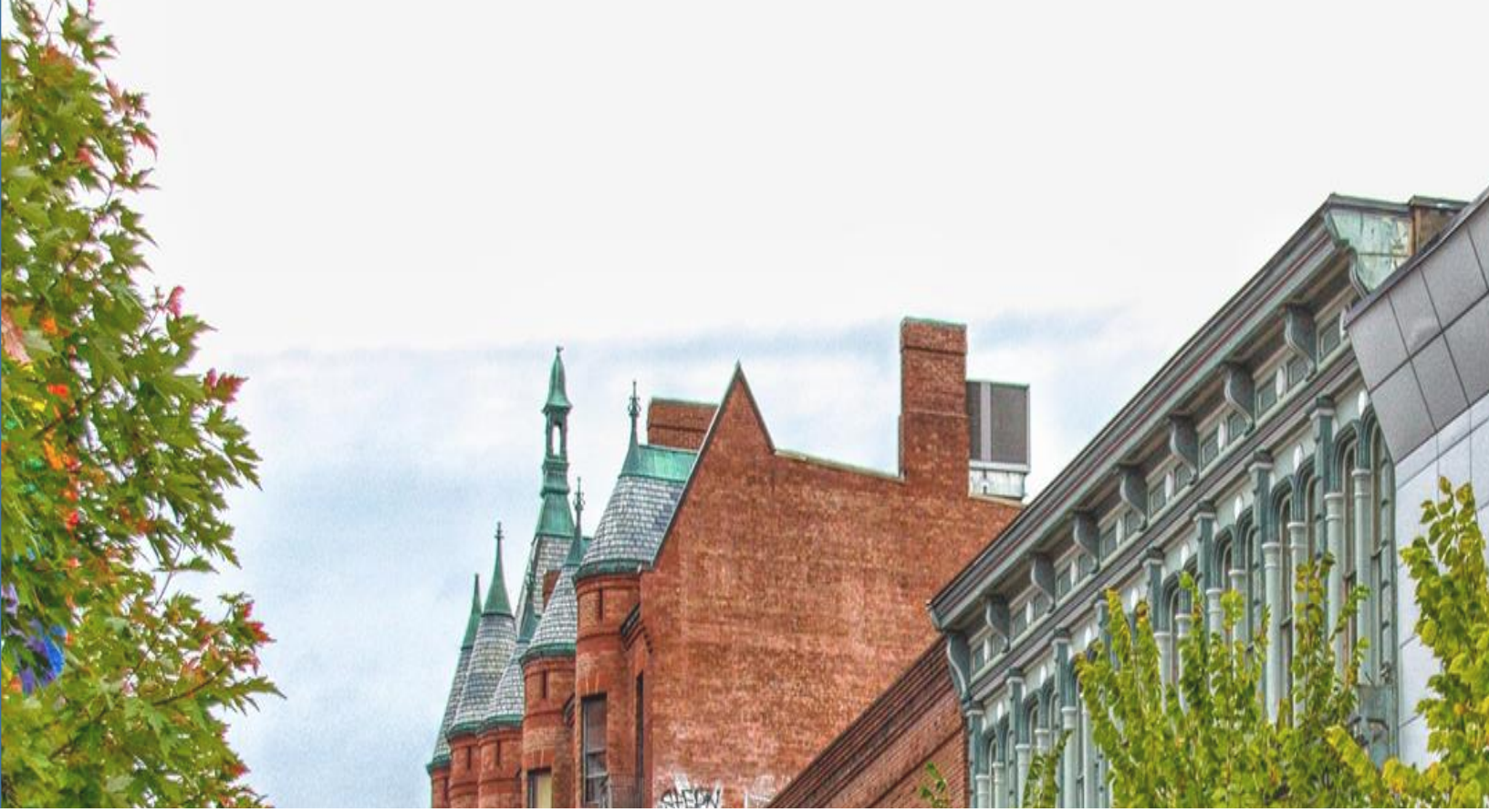

Emerging Trends in Community Clean Energy Initiatives

November 2021

Table of Contents

Acknowledgements

This report reflects the invaluable contributions of multiple individuals.

We would like to recognize the report's lead authors, Chase Macpherson and John Balfe. Several NEEP staff served key roles in the development of the report including Carolyn Sarno Goldthwaite, Senior Director; Darren Port, Senior Manager; and Kai Palmer Dunning, Associate. Formatting and edits were provided by Lisa Cascio, Director of Partner Engagement and Victoria Bradley, Marketing Associate.

About NEEP

NEEP was founded in 1996 as a non-profit whose mission is to serve the Northeast and Mid-Atlantic to accelerate energy efficiency as an essential part of demand-side solutions that enable a sustainable regional energy system. Our vision is that the region will fully embrace next generation energy efficiency as a core strategy to meet energy needs in a carbon-constrained world.

Disclaimer: NEEP verified the data used for this brief to the best of our ability. This paper reflects the opinion and judgments of the NEEP staff and does not necessarily reflect those of NEEP Board members, NEEP Sponsors, or project participants and funders.

Introduction

Across the country, states are setting greenhouse gas (GHG) emissions reduction goals to address climate change, committing to a certain percentage of GHG reductions by a certain year. States aren't the only ones setting goals and making commitments, though; towns and cities of all sizes are following suit and making their own commitments, many aiming to reduce GHG emissions 80 percent by 2050. This is one of the most common goals in the Northeast and Mid-Atlantic, but there is a wide range of commitments and approaches to address climate change. Some towns have separate goals for municipal operations and the whole community, many have goals for renewable energy rather than emissions reductions, interim goals for the shorter term versus longer term are common, and some mayors have declared their commitment to the Paris Climate Agreement. One of the most ambitious goals is carbon neutrality by 2030, to which Burlington and Hartford, VT, and East Hampton, NY have committed. Many more have committed to carbon neutrality by 2050. NEEP recently published a Community Commitments Tracker, which shows many small- to medium-sized towns and cities in the Northeast that have specific, numeric GHG emissions and energy reductions goals.

Beyond goals and commitments, many towns have also developed (or are currently developing) climate action plans, zero energy plans, energy chapters in their municipal comprehensive plans, and more, to outline how they plan to achieve their goals. These documents usually include an introduction to climate change in both a global and local context, sometimes a list of recent actions, and their plans for how they'll reduce energy consumption and GHG emissions. Many plans cover buildings, transportation, and renewable energy. Other key features commonly included are government-community engagement, clean energy workforce development, energy efficiency and electrification, and other environmental planning areas.

CAP Highlight:
Portland and South Portland, ME
One Climate Future

Goal: 80% community-wide reduction by 2050 and 100% renewable energy for municipal operations by 2040

What works: A collaboration between two neighboring cities and they grade every action item on whether it's equitable, regenerative, and resilient

These plans are vital for achieving goals because they require a town or city to bring stakeholders together and formally document what changes they will make and how they will spend money. Metrics for measuring success are also crucial aspects of these plans and the more specific they are at the outset, the more likely a town will be able to take feedback meaningfully.

This brief showcases emerging trends in community-level energy efficiency initiatives that are paving the way to achieve climate goals. Through conversations with stakeholders and research into plans, NEEP has presented the brief as four key categories:

Community Engagement

Retrofit Trends in Existing Buildings

New Construction Trends

Workforce Development

Finally, this brief summarizes some common funding sources and mechanisms that towns and cities use for their projects. The intention of this brief is two-fold: first, to share best practices with those who work in energy efficiency and are interested in what local governments are doing, and second, to provide examples of success to local governments who seek to emulate what others with similar resources, priorities, and concerns are doing to address greenhouse gas emission reductions.

Community Engagement

For towns and cities developing plans on how to reduce their energy and fossil fuel use, a key initial step is to engage local residents and business owners for a sense of their priorities, needs, concerns, and goals for their homes and buildings. By looking through a number of existing action plans, a few common themes emerged around engaging local communities or particular stakeholders.

Community engagement is one of the first places that planners can incorporate equitable practices into their work. People with low incomes, people of color, young and elderly people, immigrants, people with disabilities, and people who are displaced have historically been excluded from or underrepresented in environmental planning and community decision-making processes. Getting meaningful input from and sharing power with historically marginalized and underrepresented groups is key to crafting solutions that work for everyone and advance energy equity.

Credit: Rosa González, Facilitating Power: https://d3n8a8pro7vhmx.cloudfront.net/facilitatingpower/pages/53/attachments/original/1596746165/CE2O_SPECTRUM_2020.pdf?1596746165

NEEP's Community Action Planning for Energy Efficiency (CAPEE) tool is designed to help local energy champions advance energy efficiency in their communities, and it now includes a new module on engaging diverse stakeholders and getting meaningful community input. Sign up for CAPEE to read more about this topic, or check out this blog post for a summary.

First, local planners must identify stakeholders from whom they want input. Keene, NH listed local landlords, businesses, and institutions of the town as the stakeholders with whom it wanted to work; Forest Hills, PA sent out a survey to all town residents and businesses; Hoboken, NJ specifically targeted environmentally-focused groups or residents. Other possible stakeholders are residents of historically marginalized communities, real estate developers, renters, local government decision makers, schools, or other community groups. The breakdown of a community's buildings and demographics, the level or type of engagement desired, and ability and willingness to commit time and resources on this process are all factors that will dictate engagement.

Towns across the region have used many different strategies to reach, survey, and talk to people. Conducting a community survey that gauges people's concerns and priorities around climate issues is one method that was used in many climate action and comprehensive plans. These can ask participants to rank issues on a spectrum

from “not a concern” to “very important,” say what their favorite and least favorite things about the neighborhood are, check off things they already have done or do in their home or business, share ideas about how they want to see climate change addressed in their town, and more. Surveys can be distributed at climate action planning or related town events, by email, in local newsletters, through the mail, on the town website or social media, at polling places, or through community organizations/institutions like houses of worship or other community gathering places. These surveys can provide valuable input into energy efficiency initiatives that communities are considering.

Events for people to gather, either virtually or in-person, and talk through the issues are also common. These can be town meetings, open houses, listening sessions, working groups with more targeted audiences, or presentations for schools, religious institutions, etc. When meeting with stakeholders, it is essential to consider what barriers exist that could prevent people from participating, and planning meetings to be as accessible and convenient as possible. NEEP’s Community Action Planning for Energy Efficiency tool offers more in depth information.

More personal ways to get feedback can include focus groups and one-on-one interviews, which could be formal or informal. Baltimore trained 125 residents to be Sustainability Ambassadors, who then developed a community survey and interviewed people all over the city, at churches, bus stops, schools, stoops, and in homes.

Credit: Zoe Gensheimer, Baltimore Sustainability Plan: https://www.baltimoresustainability.org/wp-content/uploads/2019/02/Sustainability-Plan_01-30-19-compressed-1.pdf#page=26

Tracking the demographics of people who have been asked for input is a good step to understanding whether or not your engagement is reaching a representative sample of the population. Baltimore tracked demographics at every step of its outreach, and has action items for how to engage underrepresented groups and take input in a meaningful way. The city asked about race, gender, age, length of residence, and employment status.

Demographics data can be meaningful at many different stages of planning and engagement; if data about the area can be disaggregated by race, income, and geography, it can make clear how experiences differ by demographic group. Other demographic information that could be useful on surveys or from people participating in working groups/listening sessions/interviews could include: homeowner or renter, income level, first language, and more.

Retrofit Trends for Existing Buildings

Energy Efficiency and Strategic Electrification

In the U.S., buildings account for ~40 percent of our total energy use so they represent a huge opportunity for reductions. While constructing new buildings that are zero emissions or zero energy capable is also critically important, and this brief discusses pathways for that in the next section, it is almost more imperative to retrofit existing buildings so as to make them efficient and electrified.

Energy efficiency and electrification are high priorities in many town and city climate plans in this region, often the avenues they believe will achieve some of the highest and most cost effective reductions. Burlington, VT expects to achieve 40 percent of its GHG reductions from the building sector.

Many municipalities have already begun taking action for energy efficient upgrades or electrification. Between 2015 and 2020, Arlington, MA and its school district implemented boiler upgrades, lighting retrofits, heat pump installations, and more. The town also replaced all of its street lights with LED bulbs. The LED bulbs alone reduced the town's GHG emissions by an estimated four percent. It received grants from Green Communities, a MA state program, and money from utilities, helping it avoid 1,400 metric tons of GHG pollution every year. Hoboken, NJ used incentives from NJ's Clean Energy Program to install energy efficiency upgrades in 12 municipal buildings in 2018. The incentives saved more than $200,000 on the capital costs and is saving more than $100,000 per year on energy costs.

Policies for existing housing are especially important for low-income residents, because much of the affordable housing in this country is located in older, outdated, inefficient buildings, and low-income people in the U.S. typically spend the highest percentage of their income on energy costs. Some programs that subsidize energy efficiency upgrades or provide rebates only do so for households that earn below a set income threshold. Baltimore, MD has weatherized more than 10,000 units of low-income buildings, collectively saving $10 million in reduced electricity bills. Advocates for energy equity support programs that require no upfront cost for low-income households, ensuring a complete removal of the cost barrier to many efficiency upgrades.

Towns and cities across the region are proposing plans to expand efficiency and electrification implementation, usually removing or lowering cost barriers for residents and businesses and increasing public knowledge of solutions and programs that are available to them. Arlington, MA has a proposed program called Electrify Arlington, modeled after HeatSmart and Solarize campaigns; this would include a community "electrification coach," heavily discounted appliances and HVAC services, and published equipment and installation prices for transparency and competition. Arlington also has proposed a pilot program for neighborhood-scale shared ground source heat pumps.

Participation in HeatSmart campaigns is popular in this region for the electrification of space heating and cooling. These are town-wide regional campaigns that exist in much of the Northeast, providing education and decreased prices for heat pump heating and cooling. Since 2018, 15 communities in Massachusetts have participated in HeatSmart Mass. Program elements can include "meet the installer" events, open houses in homes with air source heat pumps, volunteer-led outreach, tabling at farmer's markets or other community events, and more. HeatSmart or similar programs can increase the access of clean heating and cooling technologies to underserved populations by making the technologies more affordable and simplifying the process to install them. A truly equitable and successful program ensures that these technologies are being coupled with weatherization upgrades that ensures homes are well insulated and comfortable. Some similar programs are detailed in the "Funding Sources" section of this brief.

District Energy is another trending option for low carbon heating. District Energy uses heat waste from power plants (combined heat and power), industrial plants, boilers, biomass, municipal solid waste, or renewables to heat nearby buildings by pumping steam or hot water through underground pipes. This works best in densely developed areas in cold climates, and can achieve efficiency above 80 percent. Burlington, VT expects 15 percent of its GHG emissions reductions to come from District Energy, and plans to expand it in 2024 to use the biogas from a wastewater treatment plant and a heat pump system.

Benchmarking, Labeling, and Standards

Tracking buildings' energy usage is a vital first step to understanding the current building stock and reducing that energy use. As the saying goes, "you can't manage what you don't measure," and this is where benchmarking comes in. Benchmarking is the process of collecting building, utility, and fuel data for a full year and using software such as ENERGY STAR Portfolio Manager to normalize the energy data according to local weather records. This data is then used for a statement of performance, describing the building's Energy Use Intensity (EUI), and assigning a score from 1-100 comparing it to similar buildings from across the country. Benchmarking commercial buildings can not only help building owners save money, but also improve occupants' health and thermal comfort.

Most of the municipalities that have benchmarking ordinances are major cities (as of January 2020), but Portland and South Portland, ME and Cambridge, MA all have one in place, and five states in the region have state-wide ordinances. Keene, NH has also proposed a voluntary benchmarking program. In August 2021, Charleston, WV passed a benchmarking ordinance, requiring benchmarking for all municipal buildings and encouraging it for non-city buildings. We expect that benchmarking and performance standards will become increasingly common in tandem, and that smaller cities and towns will follow behind the major cities enacting programs or requirements.

Home energy labels build off benchmarking by making information about a home's energy usage accessible to homeowners and potential buyers. The added transparency that home energy labels offer makes the market value of the property more accurate, and helps people understand the associated cost, health outcomes, and thermal comfort of a home. Home energy labels can be encouraged or required in real estate listings, at time of sale, at point of lease or rental, at time of building renovation, and/or when major systems are replaced. In May, 2021, Montpelier, VT passed an ordinance that requires homes listed for sale to come with a Vermont Home Energy Profile, which will go into effect on July 1, 2022. The Home Energy Profile tool is available to all homeowners, regardless of whether they're selling their home. NEEP published a blog post summarizing Montpelier's ordinance and the context of home energy labels.

Benchmarking

Comparing commercial buildings' energy use to an average by type and size

Home Energy Labels

Provide information about a home's energy use to homeowners or buyers

Building Energy Performance Standards

Policies that set and enforce energy performance targets for buildings by type and size

Building Energy Performance Standards (BEPS) are policies that set minimum energy performance thresholds by property type and/or building size and require building owners to meet energy targets within set time periods. Washington D.C. has a BEPS program made up of three phases for benchmarking and compliance, starting with the largest buildings and eventually including all private and government-owned buildings over 10,000 square feet. The performance standards also get more ambitious with time, so each six-year phase will hold buildings to a higher standard. D.C.'s legislation ensures that affordable housing and other low-to-moderate income stakeholders are not negatively impacted by

the BEPS program by allowing for flexible compliance pathways that support all building types. Additionally, D.C. has collaborated with The Institute for Market Transformation's Building Innovation Hub to help building owners understand and reduce their energy use (sometimes in compliance with BEPS), identify funding and financing options, and more.

So far only D.C. and New York City have established BEPS programs, but some other early-adopters may soon include Boston and Cambridge, MA and Montgomery County, MD, among others. As with benchmarking, we expect that BEPS programs will also become more popular for smaller cities and towns over time.

One more mechanism that operates similarly to these already mentioned is an energy efficiency ordinance for rental housing. In rental housing, there is a split incentive paradigm characterized by property owners not seeing the cost benefits of their energy efficiency investments when renters pay the energy bill. In the U.S. in 2009, energy use per square foot was 20 percent higher in rental units than in owner-occupied ones because of this split incentive. Energy efficiency ordinances for rental units require landlords to make improvements, rather than relying on market forces. Somerville, MA included developing rental energy licensing and disclosure as an action item in its 2018 climate plan. Burlington, VT has had an ordinance since 1997 that requires owners of rental housing units in which the tenants pays directly for utility costs to make energy efficiency improvements up to a cost cap at the time of the building's sale. In 2021, Burlington updated this ordinance to target the most inefficient housing in the city; now any rental property that uses 90,000 BTUs or more per conditioned square foot for space heating annually must make energy efficiency upgrades, and the out-of-pocket cap for building owners was raised. While some costs may be passed onto tenants, the savings on tenant utility bills should result in net savings or steady cost of living.

The key to these policies advancing energy equity is that the total cost of living for tenants not rise. For this reason, these policies usually target the most inefficient homes so that resulting savings will be substantial. Burlington's first threshold is 90,000 BTUs per conditioned square foot for space heating alone, and the national median for rental units is 53,000 BTUs for all end uses. The city will also reimburse building owners for up to 75 percent of their project costs (with the cap for out-of-pocket costs), so the returns in energy cost savings can be high and the cost that landlords may pass on to tenants is limited.

It will be critical to evaluate the real impact of this policy in the near-term and as the policy begins to cover rental units that are slightly more efficient to begin with. These considerations are especially important in rental markets with very low vacancy rates, where prices are high and displacement is a larger threat. Involving diverse tenants in the program design process and considering the realities of the local housing market are important ways to ensure equitable program outcomes.

New Construction Trends

Green Building Policy and Energy Codes

Building energy codes prescribe a minimum level of energy efficiency that new construction and major renovations to existing buildings must exhibit. Homes and buildings constructed to comply with the most recent energy codes use less energy, have lower operational costs, and are more resilient. In some instances, a community has the option to adopt a more advanced energy code, or a "stretch code". Stretch codes go beyond the base energy code by establishing a "percent better than base" metric for energy efficiency, or add additional energy efficiency requirements. The stretch code may be prescribed at the statewide level or the local jurisdiction may have the ability to adopt additional provisions that lead to higher levels of energy efficiency,

beyond what the state has established. There are six states in the NEEP region currently on the 2018 IECC model energy code. For more information about the status of energy code adoption in the NEEP region, see the energy codes tracker.

Massachusetts and New York have stretch energy codes, which municipalities can voluntarily adopt to hold their new buildings to more stringent standards than the general state energy code does. Massachusetts was one of the first states to adopt a stretch code in 2009, and it focuses more on whole building performance than prescriptive energy efficiency measures. The Green Communities Designation and Grant Program, discussed more below in "Funding Sources," uses stretch code adoption as a criterion for community designation and funding. In September 2020, the former mayor of Boston Martin Walsh published a letter advocating for a net zero energy stretch code, which the state is currently considering adopting. New York state, through NYSERDA, adopted its stretch energy code in 2015, and the state also allows municipalities to adopt local energy codes that are not the state stretch code, as long as they are more stringent than the state base code. As of June 15, 2021, about 84 percent of the municipalities in MA have adopted the stretch code. As of 2020, six municipalities in New York had adopted the state stretch code.

Rhode Island adopted a stretch code in 2018, but it functions differently than most; the state prohibits municipalities from adopting the stretch code as its base code. Only individual projects and developments can voluntarily utilize the stretch code. In 2018, Washington D.C. updated its base energy code and included "Appendix Z," which is a voluntary pathway for net zero energy buildings. Appendix Z will become the base code by 2027, requiring all buildings to be zero energy buildings.

Maryland has a statewide base energy code, but is also a home rule state, which means that municipalities can modify codes to suit local conditions. For building energy codes, though, they may only be made more stringent than the state code. For state-funded buildings, the stretch energy code is the International Green Construction Code (IGCC). Baltimore adopted a code with Green Building Requirements in 2007 and updated it in 2015.

It is anticipated that the International Code Council (ICC) and ASHRAE will promulgate a zero energy code no later than 2030. However, a few jurisdictions within the NEEP region, including, MA, VT, D.C., and NY, are already moving forward with zero energy codes and may have them in place prior to 2030.

In addition to state code requirements, cities across the region are developing their own energy codes or green building policies for new construction. For instance, Ithaca, NY's energy code has two pathways to compliance; prescriptive, where builders choose from a list of green building components and must reach a total point value, or performance-based/whole building, where the whole building must comply with one of the high-performance building standards (LEED-based, Passive House-based, or GHG emissions calculation-based).

According to the U.S. Green Buildings Council's Public Policy Library, over 100 towns and cities in the NEEP region have green building policies in place. The types of policy include requirements, incentives, nonbinding, encouraging, or enabling, and they set standards that can or must be met by ENERGY STAR standards, Passive House Certification, among other building standards, or a "checklist" of green building elements. More cities have been integrating Passive House Standards into their zoning and code requirements, such as the 2019 zoning update in Somerville, MA. Dover, DE and West Chester, PA have policies that merge the concepts of an overlay district or zone with LEED or ENERGY STAR requirements for new buildings. Other towns use stipulations of building size, project cost, private vs. municipal ownership, and building type to set what buildings must or are encouraged to comply.

Other policies require or encourage new buildings to be net zero energy (NZE) or NZE-ready. In 2019 the Pittsburgh City Council passed an ordinance requiring all new or renovated city government buildings to be net zero energy ready, which is a change from its previous requirement of LEED silver certification.

Zoning

Zoning is a useful tool to indirectly achieve goals for new construction where codes are not as stringent as the municipality would like. In some states, municipalities cannot adopt more stringent energy codes than the state's (other than the state stretch code, if there is one), and codes are only updated every three years. Green zoning is the use of zoning bylaws and ordinances to achieve sustainability and energy efficiency/green building goals. Communities are increasingly interested in this as a pathway. NEEP's report on Green Zoning from 2019 explains this in more detail and examines the case of Massachusetts, where it's especially difficult for municipalities to customize their energy codes, making zoning a more useful tool.

Vermont Natural Resources Council outlined model zoning practices for energy efficiency, in which they promote smart development patterns, historic preservation, building energy standards, and removing barriers in zoning for renewable energy generation. NEEP's Green Zoning report outlines pathways and recommendations for green zoning: overlay districts, specialized performance-based standards, resiliency and energy reduction, green building standards, prescriptive energy efficiency compliance, and flexible energy efficiency compliance.

An example of an overlay district zoning law is Northampton, MA's Urban Residential Sustainable Growth Overlay District. This district is about half an acre and it only allows single-family, multifamily, or townhouse development. It also allows a density of 20 or more units per acre. For energy usage, it sets a maximum Home Energy Rating System (HERS) rating based on the unit's size class, or the building must meet U.S. Green Building Council LEED New Construction Gold or Neighborhood Development Gold certification.

One example of a specialized performance-based standard is in Somerville, MA's zoning ordinance, which defines a "green score'' that weighs landscape elements and site design that improve urban air quality, reduce the urban heat island, decrease storm water runoff, and improve the wellbeing of residents. Specialized performance-based standards can weigh any number of different attributes of a new construction project based on the priorities of the government designing the zoning law.

Zoning can also be a tool for advancing equity, despite the fact that it has been used to segregate and disenfranchise marginalized groups historically. Somerville, MA passed an ordinance in 2019 massively updating its zoning laws, and it included a number of provisions to advance equity. These include graduated density lots for 100 percent affordable housing buildings, a requirement for the majority of new development to provide 20 percent of units as affordable housing, and simplified language with illustrations and graphics to make the information more accessible. Provisions that allow, encourage, or require multi-family and affordable housing in areas that are well connected to transportation, green space, and other necessities increases housing accessibility and equity.

Workforce Development

Expanding the workforce of those who can perform energy audits, install, maintain, and repair electric HVAC systems, retrofit homes, and otherwise operate green buildings will be key to implementing building decarbonization solutions. Workforce development also offers great opportunities for advancing equity and supporting the local economy. The oil and gas sectors that disproportionately impact BIPOC don't supply them

with jobs in the same proportions. According to the Bureau of Labor Statistics, in 2020 about 87 percent of workers in mining, quarrying, and oil and gas extraction were White, 17 percent were Hispanic and just 4.6 percent were Black. Further, just over 14 percent were women. Green jobs programs have the opportunity to begin to make up for these inequities and build a more diverse, inclusive field.

Baltimore began a green jobs training program in 2009, and in its first 10 years has trained more than 820 residents for careers in green construction. The program has had an 85 percent graduation rate and an 87 percent job placement rate. In the city's 2019 update of its sustainability plan, it outlines some innovative ideas and actions for expanding the scope and success of the program. These include integrating green job trainees into a larger, centralized case management system; providing wrap-around services such as resume and interview skills, test prep, legal services and expungements, and support for obtaining a driver's license; increasing the emphasis on post-placement services for those newly employed and the employers; and requiring that city government renewable energy projects either use trainees in job training programs or hire program graduates. Many of these ideas directly address equity issues, like access to a driver's license or legal services for those with criminal records, which is really important for combating structural causes of inequities.

A local nonprofit in Trenton, NJ called Isles runs the Center for Energy and Environmental Training, in which it trains adults for entry-level careers in building energy audits and retrofits, alternative energy source installation, maintenance, and design, environmental cleanup, and green building operations. The program has been running for more than 10 years, and more than 3,500 people have received certifications through it so far. Isles also runs YouthBuild, designed for youth ages 16-24 that are not in school. This program has served many young people who struggle in traditional school and/or have been incarcerated, offering hands-on vocational training in construction and a state-recognized high school diploma. By connecting at-risk young people with mentors, support networks, an extended evening program, and hands-on training, the program provides opportunities to youth who have been marginalized economically, academically, and possibly socially.

Many town and city climate action or zero energy plans include mentions of green jobs programs, but have not necessarily started them yet. Arlington, MA has a goal in its net zero action plan to partner with local vocational and technical schools to mentor high school students in HVAC and clean technology jobs. Annapolis, MD has action items in its plan for a green job/skill training program, "green collar" job fairs, and attracting green businesses to the city.

The U.S. Department of Energy runs the Better Buildings Accelerators, facilitating peer-to-peer networks and giving technical assistance to address and remove barriers to building decarbonization. It has run accelerators on many issues, and one that is active in 2021 is in workforce development. The U.S. DOE has set a goal to train more than 37,000 workers. While no municipalities in NEEP's region are participating in this particular accelerator yet, 16 local governments in the Northeast have participated in some Better Buildings Accelerator.

Workforce development will not only be paramount to accomplishing the ambitious work ahead of local governments in building decarbonization, but it will also be a critical point to build in equity for the future of our economies.

Funding Sources

A major question for any town or city embarking on major climate change mitigation efforts is: "how are we going to pay for it?" Here we outline some funding sources that towns and cities in the region have used, and some of the accomplishments they have made with this financial help.

One method for funding energy efficiency or electrification improvements is with a Green Buildings Fund, which could be funded by non-compliance fees for green building standards. An example of this mechanism is Babylon, NY's Green Building Fund. Babylon has a resolution requiring a LEED checklist for any new construction over 4,000 square feet, and charges $0.03 per square foot (with a cap) if certification is not achieved. The town puts this money towards further improvements in community sustainable development.

Another important source of funding for towns and cities is state programs that give municipal grants. In Massachusetts, the Green Communities Program is a major one, designating green communities and giving grants for energy efficiency programs, on-staff energy managers, and more. Arlington, MA participated in the Green Communities Program and received over $1.7 million in grants, along with $300,000 from utilities. With this money, Arlington implemented projects that saved $400,000 a year in reduced energy costs. This program can also help communities with fewer resources achieve climate action; according to the Green Communities Division, 280 communities in MA have become designated and 160 of those are environmental justice communities.

New York has a similar program that the NY State Energy Research and Development Authority (NYSERDA) operates called the Clean Energy Communities Designation and Grant Program. This program gives grants to communities that complete clean energy actions, with a bonus for projects located in designated disadvantaged communities. In May, 2020 NYSERDA announced that more than 300 communities had earned the Clean Energy Community Designation, representing more than 91 percent of the state's residents.

A major drawback of NYSERDA's program, though, is that communities must take action before they can apply for grant money. As discussed above, reducing or removing upfront costs is critical for advancing energy equity, and by holding money until after actions are complete, the program is likely inhibiting communities with fewer resources from accessing grants. A provision for local governments that serve majority low-income or otherwise marginalized communities could make this kind of program more equitable.

State programs that are funded by Regional Greenhouse Gas Initiative (RGGI) proceeds are also a common source of funding for municipalities. In 2019 energy efficiency got the largest percentage (40 percent) of investments across all the RGGI states, and cumulatively over the years (as of 2019) energy efficiency has gotten 54 percent of investments. While many state programs serve customers/residents directly, some do channel money to municipalities. MA's Green Communities Program is funded primarily by RGGI, as is Maryland's Smart Energy Communities Program, which usually grants $10,000 to $75,000 to communities that are committed to energy efficiency, renewable energy, and/or transportation petroleum reduction. Eagle Harbor, MD participated in 2019 and used a grant to implement lighting upgrades in town facilities and an HVAC upgrade in the community center. These improvements are anticipated to reduce the town's energy usage by ~35,000 kWh per year, or roughly $4,200 in reduced energy costs. Massachusetts' RGGI rule also allows revenue to be used for zero-interest loans to non-Green Community designated municipalities for energy efficiency projects. This provision expands access to towns and cities that might not have the capacity or resources to commit to the ambitious targets required for Green Community designation.

Many states that participate in RGGI have a requirement that a minimum percentage of funds must benefit or be allocated to low- to moderate-income residents, and the same model could be applied to funding for municipalities. A requirement that a certain percentage of municipal funding go to governments that serve majority low-income residents would help ensure that the money benefit the communities that need it most.

Finally, some states have resources or programs to help communities develop their climate or net zero action plans. The Pennsylvania Department of Environmental Protection runs the Local Climate Action Plan Program, in which it supports a formal cohort of PA communities by matching them with college students and a DEP contractor to develop GHG inventories and climate action plans. The program provides a series of live training webinars and one-on-one technical assistance. Six towns have finalized their CAPs through this program, and many more are in the process. While they do not offer money, their resources help towns understand emissions and plans to reduce them, which are crucial first steps.