedings that we will see this goal met. Below is an outline of current proceedings we are tracking:</p> <ul style="list-style-type: none"> • New York Public Service Commission (NY PSC) initiated a docket on Gas Planning Procedures in March 2020 and issued a Gas System Planning Proposal in February 2021. The Commission has not yet issued a decision. • In October 2020, the Massachusetts Department of Public Utilities (MA DPU) initiated the Future of Gas docket. The independent consultants report was released on March 18, 2022. It presents eight pathways to decarbonization and six regulatory design recommendations. The DPU has not issued a decision in the proceeding yet. • The Rhode Island Public Utilities Commission (RI PUC) has opened a docket to investigate the effect of the 2021 Act on Climate on the regulated gas distribution system in Rhode Island. This proceeding will include a stakeholder process that identifies goals for the future of the gas system in light of the Act on Climate Law, identify or update principles for ratemaking and regulation, and develop a scope for a report on the future of gas distribution business operations. • Connecticut is updating its Comprehensive Energy Strategy (CES). <p>Previous progress toward this goal was achieved when Connecticut released a decision in the Future of Gas Expansion docket that stops all expansion of natural gas in the state and conversion of homes to natural gas. As justification for winding down the program,</p>	<p>30%</p>



Progress Toward 2022 Outcomes	% Complete at Q3
<p>regulators cited the fact that companies have not been able to meet the program goals, gas prices have nearly tripled in the state, and Connecticut’s new climate goals do not align with increasing gas expansion. Connecticut is also starting a Performance Based Rates discussion that will tackle how to transform utility rates in the state to incentivize investment in programs that further state goals, including energy efficiency and demand-side resources.</p>	



Retrofit Models

NEEP’s Retrofit Models project focuses on engaging stakeholders and developing resources that advance whole-home deep energy retrofit projects and programs across the region. Through this program area, NEEP works on discrete projects, including Total Energy Pathways (TEP), TEP Workforce, NYSERDA’s Stacked Efficiency and Electrification Pilot, and tracks other related efforts to advance a regional dialogue on the topic of whole-home retrofits.

TEP bundles together weatherization, energy efficiency, electrification, and renewable energy upgrades into one comprehensive retrofit project. The TEP model seeks to streamline the retrofit process, achieve deeper levels of carbon reductions, and make projects more attractive to contractors. In the third quarter, two more TEP projects were completed and another three were enrolled into the program. Although this project is currently only available in Vermont, we are working to bring lessons learned from this model to other states as a carbon reduction solution for homes.

NEEP has contributed to the development of New York’s Stacked Efficiency and Electrification Pilot (SEEP) Framework. NEEP leads the SEEP Framework Working Group’s monthly meetings and weekly coordination calls. In the third quarter, the group focused on compiling the knowledge of six working group meetings and over 30 one-on-one interviews into a comprehensive framework document. Sections of the framework include an assessment of program impacts, metrics, financing mechanisms, and more. A draft is expected to be made public in late 2022. During NYSERDA’s Residential Marketing Advisory Group meeting, NEEP, along with two other members of the SEEP team, presented the framework to the group. The meeting produced significant interest from stakeholders indicating a strong desire to have whole-home programs implemented throughout the state.

We have been using our direct experience with TEP and SEEP to compile best practices, lessons learned, and common barriers to scaling whole-home retrofit models. [This blog post](#) identifies some of the key findings that will inform our work in 2023.

A major component of these whole-home programs is ensuring there is a trained workforce to take on these projects. NEEP continues to address this challenge through the Total Energy Pathways Workforce Development project. This project will grow and diversify the energy efficiency field by developing a BPI certificate program and an online resource center hosted on the NEEP website. The project focuses specifically on outreach to women and BIPOC stakeholders to diversify the growing workforce. This quarter, NEEP began to focus on the development of resources for employers and trade organizations, as well as training modules that will accompany the BPI



certificate. These modules will help prepare interested participants to take the test, as well as provide more structured educational resources to those not pursuing the certificate. The eight modules will correlate to the eight Knowledge and Skills Assessment Domains identified in the second quarter. Collaborating with our project partners – Building Performance Association (BPA), Energy Futures Group (EFG), and Building Performance Institute (BPI) – has been critical to better understanding best practices for the delivery of training modules and locating content that can be leveraged. The first module will be “Understanding Building Science and Whole-Building Concepts.”

In addition to the monthly project meetings, NEEP hosts a quarterly TEP Workforce Project Advisory Committee (PAC). At the PAC’s September 8 meeting, we updated the group on progress of the online resource center, the resources for employers, and new training modules. PAC members offered suggestions on modes of communication for the resources and modules. There was discussion of possible use of a Learning Management System (LMS). It was also raised that although this certificate has a national scope, questions must be crafted with awareness of regional differences, e.g., climate.

Progress Toward 2022 Outcomes	% Complete at Q3
<p>1. Two energy efficiency programs launch new whole-home/small commercial deep retrofit offerings</p> <p>Progress Toward Outcome: In addition to the Massachusetts program that launched earlier this year, New Jersey’s Board of Public Utilities (NJ BPU) launched the Whole House Pilot Program in the city of Trenton. The pilot uses a single point of contact method that braids together funding from state, local, federal, and non-profit programs to target health and safety issues as well as improve the energy efficiency of the house. Trenton was chosen for the pilot because it ranks among the top municipalities in terms of older housing stock and high household energy burden among low-income residents, childhood lead poisoning, and asthma emergency department visit rates.</p>	100%
<p>2. Two states or jurisdictions launch whole-home energy efficiency and decarbonization programs</p> <p>Progress Toward Outcome: Earlier this year, two new programs were launched in Massachusetts and Connecticut. In the third quarter, there was additional progress related to whole-home decarbonization programs. In New York, NEEP continued work with NYSERDA on the Stacked Efficiency and Electrification Pilot. The draft framework was compiled, with a public release anticipated in the fourth quarter. The framework will enable any interested program administrator to develop a successful whole-home decarbonization retrofit program for their territory. Additionally, Pennsylvania passed</p>	100%



Progress Toward 2022 Outcomes	% Complete at Q3
<p>Senate Bill SB 1135 into law. This bill apportioned \$125 million from the American Rescue Plan federal funding to create the Whole Home Repairs Program. The program will offer \$50,000 grants to homeowners to repair, update, and adapt their homes. It also focuses on training and apprenticeship programs to build the local workforce. Guidelines for the program are currently being developed and it is expected to open in 2023.</p>	
<p>3. Three retrofit programs consider equity goals and/or financing solutions for income eligible households and business and/or targeted communities</p> <p>Progress Toward Outcome: New Jersey’s Board of Public Utilities joined Massachusetts and Connecticut by launching the Whole House Pilot Program in the city of Trenton. The pilot will target low-income residents and homes with high household energy burdens. The city of Trenton was selected to run the pilot because it ranks among the top municipalities in terms of older housing stock and high household energy burden among low-income residents, childhood lead poisoning, and asthma emergency department visit rates.</p>	100%



Solutions for Low-Carbon States and Communities

NEEP continued active stakeholder engagement processes and resource development activities for the Solutions for Low-Carbon States and Communities project in the third quarter. The project team returned to NEEP's [Ready, Set, Scale webinar series](#) in September, delivering a webinar on strategies for community heating electrification. The intention of this webinar was to share insights from community-driven programs that increase access to building upgrades and retrofit projects for homes. Panelists shared insights, primarily from work in New York and Massachusetts, about the importance of engaging residents and crafting holistic programs that lead to equitable outcomes.

NEEP hosted the second and third meeting of the Community Residential Energy Labeling Cohort for municipal government staff and volunteers who have identified home energy labeling as a priority. The cohort model enables peer-to-peer exchange and more rapid market transformation by bringing together multiple communities and other topical experts that can help communities adopt labeling programs. During the third quarter, meetings focused on defining the community's goals and priorities and on choosing a specific label. The group heard from three presenters, with two NEEP staff members, a legal expert, and a realtor on the call to add to the discussion. The group will meet two or three more times in 2022, dependent upon stakeholder needs. Additionally, Montpelier, Vermont began mandatory compliance for their time-of-listing labeling ordinance and the Vermont Home Energy Profile Advisory Committee met to discuss enforcement and tracking.

NEEP is also working with stakeholders on policies that address existing commercial buildings through benchmarking and Building Performance Standards (BPS) initiatives. NEEP has been creating resources and providing technical assistance to interested states and communities. Those engaged in the third quarter included the towns of Lexington and Cambridge, Massachusetts and the states of West Virginia and Maryland. Maryland, which passed statewide benchmarking and BPS legislation in April, is now creating the program's regulations. NEEP provides support to the state by coordinating and facilitating meetings, conducting research, and providing recommendations for the regulations. NEEP is creating a brief focused on centering equity within BPS regulations, which will be shaped by the regulation development process in Maryland and will be published early in the fourth quarter. We also released a standalone webpage called the [Center for Building Performance Standards](#), which compiles and promote BPS-related resources from across the internet. This new website provides guidance to policy makers and program designers, as well as building owners and contractors, and will continue to be built out in the future.



NEEP also published the first two resources in a series on new [federal funding](#) made available by the Infrastructure Investment and Jobs Act (IIJA), or Bipartisan Infrastructure Law (BIL). We published briefs on schools- and communities-focused guidance, detailing priority actions and the associated funding streams that could be used. We also collaborated with stakeholders across the region to develop an additional BIL resource specifically for rural communities, focused on building capacity and taking advantage of rural-specific grants. This rural-specific brief will be published in the fourth quarter.

NEEP's efforts on building energy rating include the development of software tools that help facilitate these programs. We are currently working on four such projects: The Home Energy Labeling Information eXchange (HELIX), the Energy Estimator, Remotely, and the Building Energy Analysis Manager (BEAM):

- **HELIX:** A database to house and track energy labels, HELIX has been updated with additional home energy labels, certifications, and solar PV records. NEEP and ClearlyEnergy continued to work with Cape Cod MLS and SmartMLS to advance integration with HELIX. Cape Cod MLS is expected to have full integration by October 2022. As a part of this project, NEEP also offers and supports trainings on the tools. Finally, members of the team met with state partners who use the tool to gather feedback to inform 2023 planning.
- **Remotely:** The Remotely project is funded by NYSERDA to scale up home energy audits and retrofit projects throughout the state of New York. This quarter, the team developed a new version of the Remotely App, which was approved by the Apple App Store in July. The new app provides additional guidance to users as they conduct their home walkthroughs. NEEP hosted several meetings with interested stakeholders to share information about Remotely and promote its usage across the state. The overarching goal of this project is to streamline the entire retrofit process from the initial energy audit process through the actual implementation of energy savings measures. The tool is viewed as a potential business development opportunity for home performance contractors.
- **BEAM:** BEAM is a database platform that facilitates compliance tracking and communication necessary for implementing a building performance standard. In the third quarter, NEEP engaged with a number of jurisdictions interested in BEAM and provided demos to Lexington and Newton, Massachusetts and the state of West Virginia. West Virginia signed an MOU to use BEAM for their statewide benchmarking program. The team has also been communicating with a number of new interested parties, particularly in smaller jurisdictions such as Bedford, New York. NEEP updated the tool to provide jurisdictions the ability to model building emissions and create optimization roadmaps. The BEAM Advisory Committee convened in September and discussed tool updates, the newly launched [Center for Building Performance Standards](#), and plans for a NEEP implementation guide resource. Additionally NEEP convened the other regional energy efficiency organizations (REEOs) SWEEP, MEEA, and SEEA to collaborate on BEAM promotion in regions outside of NEEP's territory.



Progress Toward 2022 Outcomes	% Complete at Q3
<p>1. Seven additional jurisdictions develop innovative strategies to reduce carbon emissions, such as zoning requirements, zero energy/decarbonization planning, and zero energy schools</p> <p>Progress Toward Outcome: NEEP completed a project with the town of Jamestown, Rhode Island to develop a comprehensive energy plan. We solicited input from an advisory committee and are seeking town-council approval of the plan in the fourth quarter. In Massachusetts, 12 communities have signaled their intent to participate in the state’s pilot program that would allow each jurisdiction to ban fossil fuels from new construction projects. MA DOER is only accepting 10 participants in this pilot program, which is likely to draw interest from additional communities in the coming weeks. In West Virginia, we worked with the State Energy Office and other partners to draft a new State Energy Plan. NEEP is providing support to the state to ensure the plan is completed this year and will assist with public engagement sessions in the fourth quarter. The State Energy Plan will provide a framework for action that the state government can implement related to energy efficiency, workforce development, and more. Charleston, West Virginia completed its first round of building energy benchmarking for the city’s public buildings in the second quarter, and is now developing an action plan to meet the city’s 20% reduction goal.</p>	75%
<p>2. Three additional jurisdictions adopt home energy labeling and retrofit policies and programs to improve the energy efficiency of existing homes</p> <p>Progress Toward Outcome: NEEP continued conversations with Bedford, New York, discussing how BEAM could be useful in the implementation of their rental inspection and energy use disclosure ordinance. A volunteer and two city staff members in Keene, New Hampshire have expressed strong interest in following Vermont/Montpelier in a voluntary labeling program using Energy Estimator to create home energy profiles. NEEP worked with them and ClearlyEnergy to discuss the feasibility and process of pursuing this. In August, the Community Residential Energy Labeling Cohort met for the third time, with a presentation from an expert on various label options and the pros and cons of each. Staff followed up with several towns who expressed interest in pursuing specific label/program options. This cohort approach allows NEEP to have a greater impact in its technical assistance by advancing labeling at an accelerated pace.</p>	50%



Progress Toward 2022 Outcomes	% Complete at Q3
<p>3. Three additional jurisdictions adopt policies for existing commercial buildings including benchmarking and building performance standards</p> <p>Progress Toward Outcome: NEEP has been guiding the creation of Maryland’s BPS regulations by facilitating weekly calls, determining agendas and priorities, and performing research. NEEP’s work will continue through the end of 2022. Maryland committed to creating a BPS in April with the passage of the Climate Solutions Now Act of 2022. Lexington, Massachusetts, which passed a benchmarking bylaw based on Boston’s 2014 BERDO 1.0 ordinance in early April, has been on-boarded to the BEAM platform. We will remain engaged with Lexington on the implementation of the new policy. NEEP is supporting Newton, Mass., as they seek to pass a joint benchmarking and building performance standard policy. Cambridge, Mass. is in the process of advancing their building performance standard legislation through city council, which will hopefully occur later this year.</p>	100%