NEEP 2023 Quarterly Report
Quarter 1

Building Energy Codes and Appliance Standards

Adoption of the 2021 International Energy Conservation Code (IECC) is firmly underway throughout the NEEP region. Connecticut already adopted the 2021 IECC in 2022 with an effective date of October 1, 2022. New Jersey adopted the 2021 IECC on September 6, 2022 and this took effect on March 6, 2023. These states are expected to follow: Massachusetts, Vermont, Maine, Rhode Island, Delaware, Maryland, and the District of Columbia. The 2018 IECC took effect in 2022 in West Virginia and New Hampshire. New York has decided to skip the 2021 IECC in favor of adopting the 2024 IECC when it becomes available.

Convening regional and state code collaboratives remains an important part of NEEP's stakeholder engagement. These include the Maine Code Collaborative, expansion of the New Hampshire Code Collaborative, the Massachusetts Net Zero Building Coalition, and Technical Subcommittee, and the Regional Codes Working Group. NEEP facilitates monthly calls with all of the Regional Energy Efficiency Organizations (REEOs) to share information, trends, and lessons learned across regions. NEEP continues to provide direct technical assistance to NEEP region states.

NEEP has been driving forward adoption of the 2021 IECC in these states:

- NEEP facilitates the Massachusetts Net Zero Buildings Coalition (MA NZB). NEEP utilizes its technical knowledge to produce resources explaining the benefits of Stretch and Municipal Opt-In Specialized Stretch Code adoption. This quarter, these resources include: 2023 Updated MA Commercial Stretch Code Summary and 2023 Updated MA Residential Stretch Code Summary. In coordination with the MA NZB, NEEP released The Massachusetts Voters Guide to the Municipal Opt-In Specialized Code. NEEP worked with the MA NZB Coalition's Technical Committee to point out inconsistencies in the TEDI (Thermal Energy Demand Intensity) metrics for energy models and continues working with MA DOER to find possible solutions.
- Maine is continuing to focus on adopting the 2021 IECC as base code and bypassing the 2018 IECC. NEEP staff serves on the Maine Uniform Building and Energy Code (MUBEC) Energy Code Technical Advisory Group (TAG). NEEP has also been discussing options for the new stretch code through its presence on the Energy TAG, and through facilitation of the Maine Energy Code Collaborative. Currently, the Energy TAG is working through a residential stretch energy code based on the 2021 IECC with proposed strengthening amendments with some elements of the 2024 IECC which is still under development.

- Delaware is working on a zero-energy-code-ready initiative per the Governor's executive order; NEEP will assist the state in creating the policy. Delaware is also considering adopting the 2021 IECC but is getting pushback from builders. NEEP is actively advising New Castle County on how to move forward with becoming net zero ready by 2025 for residential buildings and 2030 for commercial buildings, and on other technical provisions using new building codes or ordinances.
- NEEP continues to coordinate the New Jersey Zero Energy Buildings Roadmap Initiative. The New Jersey Roadmap is directly referenced in Executive Order No. 315 (2023), signed on February 15, 2023, by Governor Philip Murphy. To date, we have prepared the NJ Zero Energy Buildings Roadmap Initiative Report, which is currently being approved internally before submission to the NJ Board of Public Utilities and Rutgers University in Q2 2023. NEEP formally addressed comments on the Roadmap from the Department of Community Affairs (DCA) and is currently reviewing latest comments. We will convene the New Jersey Energy Code Collaborative in Q2 2023 to begin developing a timeline to complete the actions listed in the Roadmap.

NEEP has been deploying staff in person to counter efforts to introduce weakening amendments to the 2021 IECC in these states:

- A NEEP staff member traveled to Maryland to read a statement encouraging nonamended adoption of the 2021 IECC and explain arguments against several proposed weakening amendments.
- A NEEP staff member attended an in-person meeting of the New Hampshire Building Code Review Board (BCRB) subcommittee on April 14th to provide clarifications to provisions where opposition is based on misconceptions. Proposed amendments are slated to be shared with the Building Code Review Board in May 2023, and a public hearing for the 2021 IECC is currently scheduled for June 2023.

NEEP's State Appliance Standard Database (SASD) is the most comprehensive appliance standards database worldwide. Massachusetts is fully utilizing SASD as of January 1, 2023, and other states (DC, RI, NY, NJ, MD) will follow this year. Colorado's bill HB23-1161 cites use of SASD in Section 6. NEEP is working with partners ASAP (Appliance Standards Awareness Project) and the US EPA (Environmental Protection Agency) to develop a methodology to inform manufacturers about standards updates. Additionally, NEEP will continue to build out the SASD toolbox this year.

This quarter NEEP continued the publication of the Codes and Standards newsletter, The Code Word. NEEP also updated and reposted the online ArcGIS codes tracker and updated both the appliance standards page and the main codes webpage. NEEP also published a resource on Operational Carbon in Building Energy Codes.

NEEP continues work on Remote Virtual Inspections (RVI) and Off-Site Construction. This quarter new resources for RVI included Best Practices for Remote Virtual Inspections and Graphic Checklist for Remote Virtual Inspections, a graphic to promote the use of a new RVI protocol method developed by the International Code

Council (ICC), with input from NEEP. This project will culminate with "Expanding Building Inspections: RVI and Off-Site Construction," a webinar in Q2 as part of NEEP's Ready, Set, Scale series.

NEEP is committed to integrating DEIJ (Diversity, Equity, Inclusion, and Justice) in all aspects of our work, and we recognize that the work we do is more than just reducing energy consumption. Energy efficiency can serve as a foundation for a just and equitable transition to a clean energy future by reducing the energy cost burden, creating safe homes and buildings, investing in local communities, improving public health, generating sustained economic growth with good paying jobs, and creating opportunities to undo past injustices in the energy, housing, and environmental sectors. As we embed diversity, equity, inclusion, and justice in our core values and organizational culture, we are confident that we will generate deeper and more varied insights that we can apply to our work. We have made commitments to DEIJ throughout our organization, and staff members of the Codes and Standards team serve on the NEEP DEIJ working group to further embed core principles throughout our work.

Progress Toward 2023 Outcomes	% Complete at Q1
1. Five states (Delaware, District of Columbia, Maine, Massachusetts, New Jersey, New York, Rhode Island, Vermont) and two municipalities (New Castle County, DE; Montgomery County, MD) adopt beyond-base code measures. **Progress Toward Outcome:** Massachusetts' Updated Stretch Energy Code took effect starting on January 1, 2023 for residential buildings, and will take effect on July 1, 2023 for commercial buildings for designated green communities. The Municipal Opt-in Specialized Code became available for consideration and adoption starting on January 1, 2023. To date, the Municipal Opt-In Specialized Code was voted unanimously or near-unanimously in Newton, Watertown, Cambridge, Somerville, Lincoln, Lexington, Brookline, and was just passed in Boston, representing 16% of the State's population. Another 24 communities (so far) are expected to pass the Specialized Code this year - mostly this Spring - bringing the total to over 21% of the State's population. We continue to facilitate the Massachusetts Net Zero Building Coalition and Technical Subcommittee, and to meet with the Massachusetts Department of Energy Resources (DOER) to fine-tune their technical guidance. NEEP staff serve on the Maine Energy TAG, which makes recommendations to the Maine Uniform Building and Energy Code (MUBEC) Technical Codes and Standards Board on amendments to the MUBEC. The Maine Energy TAG has been meeting frequently to discuss upgrades for the next cycle of the Maine Stretch Code. Currently	35%

Progress Toward 2023 Outcomes	% Complete at Q1
under discussion is a residential stretch code based on the 2021 IECC with strengthening amendments from the yet to be finalized 2024 IECC. New Jersey's adoption of an unamended 2021 IECC and an unamended ASHRAE 90.1-2019 took effect March 6, 2023. NEEP has created a NJ Zero Energy Roadmap and is convening a statewide code collaborative to implement the roadmap toward zero energy codes in the state by 2023. The New Jersey Roadmap is directly referenced in Executive Order No. 315 (2023), signed on February 15, 2023, by Governor Philip Murphy. The Secretary of State of Vermont officially accepted the filings for the Residential Building Energy Standards and Commercial Building Energy Standards. These will take effect in late 2023. The code has provisions related to embodied carbon in insulation materials and is the first energy code in the region to consider the impact of global warming potential. We are working with Delaware on options for a stretch code and are actively helping New Castle County, Delaware design, adopt, and implement their own stretch code.	
2. Five states (Connecticut, Delaware, Maine, Pennsylvania, West Virginia) improve code compliance through workforce development, specifically code official training, retention, and diversification. **Progress Toward Outcome:** NEEP is working with Maine on two workforce projects, including paid internships and wraparound services.	10%
3. Four states (Connecticut, Maryland, New Hampshire, Pennsylvania, Vermont) adopt code and appliance standards attribution initiatives. **Progress Toward Outcome:** NEEP is working with Maryland to include attribution initiatives with their draft appliance standards, which will become effective January 1, 2024.	5%

4. Three states (Connecticut, Delaware, New Hampshire, Pennsylvania, Vermont) adopt appliance standards, four (District of Columbia, Massachusetts, New Jersey, New York, Rhode Island) implement adopted standards, and two (Connecticut, Maryland, Massachusetts, New Jersey, New York) adopt air regulations NOx for appliance standards. **Progress Toward Outcome:** This quarter, New Jersey and New York have signed onto SASD and have listed their provisional standards. Rhode Island and Massachusetts have implemented their adopted standards, New York's become effective June 2023 and Maryland and New Jersey's become effective January 1, 2024. District of Columbia has expressed interest in adopting air regulation NOx standards for appliances and New York has the ability to do so through rule-making, so we expect them to start working on a NOx standard this year. As of Q1, the only state that may have appliance standard legislation is Pennsylvania.	35%
5. Three states (Maryland, Massachusetts, New Jersey, Rhode Island) implement Remote Virtual Inspection. **Progress Toward Outcome:** This quarter new resources for RVI included Best Practices for Remote Virtual Inspections and Graphic Checklist for Remote Virtual Inspections. NEEP will hold a Q2 webinar titled "Expanding Building Inspections: RVI and Off-Site Construction."	10%

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.

In Q1 of 2023, NEEP began the pivot of focusing GIHBs on policy initiatives through releasing a brief and hosting a webinar. As part of the Federal Funding Resources Center, NEEP produced a brief on how to implement grid interactive homes and buildings (GIHBs) or virtual power plant programs using Inflation Reduction Act (IRA) funds. NEEP also held a webinar on Demystifying Measured Programs to present an opportunity for states in the Northeast and Mid-Atlantic to learn more about how measured programs allow states to invest in grid-interactive measures. Finally, NEEP has also updated the GIHBs program tracker and has the resource available for stakeholders upon request.

Across the region, NEEP is continuing to monitor opportunities to advance Grid-Interactive Resources as part of energy efficiency programs and other building decarbonization efforts.

2023 Grid-Interactive Homes and Buildings Outcomes *Note year-to-date progress toward each Outcome below*	**% Progress Toward Outcome**
1. Two state regulatory agencies (New Jersey, New York, Vermont) modify cost-benefit analysis for energy efficiency and/or grid planning to measure the value of real-time energy generation and use, such as adopting a Total Systems Benefit metric or similar measurement. **Progress Toward Outcome:** No regulatory proceedings have occurred yet concerning cost-benefit analysis in these states. New Jersey is currently going through a planning process for their next round of energy efficiency programs. The benefit-cost test will be discussed in Q2.	*% at Q1* 0%

2. Two utilities or program administrators (New Jersey, Vermont) design incentive programs for grid-interactive appliances and equipment with specific consideration for overcoming equity barriers. **Progress Toward Outcome:** New Jersey has released the framework for program implementation for their next round of energy efficiency programs. The state is considering requiring statewide demand response programs. NEEP will continue to monitor the stakeholder process and provide technical assistance to encourage the state to consider equity barriers in designing these programs.	*% at Q1* 0%
3. Two state regulatory agencies (Massachusetts, New Jersey) create statewide frameworks to accelerate adoption of GIHBs technologies. **Progress Toward Outcome:** New Jersey has released the framework for program implementation for their next round of energy efficiency programs. The state is considering requiring statewide demand response programs as part of their programs. NEEP will continue to monitor the stakeholder process and provide technical assistance to encourage the state to consider equity barriers in designing these programs.	*% at Q1* 0%
4. One state (Massachusetts, New York, Rhode Island) adopts a first-of-its-kind regulatory framework to prioritize energy efficiency and other demand side resources over the expansion of pipes and wires infrastructure. **Progress Toward Outcome:** No state has initiated proceedings or released any orders that apply to this goal so far this year.	*% at Q1* 0%

Heating Electrification Market Transformation

The start of 2023 has been a time of continued change as the industry reckons with new regulations, funding opportunities, market awareness, and emerging technologies. NEEP has acted as an anchor for the Northeast and Mid-Atlantic in an ever-changing market through continued stakeholder engagement and collaboration, research, and resources.

In Q1, NEEP continued engaging in collaborative research projects to advance knowledge and proliferation of efficient heating electrification technologies. With seven other organizations, we have completed in-field research on six research mobile homes as part of a Rating Representativeness study that will inform heat pump testing procedures to ensure they reflect the most accurate performance measures. We continued leading a US DOE-funded VRF in-field performance validation study, and successfully collected heating season data. Q1 also represented the start of a multi-year nationwide Heat Pump Field Validation Partnership Project funded by DOE's Building Technologies Office. NEEP represents the Northeast and Mid-Atlantic region to share regional barriers, opportunities and resources and to find solutions to increase the equitable adoption of heat pumps and heat pump water heaters nationally.

NEEP's Cold Climate Air Source Heat Pump (ccASHP) product list and sizing tool continued to serve as a trusted source of information for consumers and installers to choose products that will efficiently heat and cool spaces in cold climates. Over 2,119 unique users leveraged this list in Q1, and stakeholders have reported using the sizing tool in installer training and at distribution centers, with over 150 visitors in Q1. These tools help to ensure properly designed, sized, installed, and operated equipment. NEEP is working to improve these tools based on stakeholder feedback and market needs.

NEEP is moving the needle on electrification awareness and education through the development of resources. In Q1, we developed several resources and education modules on electrification that will be piloted in certain jurisdictions in the Northeast and Mid-Atlantic this fall.

We continue to convene stakeholders to facilitate regional collaboration toward heating electrification. This quarter, NEEP hosted a Residential Heating Electrification Working Group Meeting featuring presentations on policy updates, scaling residential energy coaching, and integrated controls. On the Commercial side, our Q1 meeting focused on emerging technologies to prime NEEP for our upcoming brief on heating electrification technology program-readiness.

In Q1, NEEP influenced the narrative on electric space and water heating through blogs and presentations, including a blog post on HPWH installation, two presentations at the ACEEE Hot Water/Hot Air Forum on HPWHs and our sizing tool, and a talk at NESEA's BuildingEnergy Boston.

To boost the productivity of existing residential and small business HPWH programs in the regional market, and help launch new ones, NEEP, ICF, D&R International, and ENERGY STAR, in partnership with a team of water heating market experts that includes the US Department of Energy, Pacific Northwest National Laboratory (PNNL), and the Advanced Water Heating Initiative (AWHI), came together to co-lead a regional initiative that engages interested efficiency program administrators, state and local agencies and other motivated market actors (including leading manufacturers, retailers, home builders, distributors and installers) to team with utility partners in the development of enhanced program models for HPWHs. To help increase HPWH sales/installations by applying a customized approach in coordination with key market actors to address barriers and facilitate consumer demand and adoption, NE Alliance is working with 6 utility partners PPL, Central Hudson, BG&E, Energize Delaware, PSE&G and Eversource in the NE region. We completed in-depth program assessments regarding training, marketing and equity framework. We are working on creating a comprehensive solution set for each partner and reviewing it with them.

D&R International did a video recording of HPWH installation in a residential setting—one home in Maine and one in Massachusetts. NEEP is working on partnering with weatherization and auditor community for workforce development sessions and bring local training/ education resources to Community Assistance Partnerships (CAP) and WAP installers.

Progress Toward 2023 Outcomes	% Complete at Q1
1. Five states (Delaware, District of Columbia, Maryland, Pennsylvania, New Hampshire, New Jersey) adopt workforce development programs to train existing installers and/or recruit and train new installers on installing heat pump technologies, with a focus on including candidates from historically marginalized communities. **Progress Toward Outcome:** Maine's Clean Energy Partnership - Workforce Initiative; https://www.maine.gov/energy/initiatives/cep . The programs will support innovation of advanced technologies and services that contribute to the achievement of the State's clean energy and climate goals. New Jersey Triennium 2 Straw Proposal has put forth a new state-funded workforce development initiative in partnership with the Department of Labor to recruit and train participants from overburdened communities. New Jersey's Clean Buildings Working	20%

Progress Toward 2023 Outcomes	% Complete at Q1
Group is guiding the state's roadmap to clean buildings, which will include recommendations for workforce development strategies. New York introduced S02469 which directs the public service commission to develop and issue guidelines for hiring training employees from priority populations for energy efficiency programs.	
2. Across the NEEP region, five states (District of Columbia, Massachusetts, New Jersey, New York, Rhode Island, Vermont) and/or energy efficiency program administrators introduce new program incentives/promotions to support emerging heat pump categories. **Progress Toward Outcome:** • VT (ATW) • NY (ATW, Ground-source VRF) • MA (Ground-source VRF)	60%
3. Programs across nine "cold climate" states (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont) use NEEP's ccASHP product list (as a qualified products list (QPL) and/or product selection tool). **Progress Toward Outcome:** • Connecticut uses NEEP's product selection tool in contractor training. • Maine includes NEEP's Guide to Sizing & Selecting Air-Source Heat Pumps in Cold Climates in heat pump training resources. • As part of Mass Save's Heat Pump Installer Training (HPIN), Massachusetts utilizes NEEP's sizing tool. Several Municipal Light Plants and Mass DOER use NEEP's ccASHP product list. • New York State's Clean Heating and Cooling program along with participating utilities use NEEP's ccASHP product list for the program's QPL and our sizing tool is used in contractor training. • Rhode Island Energy uses NEEP's product list for their QPL. • Several Vermont entities use the ccASHP product list for their program's QPL including Efficiency Vermont and Burlington Electric Department.	66%

4. Three state programs (District of Columbia, Maryland, Massachusetts, New York, Pennsylvania) implement heat pump and heat pump water heater program enhancements for low-to-moderate income customers. **Progress Toward Outcome:** • MassCEC offers income-based rebate adders for clean heating and cooling technologies. Mass Save offers increased incentives for low-income households for ASHPs and GSHPs. • EmPower NY provides income-eligible NY residents with no-cost energy efficiency solutions, including the installation of clean heating and cooling heat pumps. • Pennsylvania's State Energy Program is implementing a new High-Efficiency Electric Home Rebate for low- and moderate-income households geared toward heat pump rebates.	60%
5. Three states (Connecticut, Massachusetts, New Jersey, Vermont) reconsider key state policies that slow adoption of heating electrification. **Progress Toward Outcome:** • Massachusetts Commission on Clean Heat recently endorsed a Clean Heat Standard, which aims to reduce building sector emissions, including a goal of approximately 100,000 residential heat pump installations per year from 2025-2050. This will include supportive policies that will complement existing policies to speed up the adoption of heating electrification. • New Jersey's Gov. Phil Murphy has signed executive orders to accelerate the state's building electrification goals. The New Jersey Energy Master Plan calls for building electrification by 2050 and the state is aiming to accelerate heat pump adoption through legislative change. • New Jersey has directed its Board of Public Utilities to work with natural gas utilities and other stakeholders to create a comprehensive plan for a future less reliant on fossil fuels • Connecticut is aiming to speed heat pump adoption through the 2022-2024 Conservation and Load Management (C&LM) Plan. The plan addresses barriers to heat pump adoption, including policy barriers. • Vermont's Affordable Heat Act Bill S.5 proposes a clean heat standard which will accelerate heating electrification. The bill advanced in the Senate in March 2023 and will be voted on by the House next. • New York introduced the NY Home Energy Affordable Transition Act which directs the Public Service Commission to end the mandate for ratepayer-	100%

subsidized incentives for fossil fuel infrastructure in new buildings in an equitable manner.	

Public Policy and Programs

To kick off 2023, NEEP continued to build on the federal funding work and resources from 2022. The policy team produced blogs analyzing policy changes at the state and national level and continued to coordinate with stakeholders across the region providing thought leadership and technical assistance as needed.

In Q1, NEEP built on the Federal Funding Resources Center producing a brief on how to implement grid interactive homes and buildings (GIHBs) or virtual power plant programs using Inflation Reduction Act (IRA) funds. NEEP also held a webinar on Demystifying Measured Programs to present an opportunity for states in the Northeast and Mid-Atlantic to learn more about measured programs. In addition, the NEEP team convened meetings with State Energy Offices and Allies to inform the requests for information (RFIs) from DOE on upcoming workforce and rebates programs.

NEEP has also been providing updates to energy offices in the Northeast and Mid-Atlantic on various opportunities on the federal level through emails and online meetings. Thus far, NEEP has presented to state energy offices on program opportunities available under the Energy Efficiency Revolving Loan Fund, the Climate Pollution Reduction Grants, and the IRA Rebate programs. Part of this effort also includes blogs that dive into certain grants and funding opportunities, as well as opportunities for regional coordination. In Q1, NEEP wrote a blog on Five Ways the Northeast Can Collaborate on Policy For Federal Funding and How States Can Grow Equitable Efficiency Programs with the Revolving Loan Fund.

The Policy team is tracking regulatory proceedings and participating in state-run working groups to advance decarbonization policies throughout the region. In Q1, New Jersey kicked off a round of stakeholder input on its energy efficiency programs. New Hampshire is also planning its next round of energy efficiency programs. NEEP has been attending stakeholder meetings in both states on these programs. In addition, the Massachusetts Department of Environmental Protection has announced a stakeholder process to develop a clean heat standard for the state. NEEP is attending and providing technical assistance throughout these processes.

In Q1, NEEP finished collecting the 2020 REED data. REED collects key energy efficiency program metrics for program year 2020 (and 2021 where available) across the NEEP region and makes them publicly available. REED currently includes energy efficiency program results through program year 2020 in the form of an Excel-based Master REED Workbook (with program savings and expenditures) and a REED Supporting Information report. NEEP also published a blog on what the data shows so far about 2020 energy efficiency programs in the northeast and mid-Atlantic, Regional Energy Data Dive: A First Look at 2020 REED Data.

Additionally, NEEP is continuing to work with the Association of Energy Services Professionals (AESP) on a BENEFIT Grant project funded by the Department of Energy to develop a series of accredited online courses focusing on new grid-interactive energy technologies, also commonly referred to as demand flexible loads. NEEP's tasks for Q1 included reviewing and providing recommendations to course outlines.

The Policy team continues to engage with state-level advocates throughout the region by attending meetings in Connecticut, Maryland, New York, and New Jersey. The Policy team also tracks bills across the region with our legislative web tracker, which 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 2023 Outcomes	% Complete at Q1
1. Four states (Maryland, New Hampshire, New York, Pennsylvania) advance legislation or regulatory initiatives that increase equitable access to benefits of energy efficiency programs statewide. **Progress Toward Outcome:** Nothing has been passed so far, but there are a number of legislative initiatives we have started to track. Maine introduced An Act to Address Poverty by Increasing Access to Energy Efficiency and Weatherization Programs which requires Efficiency Maine Trust and the State Housing Authority to include more people in their weatherization assistance program. The state also introduced An Act to Provide Energy Efficiency Program Outreach and Assistance to Manufactured Housing Residents to inform and educate those living in manufactured homes about energy efficiency programs. Both Maryland's houses passed a bill, SB144, which requires the Department of Housing and Community Development to provide energy efficient retrofits to low-income customers. New Jersey introduced the Urban Area Weatherization and Energy Efficiency Pilot Program Act which appropriated $30 million to enhance weatherization and energy efficiency in 3 cities, at no cost to moderate- and low-income owners of buildings. New York introduced S02469 which directs the public service commission to develop and issue guidelines for hiring training employees from priority populations for energy	0%

Progress Toward 2023 Outcomes	% Complete at Q1
efficiency programs. The state also introduced the NY Home Energy Affordable Transition Act which directs the Public Service Commission to end the mandate for ratepayer-subsidized incentives for fossil fuel infrastructure in new buildings in an equitable manner. Vermont had one chamber that passed the Affordable Heat Act which establishes the Clean Heat Standard and obligates parties to retire at least 16 percent of their annual requirement from customers with low income and 16 percent from customers with moderate income.	
2. Three states (New Jersey, New York, Vermont) take steps to align energy efficiency programs with state climate policies by incorporating climate-focused metrics. **Progress Toward Outcome:** In Q1, New Jersey initiated the stakeholder process to plan for the state's next round of energy efficiency funding. The proposed framework includes mandatory building decarbonization programs and active demand response programs across the state. The state will be releasing metrics related to these programs in Q2.	0%
3. Three state regulatory agencies (Massachusetts, New York, Vermont) advance beneficial electrification policies that regulate gas, oil, and/or propane use. **Progress Toward Outcome:** New York has announced an economy wide Cap-and-Invest Program for New York. The cap-and-invest program will set a declining cap on GHG emissions and invest in equitable emissions reductions program. Large scale greenhouse gas emitters and distributors of heating and transportation fuels will be required to purchase allowances for emissions associated with their activities. The proceeds will support state investments in climate mitigation, energy efficiency, clean transportation, and an annual Climate Action Rebate that will be distributed to all New Yorkers to mitigate potential consumer costs associated with the program. Massachusetts Department of Environmental Protection (MassDEP) has initiated a stakeholder process to develop the states clean heat standard (CHS). In Vermont, the state senate has passed legislation to enact a Clean Heat Standard. The Governor vetoed the bill last year, we are watching to see if it can be passed this year.	0%

Progress Toward 2023 Outcomes	% Complete at Q1
New Jersey's governor signed an executive order for the Board of Public Utilities to initiate a process to create a comprehensive plan for a future less reliable on fossil fuels and setting a statewide target for installation of zero-carbon emission heating and cooling technology.	
4. Four states (Maine, Maryland, New Jersey, Pennsylvania), through legislation or regulation, invest in and implement statewide energy efficiency workforce initiatives that prioritize historically marginalized and/or undeserved communities. **Progress Toward Outcome:** New Jersey Triennium 2 Straw Proposal has put forth a new state-funded workforce development initiative in partnership with the Department of Labor to recruit and train participants from overburdened communities.	0%

Retrofit Models

NEEP's Retrofit Models project accelerates the uptake of comprehensive retrofits in both the residential and commercial sectors. The team fosters collaboration to explore and identify barriers, best practices, and expand upon scalable ideas.

NEEP's work on the Zero Energy Now (ZEN) pilot program in Vermont highlighted both the success of a packaged retrofit program that combines measures and funding for weatherization, heating electrification, and renewable energy, as well as some of the constraints of these types of programs. One such constraint was the knowledgeable workforce available to conduct the comprehensive retrofits. To address this barrier, NEEP has launched the Total Energy Pathways Workforce project to create a nationally recognized BPI certificate for whole home retrofit concepts and supporting educational resources. This quarter, the team completed two (out of a total of eight) training modules for the BPI Certificate of Knowledge and made significant progress on two more. A new resource was drafted which targets employers and highlights why contractor companies should seek to hire certificate holders and how it can beneficial to growing their business. This is expected to be released in early Q2.

The Project Partners (NEEP, EFG, BPA, and BPI) meet monthly. After some deliberation, the group decided to rename the certificate the "Total Building Performance Certificate of Knowledge" (TBP Certificate). This name is inclusive of both commercial and residential retrofits, removes politicized terms, and conveys the intention of the certificate is knowledge of the entire building, not just one-off measures. The team is preparing to pilot the certificate starting in July. To pave the way for a successful pilot, NEEP conducted outreach to partners that might be interested in promoting the project. One such partner was PSE&G in New Jersey, who provided valuable input to the dissemination plan. An advisory committee meeting is being planned for early Quarter 2.

Two new working groups are being developed this as a part of the Retrofit Models project. These groups, one focused on residential buildings, the other on commercial buildings, will be dedicated to exploring how states and program implementers can expand their programs beyond single measure programs. The retrofit models team will work closely with NEEP's policy team and will take into consideration federal funding opportunities. In Q1, the team began researching important topics for each group and considered when the best time would be to launch. The team plans to launch these working groups in late Q2 or early Q3, due to scheduling constraints expressed by some of the groups' participants.

The U.S. Department of Energy (U.S. DOE), along with regional energy efficiency organizations like NEEP, NEEA and national labs, launched the Partnership for Advanced Window Solutions (PAWS). PAWS partners with vendors

of high-performance windows, utilities, trade allies, window manufacturers, glass makers, and home builders to create demand for advanced window solutions. PAWS will support utility programs and assist in developing consumer incentive programs for advanced window solutions. This contract was renewed for another year. NEEP serves on PAWS leadership team by regularly attending meetings, including strategic planning processes. NEEP plays an important role in PAWS's Utility and Codes/Standards/Ratings working groups to make high performance windows available in LMI communities. NEEP leveraged its network and invited local utility partners to attend the Commercial Windows Secondary Glazing summit and Storm Window and Insulating Panel (SWIP) Summit.

Progress Toward 2023 Outcomes	% Complete at Q1
1. Five states (Maine, Maryland, New Jersey, Rhode Island, Vermont) take regulatory or legislative steps to implement statewide programs that expand access to whole-building deep energy efficiency retrofits in underserved communities. **Progress Toward Outcome:** The Massachusetts Clean Energy Center continued implementing the Decarbonization Pathways Pilot, testing a protocol for comprehensive decarbonization assessments for a cohort of 75 single-family and small multi-family homes. Maryland has moved forward with SB144, which requires the Department of Housing and Community Development to provide energy efficient retrofits to low-income customers. Maine introduced An Act to Address Poverty by Increasing Access to Energy Efficiency and Weatherization Programs which requires Efficiency Maine Trust and the State Housing Authority to include more people in their weatherization assistance program.	20%
2. Two states (Connecticut, New York) standardize definitions for weatherization. **Progress Toward Outcome:** There is nothing new to report on this outcome at this time.	0%
3. Three state or municipal whole-building retrofit programs (Connecticut, New Jersey, New York) include training opportunities focused on expanding access to workforce opportunities for historically marginalized communities. **Progress Toward Outcome:** New Jersey Triennium 2 Straw Proposal has put forth a new state-funded workforce development initiative in partnership with the Department of Labor to recruit and train participants from overburdened communities.	33%

Progress Toward 2023 Outcomes	% Complete at Q1
The Pennsylvania Whole Home Repairs Program took additional steps towards implementation in early 2023 by seeking county-level organizations to be program administrators. The program is expected to fully launch in summer 2023 when homeowners and landlords can apply for assistance.	
4. Three energy efficiency program implementers (New Jersey, New York, Rhode Island) modify programs to expand delivery of deep energy efficiency retrofits over direct install measures. **Progress Toward Outcome:** New Jersey initiated the stakeholder process to plan for the state's next round of energy efficiency funding. The proposed framework includes a statewide building decarbonization program. Details on the program will be released in early Q2.	33%
5. Three energy efficiency programs (Massachusetts, New York, Vermont) increase the number of measures included in their whole-building retrofit programs. **Progress Toward Outcome:** There is nothing new to report on this outcome at this time.	0%

Solutions for Low-Carbon States and Communities

NEEP's Solutions for Low-Carbon States & Communities project facilitates the development and implementation of various building decarbonization initiatives with state and local governments. This work is carried out through stakeholder engagement, facilitation of topical working groups and cohorts, research, resource development, and by aiding in the creation of flexible software tools that enable jurisdictions to meet their climate goals. Similar to 2022, there continues to be an extensive focus on community-level federal funding opportunities in 2023.

The State and Communities team explored and deepened its understanding of federal funding opportunities from the Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) in the first quarter of this year. Presentations were given to various stakeholder groups including the New England Chapter of the Association of Energy Engineers, the Rhode Island League of Cities and Towns, and the Ulster County Green Business Network. Additionally, the team hosted a NEEP Ready, Set, Scale Webinar on the topic of federal funding for community decarbonization. The State and Communities Team collaborated closely with members of other NEEP teams on federal funding initiatives and provided recommendations to support RFI responses and project proposals. The team prepared for the Q2 launch of the Community Federal Funding Working Group.

Community-driven electrification programs are an emerging topic area for the State & Communities team. An increasing number of communities are interested in helping their residents adopt electric technologies, such as air source heat pumps and heat pump water heaters, through voluntary programs and policies. NEEP has started to develop a Community Electrification Cohort, a group of communities and advocates interested in exploring models of community level electrification initiatives such as community heating coaches. In Q1, the team developed a charter for the group and began to research possible candidates to join. The team also held two meetings with the HeatSmart Alliance, a Massachusetts-based non-profit who developed a community coaching electrification model. NEEP is engaging the HeatSmart Alliance to explore ways to scale-up their model.

NEEP continues to provide critical technical assistance and support to states and communities on the development of benchmarking and building performance standards. Building performance standards are increasing in popularity amongst states, larger cities, and smaller municipalities. In Q1 , NEEP held meetings with Belmont and Watertown, Massachusetts, as well as South Portland and Portland Maine, to provide guidance on the development of their building performance standards. NEEP continues to play a key role in the creation of Maryland's BPS regulations and the program's implementation. NEEP facilitates weekly meetings with the Maryland Department of Environment (MDE) and bi-weekly meetings with a larger group including MDE regulators and federal partners such as DOE, EPA, and LBNL. The draft regulations have been submitted to the

Attorney General's office for legal review. In the meantime, NEEP is working with MDE to develop implementation guides to accompany the regulation.

The Community Residential Energy Labeling Cohort met twice during the first quarter. The first meeting focused on stakeholder engagement for a labeling policy, giving the communities guidance on who to engage and how to be thorough and inclusive. The second meeting spotlighted two towns in the cohort who have made progress toward adding energy efficiency information to rental inspection bylaws, and who shared their experiences and policies. Finally, a member of the NEEP team spoke on the value of home energy labeling in a session at the passivhausMAINE annual forum in Freeport, ME, in coordination with a colleague from ClearlyEnergy to tie the topic of home energy labeling to Remotely and virtual energy assessments.

During the first quarter of 2023 NEEP launched the first cohort of ReMaine clean energy interns, and continued to make new connections in the state, recruit partners to the Project Advisory Committee, secure more employers for the second cohort of the program, and coordinate with the project partners and Maine Governor's Energy Office. NEEP staff developed a blog post on the program, which was published in the March NEEP Notes. The team also continued to support the Building Performance Association on their Maine workforce development grant, contributing to two new blogs, and participating in an in-person Building Science Principles course conducted with interpreters for a multilingual audience, and a Maine BPA meeting.

The team launched the new Rhode Island Community Decarbonization Network this quarter, funded by the 11th Hour Racing Foundation. NEEP staff connected with stakeholders from Rhode Island Energy, the RI Office of Energy Resources, Acadia Center, Rhode Island Infrastructure Bank, and Green Energy Consumers Alliance. NEEP presented at a monthly webinar held by the RI League of Cities and Towns to promote the network, and ultimately gathered participants representing 17 of the 39 municipalities in the first quarter. The team held the first Network meeting and began the planning for an in-person community decarbonization workshop in May.

Building Energy Analysis Manager (BEAM)

On January 10th, NEEP hosted a BEAM showcase in collaboration with Clearly Energy, SEEA, MEEA, and SWEEP. States and communities from across the country were invited to attend and learn both about BEAM as well as the resources available from the REEOs and federal sources. The intention was to spark interest from new jurisdictions regarding the development of BPS programs and the usage of BEAM as a management tool. In Quarter 1, four new jurisdictions signed on to use BEAM for benchmarking and BPS programs: Portland and South Portland, ME; Indianapolis, IN; and Orlando, FL. The Q1 Advisory Committee meeting focused discussion on gaps in building owner resources and updates to the Standardized Energy Efficiency Database (SEED) that will soon be merged with BEAM, including enhanced graphing.

Home Energy Labeling Information eXchange (HELIX)

NEEP continued to refine the various use-cases for HELIX throughout Q1 by engaging with key partners and developing plans for its future use. The tool remains a flexible repository of home energy information that could

be used to help track programs resulting from the Inflation Reduction Act, as well as other residential energy programs. NEEP submitted a proposal with Massachusetts Department of Energy Resources for DOER to use HELIX to track building permits, modeled energy data, and more for their Fossil Fuel Free Demonstrations Project.

Remotely

This quarter NEEP continued outreach for Remotely, the virtual energy assessment app that NEEP, ClearlyEnergy, and Signetron developed. A NEEP staff member spoke at the passivhausMAINE Annual Forum with a member of the ClearlyEnergy team about Remotely, and interest in the tool has sparked advocacy for legislation in the state for a voluntary statewide labeling program that could use virtual Home Energy Score tools.

Progress Toward 2023 Outcomes	% Complete at Q1
1. Four states (Connecticut, Massachusetts, New York, Rhode Island) pass or implement building decarbonization strategies. **Progress Toward Outcome:** A bill (SB 979) was introduced in CT related to the development of a CT home energy labeling program for rental units. NEEP has worked with The CT Department of Energy and Environmental Protection to scope out a pilot project that could launch this year. In Rhode Island, legislation was introduced that would require all public-school buildings meet the Northeast Collaborative for High Performance Schools standards of net zero energy capable by 2035. The legislation is in committee as of the end of quarter one. Rhode Island also introduced legislation (SB0166, HB5425, HB7850), that would establish building performance standards for government buildings greater than 10,000 square feet and residential and commercial buildings greater than 15,000 square feet. The bill has been recommended for further study in the House. Massachusetts introduced legislation (SB2178/HB3213) that would establish building performance standards for buildings greater than 20,000 square feet. These bills are building off the benchmarking legislation that passed last year. In Maine, legislation was introduced in the first quarter which would create a statewide HES program, with the possibility for those being administered using a virtual tool such as Remotely. The legislation would also enable municipalities to create mandatory home energy labeling programs. The bill was in committee as of the end of Q1.	25%

Progress Toward 2023 Outcomes	% Complete at Q1
2. Six states, utilities, or program administrators increase support of and direct new resources towards community-level decarbonization initiatives while specifically addressing equity in disadvantaged communities through these programs. **Progress Toward Outcome:** Rhode Island announced an additional $10 million in funding for Public School Energy Equity Program, making it a total of $20 million. The program previously had $10 million allocated, and an additional $5 million from federal funding and $5 million from Regional Greenhouse Gas Initiative (RGGI) funds were added. The state of Maine's Community Resilience Partnership is dedicated to helping municipalities and tribes reduce their carbon emissions, through grants and technical assistance. The program has a biennial budget of $4.75 million for grants. The state is also offering webinars and support for communities on BIL opportunities, and has created an interactive map of BIL-funded projects in the state.	33%
3. Fifteen jurisdictions pass or implement innovative decarbonization policies/programs targeting existing or new buildings. **Progress Toward Outcome:** The Newton Citizens Commission on Energy met with the Mayor in hopes of passing an ordinance that would require every owner-occupied home to receive an Energy Usage Intensity assessment, using an app that pulls the information from utility bills and the local tax assessor database. The city council also held a hearing on BERDO, the Building Energy Reduction and Disclosure Ordinance. National Grid and Eversource presented information about their efficiency and electrification program offerings for commercial and multifamily customers. NEEP had conversations with Belmont, Massachusetts, Watertown Massachusetts, South Portland, ME and Portland, ME, about the development of building performance standards Amherst, MA worked toward finalizing a draft update of the Residential Rental Property Bylaw, requiring collection of a lot of home energy efficiency data by town employee inspectors. This information would help the city understand its rental housing stock better and encourage energy efficiency upgrades in a more targeted way. Bedford, NY resolved to expand their rental registry in 2021, to include more health	25%

Progress Toward 2023 Outcomes	% Complete at Q1
and safety and energy efficiency information. The city will require that any health and safety violations be resolved, and simply benchmark and disclose energy efficiency information. The city is also pooling funding for building owners in the Environmental Justice area of the jurisdiction to make upgrades identified in the inspection. The final draft of the law went to the Town Board for consideration during Q1. Burlington, VT passed a ballot measure in March 2023 to establish a carbon pollution fee, charging $150 per ton for new construction buildings that install fossil fuel heating systems or existing buildings over 50,000 that install fossil fuel heating systems. This will go into effect January 1, 2024. Jamestown, RI passed their new Energy Plan in Q1.	