

July 28, 2021

Efficiency Maine Trust
168 Capitol Street, Suite 1
Augusta, ME 04330-6856
Via Web site: <https://www.energymaine.com/triennial-plan-v-comment-submission-form/>

RE: *Triennial Plan for Fiscal Years 2023 – 2025 (Triennial Plan V)*

Acadia Center respectfully submits the attached comments on the Efficiency Maine Trust (the “Trust”) [*Triennial Plan for Fiscal Years 2023 – 2025 DRAFT \(Triennial Plan V\)*](#).

[Acadia Center](#) is a non-profit research and advocacy organization incorporated in Maine and committed to advancing the clean energy future by offering real-world solutions to the climate crisis. Acadia Center tackles complex problems, identifies clear recommendations for reforms, and advocates to create significant change that supports a low-carbon economy across the Northeast. Acadia Center identifies regional, state, and local improvements that will dramatically reduce carbon pollution and improve quality of life throughout the Northeastern United States.

The Trust’s *Triennial Plan V* is an important step towards buttressing energy efficiency as a critical component to reaching Maine’s clean energy, climate, energy efficiency, and transportation goals.

Acadia Center looks forward to working with the Trust to finalize the *Triennial Plan V* and to advance strategies that increase energy efficiency investment and implement beneficial electrification policies and programs in the buildings and transportation sectors to benefit all Mainers.

Respectfully,

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Triennial Plan for Fiscal Years 2023 – 2025 (Triennial Plan V)

Response by Acadia Center

To Efficiency Maine Trust, July 28, 2021

[Acadia Center](#) appreciates this opportunity to provide written comments in response to the [Efficiency Maine Trust \(the “Trust”\)](#) request for comments on its [“Triennial Plan for Fiscal Years 2023 - 2025” \(Triennial Plan V\)](#).

Acadia Center Supports a Triennial Plan V That Incorporates Next Generation Energy Efficiency, RFI Responses, and Recently Authorized Initiatives

Based on the [July 14, 2021 Trust Stakeholder Meeting](#) and review of the *Triennial Plan V* draft, Acadia Center commends the Trust for developing an energy efficiency strategy based, in part, on meeting the State’s commitment to reduce Maine’s greenhouse gas (GHG) emissions 45% by 2030 and 80% by 2050 and to further advance energy efficiency as a critical component of reaching these targets and goals. The [Maine Climate Council Buildings, Infrastructure, and Housing \(BIH\) Working Group’s](#) June 2020 [Strategy Recommendations to Mitigate Emissions and Support Resiliency in Maine Buildings](#) also provides critical guidance to the *Triennial Plan V* to reduce emissions and increase efficiency in new and existing buildings, publicly funded buildings, industrial facilities, and the electricity grid. Acadia Center was a Member of the BIH Working Group and unequivocally supports the recommendations in that report and is looking forward to working with the Trust, state agencies, legislators, and stakeholders to ensure that those recommendations move forward and move quickly toward authorization and implementation.

While the Trust has helped Maine become a national leader in energy efficiency, far more must be done to improve the efficiency of homes and businesses and to ensure that all communities reap the full benefits of energy efficiency. Despite the good work already done over the last ten years, there is still more that can be accomplished to ensure that efficiency programs deliver benefits equitably across all communities and income levels. Underserved groups, including renters, low-and-moderate income communities, and non-English speakers, often face the worst impacts of climate change and poor housing quality but often have been unable to easily access the benefits of efficiency programs. At the same time, efficiency programs must be better aligned with electrification efforts, and energy efficiency should be elevated as a key tool to reduce GHG emissions.

Acadia Center is bringing together these complex but overlapping issues into its [Next Generation Energy Efficiency](#) initiative. *Next Generation Energy Efficiency* addresses these challenges through a new approach to energy efficiency – one that focuses on energy savings as a core energy system resource, but is also centered on meeting climate, environmental justice, and electrification goals. The four pillars of *Next Generation Energy Efficiency* are to:

1. Strengthen the role of efficiency in improving housing quality;
2. Address climate change mitigation and GHG reductions through energy efficiency;
3. Better align energy efficiency and electrification; and
4. Sustain investments in energy efficiency as a leading energy resource.

Acadia Center’s comments on the *Triennial Plan V* centers, in part, on these four priority areas and how the *Triennial Plan V* addresses them.

In these comments, Acadia Center also reaffirms and summarizes its April 9, 2021 recommendations offered in response to the Trust's [Request for Information \(RFI\) on Triennial Plan V \(Fiscal Years 2023-2025\)](#) and thanks the Trust for incorporating many of these suggestions into its *Triennial Plan V*. In response to the RFI, Acadia Center recommended that the Trust:

- **Expand program offerings** to put greater emphasis on new construction, marginalized communities, and whole-home customer residential measures.
- **Implement pilot programs** around ground-source heat pumps, bring-your-own-battery home battery solutions, and the use of Advanced Metering Infrastructure data.
- **Expand public outreach** efforts to make information more accessible.
- **Retain its successful EM&V** (evaluation, measurement, and verification) data collection and analysis activities.
- **Consider the full range of environmental avoided costs** in its cost-effectiveness analysis.
- **Increase energy efficiency job trainings and workshops** as part of Maine's COVID-19 recovery efforts.
- **Prioritize programs that deliver energy efficiency benefits to communities that face disproportionate environmental and energy burdens** but have faced barriers in accessing programs to date.
- **Continue to pursue active load management programs** to reduce peak demand and optimize the use of grid infrastructure.
- **Pursue opportunities to better align energy efficiency and electrification.**

Acadia Center also urges the Trust to phase out incentives for natural gas boilers and furnaces.

Finally, while outside the immediate scope of the *Triennial Plan V* draft, Acadia Center urges the Trust not to wait to start planning for incorporating recently authorized initiatives that will impact the energy efficiency policies, programs, and projects in 2023-25. These include, but are not limited to, the following:

- [LD 1733, An Act To Provide Allocations for the Distribution of State Fiscal Recovery Funds](#) to invest funds from the [American Rescue Plan](#) and other federal infrastructure and stimulus funding to make a substantial investment in Maine's weatherization and other programs.
- The [NECEC \(New England Clean Energy Connect\)](#) stipulation funds for heat pumps and electric vehicles is a critical financial resource available now to help expand and enhance current Efficiency Maine Trust heat pump, electric vehicle, and charger infrastructure programs.
- The [Maine Climate Action Plan](#), as it continues to be implemented on a legislative, regulatory, and programmatic basis, has the potential to be a major driver of energy efficiency programs.
- **Modern building codes**, including a movement toward net-zero building codes by 2035, were recommended by the Maine Climate Council BIH Working Group.
- New legislative initiatives, such as [Commercial Property Assessed Clean Energy \(C-PACE\)](#), [Maine Clean Energy and Sustainability Accelerator](#), and other recently enacted programs in the 130th Legislature.
- [Regional Greenhouse Gas Initiative \(RGGI\)](#) Program Review to begin later this year and that will need to align the RGGI cap with Maine and other state climate targets while delivering equitable reforms across 13+ states, including ensuring that RGGI-funded investments are equitable and transparent and ensure air quality improvement in environmental justice communities.
- The **Non-Wires Alternative (NWA)** process should be evaluated to ensure transparency and results.

- While not adopted by Maine at this time, the regional [Transportation and Climate Initiative Program \(TCI-P\)](#) program, if eventually approved in Maine, is likely to have significant impacts on Efficiency Maine Trust electric vehicle and infrastructure programs; Maine can capitalize on that opportunity by equitably implementing TCI-P. The [Maine Clean Transportation Roadmap](#) process, which is just getting underway, is another key guide to transportation efficiency programs.

During the July 14, 2021, Stakeholder Meeting, Trust officials assured stakeholders that the Trust is engaged in examining many of these recently authorized initiatives and Acadia Center supports all these programs and their incorporation into *Triennial Plan V* planning and implementation at the appropriate times.

Rationale for a Robust Maine-Centric Triennial Plan

Oil remains the primary heating fuel used by Maine households and businesses. There can be significant price volatility in oil markets due to circumstances out of consumers' control, including global market and political upheavals. Low-income households and small businesses are often most vulnerable to oil pricing shocks. Maine has no fossil fuel deposits and must import all it uses; therefore, most of the dollars spent on oil, natural gas, propane, and kerosene leave the State. Maine's housing and building stock is older and often poorly weatherized. Financial incentives for energy efficiency and replacement of oil heating systems are not always accessible or consistent, especially for vulnerable communities. Natural gas penetration into the State has increased, but it is still a fossil fuel that emits GHG emissions, and limited capacity and high prices in the winter when demand is high are challenges.

On the transportation side, Maine is nearly 100% dependent on petroleum to fuel rail, trucks, buses, planes, marine vehicles, snowmobiles, and automobiles. As with heating oil, gasoline and diesel prices can be extremely volatile due to global, national, and regional constraints. Transportation accounts for more than half of the State's energy use, emissions, and costs and accounts for 54 percent of its GHG emissions.

In a State where the home energy burden for low-income households is high at 19 percent, the Trust must expand its focus in the *Triennial Plan V* on ensuring that our most vulnerable citizens are warm, safe, and healthy and have more options to get to their jobs, doctors, and stores. Participation in residential energy efficiency and transportation programs by low-income Mainers is severely limited by higher upfront cost (even with incentives), split incentives between owners and renters, and insufficient informational outreach about efficiency and transportation programs. The Trust and other State entities will need to do more to help low-income customers and enhance programs to benefit hard-to-reach communities, including rural parts of the State.

The *Triennial Plan V* programs must do more to alleviate energy burdens, such as enhancing energy efficiency programs to help low-income residents manage energy costs and promote customer equity. A robust *Triennial Plan V* will also benefit the overall energy system by reducing ratepayer costs and environmental impacts of energy use. Acadia Center responds in its comments to the *Triennial Plan V* draft at varying degrees of specificity and analyses, but overall believes the Trust is moving toward a stronger and more energy-efficient future.

Acadia Center Comments

Acadia Center focuses much of its comments on its Next Generation Energy Efficiency initiative and its response to the Trust's *Request for Information (RFI)* on its *Triennial Plan V (Fiscal Years 2023 – 2025)* and restates some of its responses to the RFI in the sections below, with some variation based on new information in the draft plan.

The Triennial Plan V aligns well with Next Generation Energy Efficiency.

Acadia Center commends the Trust for incorporating stakeholder input in the *Triennial Plan V* and outlining a plan that prioritizes decarbonization, equity, and electrification. By including the non-embedded costs of carbon in its assessment of the benefits of energy efficiency, the Trust is taking a significant step forward in strengthening the role that energy efficiency can play in helping to meet Maine’s climate targets, improving housing quality, and improving environmental justice conditions in the state. The Trust can now provide support for measures that significantly increase ratepayer benefits and allow for whole-home treatment instead of siloed solutions. By including marginal abatement costs for carbon in its cost-effectiveness testing, the Trust can help put Maine on the right path for meeting its emissions and electrification targets.

Expand program offerings.

While Acadia Center does not have the capacity to evaluate every individual program detail proposed in the *Triennial Plan V* draft, Acadia Center emphasized the importance of expanding the Trust’s program offerings to encompass three targeted savings opportunities in its RFI responses of April 9, 2021:

- **Whole-home, custom residential measures**, which could leverage weatherization upgrades to reduce the cost of electrification, improving cost-effectiveness and increasing economic benefits. The Trust already offers incentives for each separate element of a whole-home offering but does not advertise them as a package. Providing an appropriate supplemental incentive and marketing this holistic approach via the Trust’s traditional digital advertising tools, including its website, could help to maximize bill savings and emissions reductions for each participating home.
- **Studying energy burden in marginalized communities** could corroborate [evidence from elsewhere](#) that low- and moderate-income households live in less efficient housing units than average. Understanding how much less efficient these units are could help the Trust target notably drafty homes for efficiency improvements, maximizing the impact of its constrained funding while promoting environmental justice.
- **Developing a whole-home new construction offering** to improve code compliance and reward above-code construction in preparation for updated statewide building energy codes.

The Trust’s draft of *Triennial Plan V* does not fully address these priorities. Therefore, Acadia Center’s responses to the Trust’s initial RFI are reprinted here:

Whole-home, custom residential measures. The Trust has proven in recent years that Mainers are ready to embrace electrification. More heat pump installations are supported by the Trust each year than by Massachusetts’ Mass Save programs,¹ which offer higher incentive levels in a much larger state.² Specifically promoting whole-home, “zero-

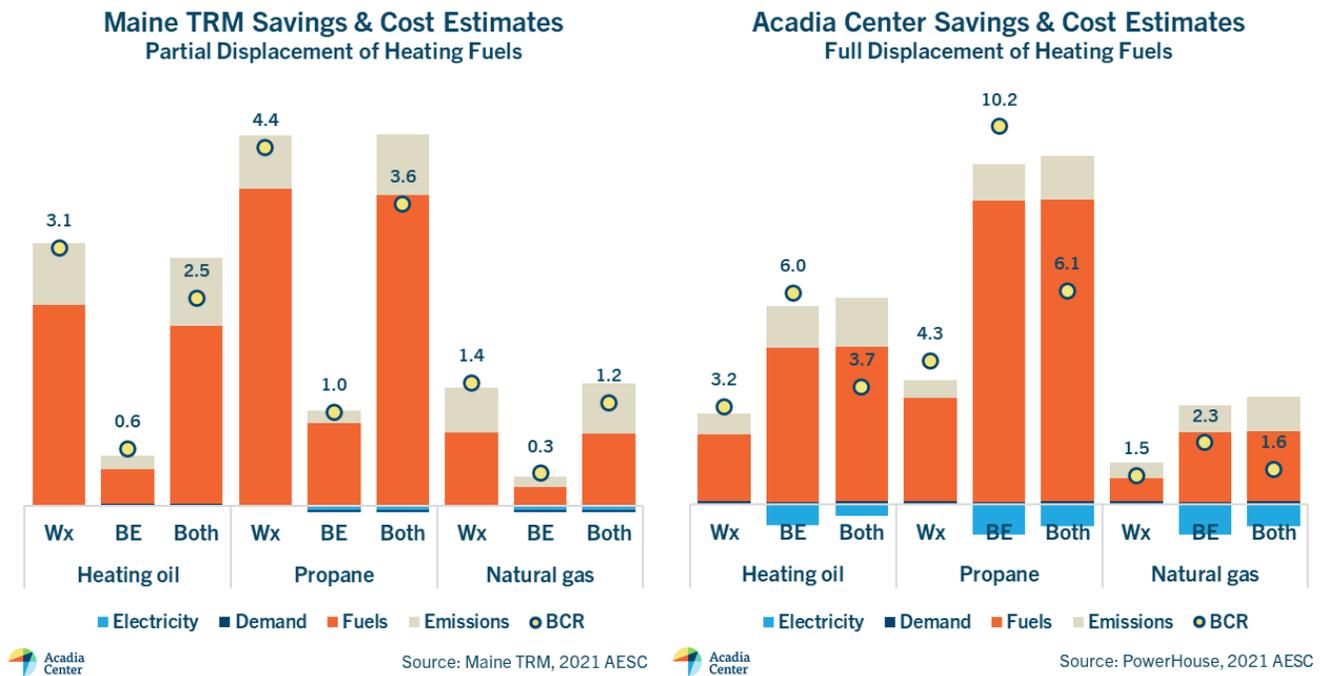
¹ Massachusetts program administrators support about 12,750 heat pump installations per year, compared to Maine’s statutory target of 20,000 installations. In both cases, most installations partially displace fossil fuels.

² The Trust offers a maximum incentive of up to \$1,500 per home for ductless mini-split installations, or \$2,500 for low-income participants. Massachusetts program administrators offer \$1,250 per ton for oil and propane-heated homes, a total incentive which can exceed \$6,250 for one home.

carbon-ready” retrofits would be an excellent way to increase bill savings for participants while orienting the Trust’s programs even more explicitly toward achieving the State’s climate targets. This type of project would entail standard program-supported insulation and air sealing upgrades, along with full electrification of all fuel-fired equipment used for space heating, water heating, cooking, and laundry appliances.

Acadia Center analysis of the 2021 AESC avoided costs shows that whole-home electrification and weatherization projects would generate more net benefits than current measure categories while remaining cost-effective for every fuel type. Meeting Maine’s climate targets will require displacing not just fossil fuels used for heat, but fossil fuels used for anything in a building. A whole-home electrification and weatherization offering from the Trust could go a long way toward demonstrating the value of this type of retrofit.

Figure 1: Net Benefits and Benefit-Cost Ratios for Whole-Home Projects in Maine



Marginalized communities. Low- and moderate-income households, people of color, and English-isolated families tend to live in older and draftier housing units with higher heating bills. These buildings have the greatest potential for energy bill savings and emissions reduction, but they are occupied by the people who can least afford to shoulder the cost of energy upgrades. A detailed on-site study of the energy impacts of efficiency upgrades in low-quality housing could reveal important information about efficiency challenges in this market segment, which would help the Trust to claim greater savings commensurate with the greater difficulty of reaching and serving these ratepayers.

New construction. Maine’s Climate Plan called for tightening Maine’s building energy code.³ Because Maine’s statewide building energy code remains relatively new, having been adopted in 2008 and updated recently, implementing this goal may be logistically difficult. Recognizing this, the Plan also calls for “enhance[d] existing training on building codes... to support ongoing education of contractors and code-enforcement officials.”

Code compliance training will indeed be necessary to help the State’s contractor workforce into these new requirements. The Trust may be able to claim savings from training and code enforcement program offerings as certain other states have done. Additional programs that incentivize above-code new construction in the near term could employ HERS (Home Energy Rating System) raters and other building energy professionals while demonstrating to contractors in the State that green building techniques are feasible, cost-effective, and marketable.

Pilot New and Existing Innovation Programs.

Acadia Center commends the Trust for its commitment to piloting cost-effective program innovations that take advantage of emerging technologies to expand the impacts of energy efficiency in Maine. Acadia Center supports pilot projects that demonstrate new types of energy efficiency, demand management, beneficial electrification, or alternative energy measures and those that target measures with significant potential to be cost effective to provide energy or GHG savings. In the draft *Triennial Plan V*, the Trust allocates one percent of program budgets to innovation programs, up from 0.5 percent in *Triennial Plan IV* and Acadia Center supports this increase.

In its April 2021 RFI responses, Acadia Center mentioned three such pilot innovation approaches, which we reiterate here:

- **Ground source heat pumps.** The Trust currently offers a \$3,000 incentive for ground source heat pump (GSHP) systems. These systems provide a variety of benefits, including notably high energy efficiency, low operating costs, exemplary cold-weather functionality, reduced peak demand relative to other electric heating systems, and long lifetime. Increasing the adoption of GSHPs in Maine could nurture a local contractor base, help to avoid controversial electric transmission infrastructure by mitigating growth in winter peak demand, and achieve more whole-home (rather than partial) heating electrification projects. These benefits justify maintaining or expanding existing rebates, as well as devoting more space on the Trust’s website to advertising them.
- **Bring-your-own-battery load shifting.** Noting the cost-effectiveness limitations of purchasing batteries and installing them in the homes of program participants, the Trust – in the Demand Management Program section of the *Triennial Plan V* draft (section 5.9) – expresses an intention to leverage batteries purchased by homeowners for reliability purposes for the Trust’s load shifting activities. Acadia Center supports this determination and thanks the Trust for its attention to the potential of load shifting as an energy-saving and emissions-reducing initiative.

³ “By 2024, develop a long-term plan to phase in modern, energy-efficient building codes to reach net-zero carbon emissions for new construction in Maine by 2035.” [Climate Action Plan](#), p. 49.

- **Harnessing advanced metering infrastructure (AMI).** While the draft *Triennial Plan V* makes no mention of harnessing Maine’s high level of AMI penetration for the purposes of demand management, the Trust’s commitment to cost-effective demand response and load shifting is noted.

Expand, enhance, and target public information and outreach.

The Trust’s website is a robust and accessible source of information on its programs and services. Acadia Center appreciates that the Trust is expanding its efforts across programs to alleviate market barriers by complementing program outreach and marketing. The Trust has outlined its intentions to:

- Increase general energy information and education to all parties involved in selling, servicing, purchasing, or using devices that consume energy;
- Help boost energy savings through increased general awareness of benefits of cost-effective, customer-sited energy resources; of operating practices and behaviors; and basic guidance in how to access Trust programs; and
- Training opportunities and scholarships to reduce market barriers to workforce development.

The Trust has delineated ways to improve and expand its public outreach and education, including through digital marketing, print ads, events, direct mail, and outreach through partner organizations (e.g., DHHS, MaineHousing, Community Action Agencies, etc.). However, to better reach low-income homeowners, renters, rural residents, and others who may have less access to information, the Trust should prioritize, for example, providing materials in multiple languages and hosting webinars and educational events during non-work hours. Increased and more targeted guidance from the Trust, along with utilities, energy efficiency professionals, local governments, NGOs, and others can make energy efficiency improvements more understandable, accessible, and easily implemented by both homeowners and businesspeople. The Trust can be and has been helpful for consumers working through the available information about upfront costs, how to choose a contractor, quotes and pricing, available incentives, and resulting energy cost savings. Acadia Center supports more and better marketing and education to the consumer to help build a foundation of common knowledge to lead to greater public acceptance and adoption of energy efficiency programs.

As new technologies and programs are available in Maine, including from new federal stimulus and infrastructure policies and appropriations, that improve heating systems, weatherization, lighting, and other efficiency measures, it is vital to educate the public and companies working in the sector to ensure that people are not only more educated on their use, but also so they are aware of the financial and other assistance available to them. Information flow and accuracy to energy consumers can be deficient, and utilities, public, private, and nonprofit energy representatives need to do a better job at providing honest, consistent information.

Acadia Center commends the Trust for its programs targeting underserved customer segments. As climate, weatherization, and electrification programs ramp up significantly in the wake of the *Climate Action Plan* and agency efforts to implement its priority strategies, the State needs to develop, market, and implement programs that markedly reduce energy burdens and make its housing more affordable, safe, and healthy for all people – especially low- and moderate-income households – through a comprehensive approach to new and existing homes. It is particularly important and compelling to divert focus to dramatically accelerate low-income weatherization

programs to tighten up leaky homes – which are also often unsafe and unhealthy – and reducing energy burden by transitioning to clean, cost-effective heating and cooling systems that rely on renewable electricity.

Maintain evaluation, measurement, and verification (EM&V) tools.

Acadia Center finds the Trust’s existing evaluation schedule and funding practices to be a reasonable expenditure of time and resources. Evaluation research provides crucial information that helps program administrators design and deliver programs in a way that maximizes benefits. It is and will remain a wise investment at 2.5 percent of program budgets.

Commend the Trust for incorporating non-embedded environmental avoided costs.

The Trust’s draft of *Triennial Plan V* notes that “the Trust for the first time incorporates into its avoided costs a value for the nonembedded costs of carbon.” In its April 2021 responses to the Trust’s RFI, Acadia Center recommended that the Trust account for environmental avoided costs using one of the marginal abatement costs (MACs) that were calculated for the 2021 edition of the Avoided Energy Supply Component (AESC) study. The \$125 per ton avoided cost of carbon which the Trust expressed its intent to use is one of those MACs. Acadia Center thanks the Trust for its attention to this important issue. Integrating non-embedded environmental avoided costs into its cost-effectiveness test will allow the Trust to contribute even more to Maine’s ambitious climate goals.

Increase and Target Workforce Development.

A November 2020 report by the Governor’s Energy Office, entitled “*Strengthening Maine’s Clean Energy Economy*,” held up the State’s energy efficiency sector as a source of economic growth and workforce opportunities, a critical tool in Maine’s recovery from the COVID-19 pandemic and its resulting economic disruption. The report has several findings, including the following:

- A significant number of Maine’s energy workforce is within the energy efficiency sector.
- An ongoing need to continue to weatherize Maine’s old housing and building stock, primarily through Trust and MaineHousing programs, will drive a continued need for energy efficiency workforce and the associated supply chain.
- In combination with supportive energy efficiency policies and goals, this sector is primed for continued growth. According to the Trust, there are close to 550 registered heat pump vendors as of October 2020. To demonstrate the growth potential, around 80 new vendors have been added between July and October, averaging an increase of one new vendor per workday. Many of these companies are hiring, showing great potential for a growing workforce.

Since 2010 and the creation of the Trust, Maine’s energy efficiency policies have grown stronger. In the last two years alone, Governor Janet Mills and her Administration have set a goal for 100,000 new heat pumps by 2025; strengthened the Heat Pump Rebate Program for up to \$1500 in residential and commercial sectors; and enhanced electric vehicle and charging infrastructure rebate programs, including for qualifying low-income drivers and local and tribal governments. With supporting policies in place, the energy efficiency sector is poised for fast and high-quality job growth with benefits for supply chain, community, and public health.

In the wake of the COVID-19 pandemic, there is opportunity for more, such as increasing training and workshops. Energy efficiency is the fastest-growing segment of U.S. energy-sector employment, now employing more than 2.3 million Americans, according to an analysis from E2 and E4TheFuture. Energy efficiency workers now account for 28% of all U.S. energy jobs, although the COVID-19 pandemic led to job losses in all energy industries. The report, [*Energy Efficiency Jobs in America*](#), finds energy efficiency jobs grew 3.4 percent in 2018 – more than double the rate of growth for overall jobs nationwide — with not a single state with declines in energy efficiency employment in 2018. In Maine, the report shows:

- 8647 total energy efficiency jobs;
- 1587 energy efficiency businesses; and
- 20% of all construction jobs and 35% of all energy jobs are in energy efficiency.

Acadia Center supports expanding Maine’s energy efficiency workforce as a key component of the *Triennial Plan V* and believes it is integral to helping the State’s businesses and homeowners save money while creating local jobs. Energy efficiency jobs include positions in manufacturing, construction, retrofitting buildings, professional services, as well as at the heating, ventilation, and air conditioning (HVAC) companies that upgrade outdated inefficient HVAC systems, boilers, ductwork, and other equipment.

Acadia Center urges the Trust to focus on hard-to-reach areas, including low-income and rural populations and supports a triennial plan that devotes resources to workforce development and recommends a greater focus on more vulnerable communities and workers who may not have equal access or opportunities available to them. These vulnerable communities include, but are not limited to, indigenous people, immigrant communities, communities of color, low-income communities, and youth and seniors. Each community has unique vulnerabilities and specific concerns and circumstances but should be a focus of workforce development initiatives.

Maine’s workforce needs be well informed and trained in new and existing heating systems and technologies to ensure they are properly installed, maintained, and utilized most effectively. If Maine prioritizes workforce training in the energy sector, and provides proper training for space heating, cooling, and hot water, a plethora of benefits, including jobs, energy efficiency, enhanced indoor air quality, greater comfort, and reduction of emissions will follow. In turn, home and business owners will experience energy bill savings.

Acadia Center commends the Trust for focusing its workforce development on heat pump installers, as this conforms to the *Climate Action Plan* and related electrification recommendations and targets and its outlook to offer specific trainings for installers and building contractors during *Triennial Plan V* period as new technologies come on the market and updated and stretch building energy codes are implemented.

Prioritize programs that deliver energy efficiency benefits to communities that face disproportionate environmental and energy burdens but have faced barriers in accessing programs to date.

Acadia Center commends the Trust for including a greater focus on equity in the *Triennial Plan V*. To further address the fact that not all communities are able to access program benefits to the same degree, Acadia Center recommends that the Trust consider the following recommendations as it implements *Triennial Plan V*.

- **Carve out the cost of engaging low-income and renter participants from the cost-effectiveness test** to eliminate the artificial cap that those costs place on the Trust’s ability to reach underserved communities.
- **Qualify block groups.** Means-testing thousands of individual households is costly for the Trust and participating households alike. Pre-qualifying households based on their Census tract or block group can help to surmount this barrier. Not only would this reduce the cost of verifying household income, but—much more importantly—it would eliminate the onerous forms, documentation, office visits, and other leg work that prospective participant must complete to secure eligibility.
- **Offer low- or zero-cost upgrades to both low- and moderate-income households.** Low-income households are those that make 60% or less of Maine’s median household income for their family size. If the median household income for a family of four in Maine as of 2019 is \$54,101, a family making under \$32,400 should qualify for greater incentives. However, because participant costs are not calculated on a curve, a household with an income of \$32,000 qualifies for low-income incentives, while a similar household making \$34,000 would pay as much as a household making \$400,000. Offering better financial assistance would extend the benefits of energy efficiency to a group that has been underserved to date.
- **Fully incorporate the health and safety benefits of energy efficiency into program offerings and cost-effectiveness measurements.** 11.2% of adults in Maine have asthma – among the highest rates in the country.⁴ Asthma is one of the main reasons for missing school and work, imposing significant health and lost productivity costs on Mainers. By valuing the non-energy benefits that energy efficiency provides and the role it can play in alleviating health and safety burdens, the Trust could help Maine save money and improve the health and comfort of its most vulnerable citizens.
- **Fully quantify the value of treating buildings in environmental justice communities.** Some of the benefits of targeting marginalized households are hard to quantify. However, it is in the nature of cost-effectiveness testing that every benefit must be assigned a dollar value. For non-energy impacts related to health, safety, and household finances, certain stand-in avoided costs may suffice—the cost of a night in the hospital, for example, or the cost of a high-interest payday loan.⁵ Yet the benefits of energy efficiency extend beyond the financial fortunes of an individual household. This “social value of environmental justice” would be harder to pin down. The Trust should study the broader social, economic, and environmental benefits that result from energy efficiency investments in marginalized communities. Such a study could help stakeholders account for hard-to-quantify environmental justice benefits in the most accurate possible way.

Continue to pursue active load management programs to reduce peak demand and optimize the use of grid infrastructure.

Acadia Center recommends that the Trust expand program offerings that help to deliver the benefits of load management. The Trust’s Demand Response Initiative and Load Shifting Initiative present significant opportunities,

⁴ <https://www.maine.gov/dhhs/mecdc/population-health/mat/asthma-information/asthma-in-maine.shtml>

⁵ Hawkins, Beth et al. “Low-Income Single-Family Health- and Safety-Related Non-Energy Impacts (NEIs) Study.” Prepared for Massachusetts Program Administrators. August 5, 2016. [Accessible here.](#)

and Acadia Center appreciates the plan to incentivize the use of electric vehicle (EV) smart charging and battery storage for shifting load.

Pursue opportunities to better align beneficial electrification with energy efficiency.

Acadia Center offered extensive comments pertaining to the Trust’s beneficial electrification activities in its April 2021 RFI responses. Those comments, to a large degree, discussed elements of Maine state policy that the Trust cannot influence entirely on its own. They are substantially reprinted here, with some alterations to reflect the new information offered in the draft *Triennial Plan V*.

In its RFI, the Trust noted that it expects a “significant funding gap between the funds the Trust is authorized to seek and the funds required to meet the *Climate Action Plan’s* goals.” The Climate Action Plan envisions:

- About 20,000 residential heat pump installations per year
- About 3,500 weatherization upgrades in homes and business each year
- Enhanced building energy code compliance training
- Programs to increase the use of climate-friendly Maine forest products

The Trust’s *Triennial Plan V* draft includes about \$35.8 million in RGGI and Forward Capacity Market (FCM) revenue devoted to the Home Energy Savings Program (HESP) over the *Plan* term. These funds would be sufficient to install around 13,140 two-head, Tier 2 ductless mini-split systems and weatherize at least 1,600 homes over the plan term.⁶ Achieving the *Climate Action Plan’s* goals will indeed require more revenue for the Trust than is currently available. As the Trust’s RFI notes, surmounting this funding gap will be a tall order. Below are some suggestions that may help to ameliorate this problem.

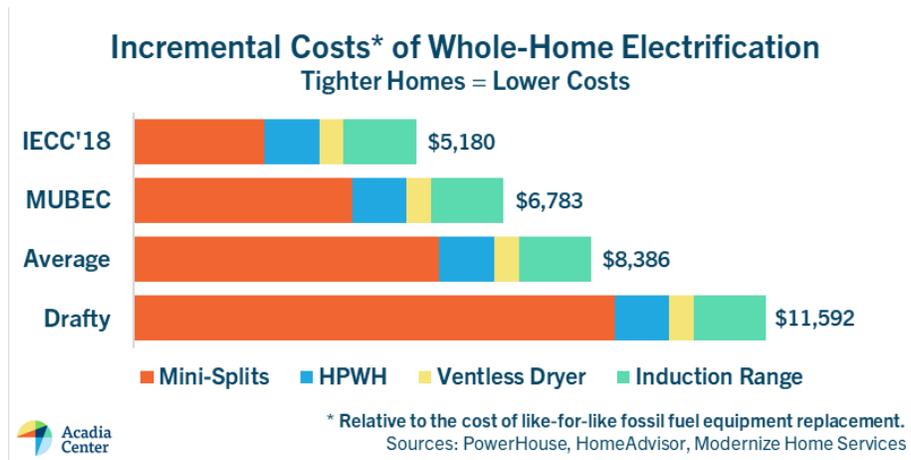
Supporting new fossil fuel-fired heating equipment contradicts state law. Acadia Center strongly commends the Trust for discontinuing subsidies for the purchase of new oil and propane heating systems in *Triennial Plan V*, on the grounds that they are inconsistent with Maine’s GHG reduction commitments. The Trust’s recognition of the importance of building electrification to achieving emissions reductions is unparalleled and deeply appreciated.

Electrification at scale requires a stick as well as a carrot. Efficiency Maine Trust delivers incentive programs. Over the years, these incentives have led to a tremendous amount of energy savings, as well as substantial economic benefits for Mainers. Yet, it is in the nature of incentive programs that they can serve only those who are willing and able to participate. While it is no stretch to say that the Trust is the most successful building electrification program in the country today, it may be that with every completed heat pump installation, finding the next participant gets a little harder. For this reason, the State should be prepared to intervene with regulations that nudge home and business owners to electrify their buildings when their current equipment reaches the end of its useful life. Leveraging stock turnover points requires close engagement with the State’s HVAC contractors, but could be a low-cost, high-reward

⁶ The Trust’s measure list documentation—Appendix L in the 2020-2022 Plan—suggests that it costs \$12,450 to insulate the walls, attic, and basement of a home and install air sealing measures. In many homes, it is not feasible or desirable to install all these measures.

emissions reduction strategy, giving the Trust a key assist as it works to enlist more Mainers in the State’s fight against climate change.

Weatherization enables more heat pumps for the same price. Acadia Center expects that well over half of Maine’s housing units could benefit from some kind of weatherization upgrade: 96% of units were built before the State adopted a statewide building energy code in 2008, and more than 40% were built before any state had adopted a building energy code. Even at the pace suggested in the *Climate Action Plan*, it would take nearly 40 years to provide weatherization services to just the oldest homes in the state.⁷



Yet weatherization is an important enabler of building electrification, in addition to being a cost-effective efficiency upgrade in its own right. Acadia Center analysis shows that program-supported insulation and air sealing has the potential to reduce a home’s heating load by up to two tons, which, for whole-home heat pump configurations, could reduce installation costs by thousands of dollars in each home.

The potential for weatherization to act as a cost-containment strategy for Maine’s ambitious building electrification goals is an important factor for the Trust—and the State—to consider.

In the 2022-2024 Plan, the maximum incentive for weatherization measures in gas-fired homes was greater than the maximum incentive for other homes: \$6,400 for gas homes compared to \$3,400 for others. Offering the higher incentive for any home that chooses to weatherize and install heat pumps within the same year could help to ensure that any extra weatherization funding results in this cost-containment effect.

New funding sources. The Trust, acting alone, could not achieve a threefold increase in funding for HESP, and new sources of funding would require legislative approval. If it were approved by the Legislature, a new surcharge on delivered fuels could generate an amount of revenue commensurate with the weatherization target that the Trust has been asked to undertake.

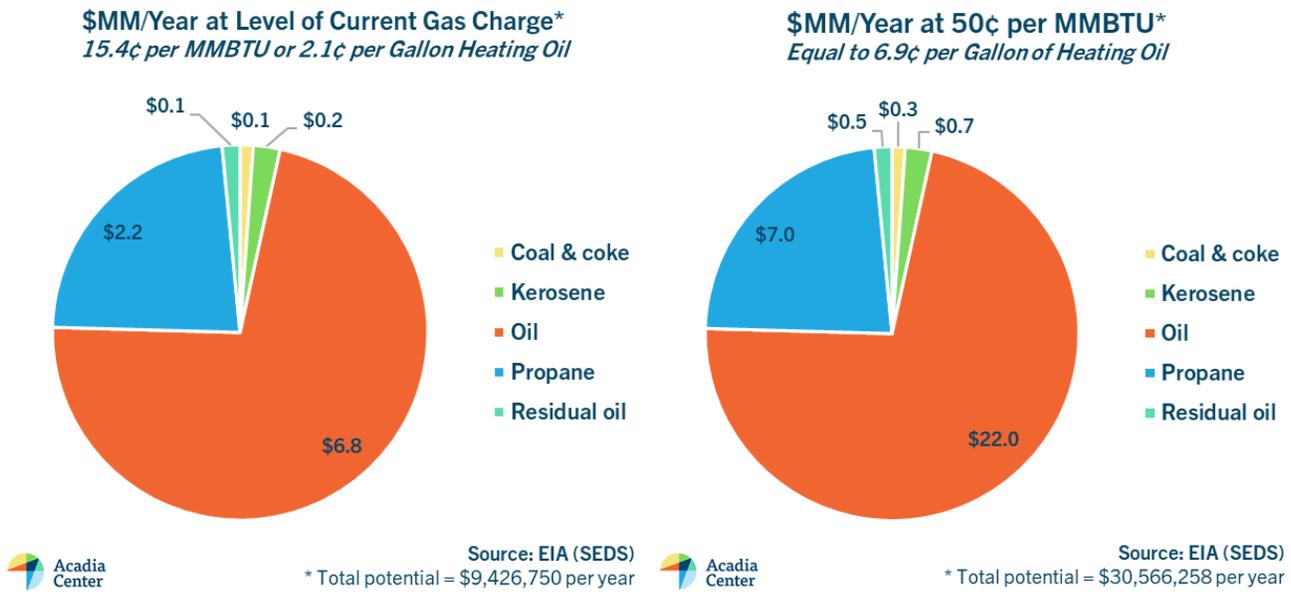
Acadia Center concurs with the recommendation from the *Maine Climate Council’s Buildings, Infrastructure, and Housing Working Group* pertaining to the adoption of a fuel-neutral funding mechanism. The Trust’s funding comes disproportionately from electric ratepayers, who will contribute 53% of the Trust’s 2023-2025 Plan budget—almost four times larger than the RGGI funding. This lack of diversity in funding sources hinders the Trust’s ability to meet the goals which the Legislature and Climate Council have set for it.

⁷ Among occupied housing units in Maine, 129,467 were built before 1940, which is 23% of all units. Many of these have been renovated in the years since; many have not.

Seventy-two percent of occupied housing units in Maine use oil or propane for heat, yet only 35% of the HESP budget—the portion attributable to RGGI proceeds—can be used to weatherize these units. Acadia Center estimates that a conservation surcharge on delivered fuels, set at the same level as the current surcharge on natural gas,⁸ could generate more than \$9.4 million in the first year. This would cost an average oil-burning home in Maine around \$12 per year but could weatherize between 1,000 and 1,500 homes.

A more aggressive surcharge of 50 cents per MMBTU, which would cost an oil-burning Maine home about \$40 per year, could generate \$30.6 million annually. This is enough to weatherize at least 3,200 additional homes each year—a number close to the Climate Action Plan’s target of 3,500.

Figure 2: Potential Revenue from a Delivered Fuels Surcharge in Maine



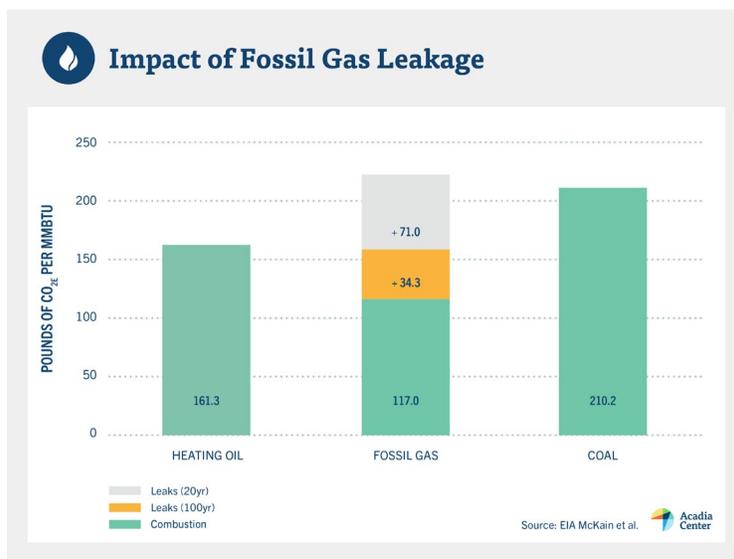
Phase out natural gas incentives.

Acadia Center supports the *Triennial Plan V* progressive phase out of incentives for oil and propane boilers and furnaces and recommends discontinuation of gas heating infrastructure incentives as well. More natural gas is unnecessary in a State striving for full decarbonization and beneficial electrification of buildings and transportation. Mainers are just starting to get over their long-standing dependence on dirty heating oil and do not need to invest in new gas infrastructure and systems over solar, heat pumps, and storage that meet our state climate policies and reduce operating costs over time. Unlike renewables and heat pumps, “fossil” gas requires an extensive and dirty network of extraction, production, and transmission to deliver fuel to homes and businesses. This network comes with added risks like leaked methane, price fluctuations, worsening air quality and adverse health effects.

⁸ Maine’s natural gas conservation charge is set at \$0.01487 per therm, which is equal to \$0.1542 per MMBTU. This would be the equivalent of 2.1 cents per gallon of heating oil or 1.4 cents per gallon of propane.

Paying for or incentivizing new gas systems is a bad deal for Mainers, who can save more money and reduce more emissions by bypassing gas for clean, efficient electric equipment. [Acadia Center analysis](#) shows that switching from oil to gas saves the average Maine family about 10 percent on energy bills, but whole-home electrification in the same home can save 25 percent or more. And while a gas home emits about as much greenhouse gas as an oil home, electrification can reduce emissions by 60 percent. Maine’s energy, reliability and climate needs are better met by clean heating and stronger building codes rather than decades of expensive and carbon-intensive infrastructure and fuels.

Natural gas is mostly comprised of methane, an extremely potent GHG that leaks into the atmosphere at every stage of its journey, from generation to interstate transmission and distribution through local pipelines. Methane, when not combusted, has a global-warming potential (GWP) that is 28 times greater than carbon dioxide over a 100-year span. Methane is even more potent when looking at its initial 20 years in the atmosphere, with a GWP of 86 times that of carbon dioxide. In fact, when accounting for leakage throughout the gas distribution system, gas may be as harmful or worse for the climate than burning oil or even coal, as demonstrated in the chart below:



Maine cannot meet its legislated climate targets if it continues to incentivize, expand, or rely on natural gas. In addition, all the natural gas Maine consumes for electricity and heating is extracted from outside the State. Maine has its own rich sources of renewable energy. By increasing renewable energy sourced from within the region, maximizing energy efficiency investments, and transitioning to electric heating technologies, Maine can keep millions more dollars circulating in the local economy and provide local employment. Additionally, the high demand for gas during winter months (for both electricity and heating), means that consumers pay a premium in energy prices. Relying instead on low-cost, renewable, and reliable energy sources like solar, wind, and hydroelectric power provides energy security superior to imported natural gas. In addition to widespread methane leakage dangers, natural gas presents an ongoing public health concern even when burned successfully as a heating, cooking, or electricity generation fuel. In homes that use carbon-based fuels like natural gas, the threats of carbon monoxide are ever present and long-term exposure to fumes from gas use from heating and cooking have been linked to significant cases of respiratory and cardiovascular disease.

As the region transitions away from fossil fuel use, and in particular natural gas, it is important to structure utility rates and incentives appropriately to ensure a just transition for all consumers and avoid price shocks. Acadia Center will continue to participate in actions throughout the Northeast to phase out natural gas. In the meantime, we hope the Trust and Maine policymakers work together to reduce and eventually phase out incentives for natural gas in Maine's buildings and heating portfolios.

Recently Authorized Initiatives

The *Triennial Plan V* will need to be flexible and adaptable to changes during its three-year period to accommodate a series of recently authorized initiatives, as well as to anticipate and plan for other initiatives that, while not currently authorized or required at this time, may be on the horizon. Acadia Center references several of these initiatives below and provides context as to their importance because, as a rule, the *Triennial Plan V* should be built and ready for other policy and programmatic directives and changes as Maine progresses and moves closer to a decarbonized, electrified economy and the legislative and regulatory actions that will necessitate these changes. For those initiatives that have not been enacted or authorized, Acadia Center will be advocating in support of them and will advise policymakers of their importance to the Trust's continued success in achieving energy and cost savings and emissions reductions for all Mainers.

Maine Jobs & Recovery Plan

[LD 1733 – An Act To Provide Allocations for the Distribution of State Fiscal Recovery Funds](#), signed by Governor Janet Mills on July 19, 2021 and slated to go into effect 90 days later, provides a massive infusion of funds to Trust programs. It will be imperative for Trust staff and board to ensure these funds are applied in a cost-effective manner. Acadia Center commends Maine policymakers with moving forward with [the Maine Jobs & Recovery Plan](#) for federal [American Rescue Plan](#) funds. Maine needs to fully explore every investment opportunity available to create and grow good-paying jobs and continue to rebuild the economy after the COVID-19 pandemic. The plan includes significant climate investments: \$50 million for energy efficiency, \$150 million for broadband, \$8 million for electric vehicle charging, \$8 million for a clean energy partnership to support clean energy and energy efficiency job growth, \$50 million for heritage industries including food processing and innovative climate friendly forest products, \$50 million for drinking water and wastewater infrastructure, and \$20 million for an infrastructure adaptation fund.

One example of the importance of LD 1733's funding and investment levels is in "improving family infrastructure" through energy efficiency. Investing in renewable energy, energy efficiency, and clean transportation is one of the key strategies to achieving Maine's most important climate goals. LD 1733 funds will be used to support a wide variety of projects and purchases for weatherization- and efficiency-related goods and services; renewable energy technologies; and EVs and related infrastructure and assist the State in mobilizing investment in distributed energy resources; retrofits of residential, commercial, and municipal buildings; and clean transportation. Without these funds in place quickly and effectively, it will be more difficult to finance the low-carbon (or no-carbon) economic transition needed to meet Maine's *Climate Action Plan* targets and leverage the funds necessary for beneficial electrification, decarbonization, and net-zero buildings, power, and transportation. Starting in 2021 is particularly important in a post COVID-19 pandemic economy but will have implications in 2023-25 programs. It's imperative to move quickly and methodically to reduce GHG emissions, ensure equity across the investment spectrum, and put Maine people to work.

New England Clean Energy Connect (NECEC)

In January 2019, Acadia Center joined a multiparty settlement to impose economic and consumer protection conditions on Central Maine Power (CMP) in the Maine Public Utilities Commission's (MPUC) proceeding on the New England Clean Energy Connect (NECEC) transmission line. In that proceeding, Acadia Center joined the settlement for a certificate of public need and necessity (CPCN) for the NECEC line because the settlement would strengthen Maine's economy, protect consumers, and deliver a clean energy future for the State.

As part of the NECEC settlement agreement approving the project, the project sponsors agreed to establish multiple funds to deliver benefits to Maine. Three of the funds will be administered either fully by the Trust or in cooperation with other State agencies:

1. \$15 million Heat Pump Fund to support the installation of heat pumps;
2. \$10 million Hydro-Quebec EV Fund to support public EV charging infrastructure; and
3. \$5 million Dirigo EV Fund to provide marketing and financial incentives promoting EVs.

The Trust, on July 23, 2021, received a lump sum via the Dirigo EV Fund while the other two will be paid out over multiple years. A fourth fund, the \$50 million Low-Income Customer Benefits Fund, was also established to support programs that reduce energy expenditures for low-income Mainers. According to the *Triennial Plan V* draft, "for calendar years 2021 and 2022, annual payments of \$1.25 million from the Low-Income Customer Benefits Fund will be administered by the Trust to promote more heat pumps, heat pump water heaters, and weatherization. Given the Trust's statutory authorization and ongoing program activities related to heat pumps, EVs, and energy efficiency in low-income homes, the parties in the settlement agreed that the Trust is well situated to administer and provide accounting for the funds in an efficient, effective, and timely manner." As a party to the settlement, Acadia Center agrees and fully supports these funds and the Trust's administration of the funds and recognizes the importance to the *Triennial Plan V*, as these funds are among the few concrete financing mechanisms currently available and envisioned to implement the priority strategies in the *Maine Climate Action Plan*.

Maine Won't Wait: A Four-Year Plan for Climate Action

On December 1, 2020, the Maine Climate Council released its report, "[Maine Won't Wait, A Four-Year Plan for Climate Action](#)". The *Maine Climate Action Plan* aims to invest in renewable energy, efficient buildings, clean transportation, healthier communities, and our most vulnerable citizens, while driving a clean energy economic recovery.

Not all strategies are created equal, and entities like the Trust will want to focus on those that deliver the biggest bang for their buck. This plan represents the most significant and comprehensive effort to map out the actions that are needed to reduce climate pollution and create new jobs as part of the transition to a clean energy economy. It sets out strategies based on scientific assessments of the reduction levels needed to help protect our economy, people, and environment from severe impacts of climate change. The *Climate Action Plan* includes substantial increases in electric vehicles and residential heat pumps, additional support for renewable energy projects, and assistance to improve community resilience. There are also strong recommendations to protect natural and working lands and forests across the state, which absorb carbon dioxide from the atmosphere.

While the *Plan* has gaps, Acadia Center believes this blueprint will lead to significantly lower GHG levels, and importantly, a diversity of opportunities for a diversity of Mainers and we are optimistic about the opportunities and vision Maine's *Climate Action Plan* lays out.

Acadia Center supported the final *Climate Action Plan*, which focused on mitigating Maine's GHG emissions from the buildings, power, and transportation sectors. Heating, cooling, and lighting of buildings is responsible for 30 percent of Maine's GHG emissions, with residential homes emitting 19 percent of Maine's emissions and commercial buildings 11 percent. The transportation sector emits a whopping 54 percent of the State's GHG emissions. When combined with some of the oldest housing stock in the country (25% built before World War II), the highest percentage of oil used for heating, the greatest energy usage by industry in the country, and the excessive dependence on oil for transportation, the urgency to develop a plan for climate change was clear. Acadia Center supported the following critical elements of the Plan, all of which are relevant to Trust programs:

- Significantly expanding *beneficial electrification* for heating and transportation.
- Increasing *weatherization*, especially for low-income and rural households.
- Phasing in modern, energy efficient *building codes* to reach net zero carbon emissions for new construction by 2035 and incorporate mass timber and wood-fiber insulation into new building structures.
- Initiating a power transformation stakeholder process to pursue *utility innovation and grid modernization*.
- Marrying Maine's natural resources and cleantech and energy efficiency workforce and innovation to create and maintain *good-paying, sustainable jobs*.

Acadia Center also supported the Maine Climate Council Buildings, Infrastructure, and Housing (BIH) Working Group's June 2020 [Strategy Recommendations to Mitigate Emissions and Support Resiliency in Maine Buildings](#), and served as a Member of the BIH Group. The BIH Working Group provided a suite of recommendations to improve the efficiency and resiliency of existing building envelopes:

- Expand access to weatherization programs for low- and moderate-income households.
- Weatherize existing market-based dwellings.
- Require commercial building energy benchmarking and labeling/disclosure.
- Establish incentives for participating in smart device load management programs.
- Amend state rules and policies for affordable housing to further incentivize energy efficiency, clean heating and cooling, distributed energy resources, and emissions reductions.⁹

As a Member of the BIH Working Group, Acadia Center endorsed these recommendations and looks forward to continuing its work with the BIH Working Group and the Trust to ensure all the recommended strategies are enacted, authorized, and implemented.

Modernized Building Codes

Maine's new statewide base energy code, [the 2015 IECC](#), went into effect on July 1, 2021, for all new home and building construction statewide. Homes built to this new energy code are expected to reduce annual utility expenses by

⁹ [Strategy Recommendations to Mitigate Emissions and Support Resilience in Maine Buildings](#), Buildings, Infrastructure, and Housing Working Group, June 5, 2020.

roughly 25 percent compared to older homes and buildings because they are designed and built to operate more efficiently. Maine also adopted the 2021 IECC – a stretch code – as an optional, voluntary alternative to the 2015 IECC, which will further reduce carbon emissions and increase savings to homes and businesses. Municipalities have the option to choose either.

Advanced building energy codes that are regularly updated to reflect new technologies and design strategies are the most cost-effective way to achieve energy savings and ensure that new buildings are built well and equipped with the most advanced energy- and cost-saving equipment. Strong codes also contribute to the equitable distribution of the economic benefits of energy efficiency, including to sectors that may face barriers to participating in other types of efficiency programs, like low-income households. Advanced building energy codes accelerate market adoption of leading building practices. Buildings in Maine are used and occupied for decades, if not hundreds of years. Advanced codes ensure that future generations will be able to share the benefits of more-resilient and -efficient construction practices.

Maine has a single, statewide building and energy code, the Maine Uniform Building Energy Code (MUBEC). Although the building code was updated by legislation in 2019, the energy requirements of the code remained equivalent to 2009 international codes for years. Maine recently moved closer to the modern international codes adopted by neighboring states. Getting buildings ready for a clean energy future means ensuring that all new construction in Maine meets up-to-date building energy codes and that all areas are treated equally in achieving that goal. Stretch codes are designed to deliver maximum energy savings, encourage net-zero or net-zero-ready construction practices that enable the adoption of distributed renewable generation and electric vehicle infrastructure. Maine should require progressively tighter standards for space- and water-heating systems, embodied carbon, and building codes for residential and commercial buildings, including a net-zero emissions objective for 2035.

Clean Energy & Sustainability Accelerator and C-PACE Authorizations

The 130th Legislature enacted, and the Governor signed, [*LD 1659 - An Act To Create the Maine Clean Energy and Sustainability Accelerator*](#). Investing in renewable energy and energy efficiency is one of the key strategies to achieving Maine’s most important climate goals. Unfortunately, market failures often prevent home- and business owners from fully capturing these opportunities, including uncertainty of savings, inadequate information, lack of access to capital, and split incentives. Over the last decade, Maine has appropriately reacted to many of these market failures with new energy programs and policies that offer tax incentives, rebates, and specialized mechanisms to finance clean energy investments. A well-designed financing program can help expand access to capital and smooth the way for increased energy efficiency and renewable energy participation, especially if integrated with other policies and programs.

One of the important ways that clean energy financing can help to drive savings is by increasing the leverage of private funds to support energy-saving investments. LD 1659 provides this new option for Maine by “creating the Maine Clean Energy and Sustainability Accelerator to support the development of clean energy and sustainability projects and infrastructure through providing financing support including loans, loan guarantees and other financial and risk mitigation products.” The bill sponsors designated the Administrator as the Efficiency Maine Trust, which makes sense. An Accelerator’s financing mechanisms can be used to support a wide variety of residential, commercial, and municipal projects. Low-interest residential and commercial loans may be available for residential purchases of qualified appliances, equipment, and weatherization-related goods and services; renewable energy

technologies; and EVs and related infrastructure. Businesses, municipalities, and others may opt to finance efficiency and renewable energy projects, combined heat and power systems, microgrids, and/or electric vehicle charging infrastructure.

Earlier this year, Acadia Center joined nearly 250 groups in a letter to Congressional leaders urging them to develop a Clean Energy and Sustainability Accelerator to serve as a national green bank. This would assist states in mobilizing private investments for distributed energy resources; retrofits of residential, commercial, and municipal buildings; and clean transportation. These groups requested that at least 40 percent of investment go to disadvantaged communities that have missed out on past clean energy investments and may be at a disadvantage in future investment opportunities without a concerted, targeted effort at inclusion. Without a state clean energy accelerator in place, it would have been more difficult to leverage potential sources of capital to finance the low-carbon (or no-carbon) economic transition needed to meet Maine's *Climate Action Plan* targets and mobilize the financing necessary for beneficial electrification, decarbonization, and net-zero buildings, power, and transportation. In the meantime, green banks have already been started and utilized in other States, like Connecticut, with varying degrees of investment. Connecticut's Green Bank has driven more than \$2 billion in clean energy investments over the last decade. The Trust should be prepared and ready to go to more easily and efficiently access and leverage federal and private funds necessary to move quickly on implementing projects to reduce greenhouse gas emissions, ensure equity across the investment spectrum, and put Maine people to work.

The attractiveness of the financing concept—that financing can reduce the up-front costs of clean energy investments—is tempting to assume that simply offering attractive financing terms will overcome all obstacles to investments in clean energy improvements. Acadia Center recommends that Trust programs are designed in conjunction with existing and new strategies to address key barriers that hinder investment in energy efficiency and clean energy, including rebates, tax incentives, additional and targeted marketing and outreach activities, adequate support to contractors and program participants, and measurement and verification of investment savings projections and actual outcomes. Funding allocated toward the establishment of financing programs should allow program administrators to carry out these other fundamental tasks that can make or break a program. Fortunately, we have quality institutions like the Trust, and other state entities that have already implemented various financing programs and can help assure that the Maine Green Bank gets the most bang for the buck for the recipients of its financial instruments.

[*LD 340 – An Act to Allow for the Establishment of Commercial Property Assessed Clean Energy Programs*](#) was also enacted in 2021. Establishing a C-PACE program in Maine provides an additional tool to tap into financial opportunities that will help energy improvement projects move forward in commercial buildings. C-PACE provides borrowed capital to pay for upfront costs associated with energy efficiency or renewable energy improvements and is repaid over time via a voluntary tax assessment. This longer-term financing and transferability to the next property owner provides greater energy and financial security which strengthens the business case for investment in longer payback and deeper building retrofits, presenting even more opportunities for investment in local businesses, energy and cost savings, and job creation. With limited public funding, Maine municipalities are increasingly interested in attracting private dollars to energy efficiency and clean energy investment.

Increased levels of insulation, better windows, electrified heating systems, and other measures deliver energy and cost savings year after year for the life of the building. Making investments in energy efficiency and cleaner energy

systems will pay dividends to owners and occupants for years into the future. In a State with inefficient and old buildings that are dependent on fossil fuel products for heating, energy efficiency should be part of the building improvement financing process. It's a good time for Maine to join other states in establishing a C-PACE program, not because other states are doing it, but because it works in reducing GHG emissions while saving businesses money over the life of building.

Regional Greenhouse Gas Initiative (RGGI)

The RGGI program has generated \$131 million for investment in Maine. Through 2019, the Trust has directed over 95% of Maine's RGGI funds to energy efficiency and rate relief programs, saving Mainers money on their energy bills and bringing high-quality, clean energy jobs to the state.¹⁰

Looking forward, the Third RGGI Program Review provides an opportunity for Maine and the other RGGI states to strengthen the program's climate ambition and commitment to equity. Specific reforms include aligning the RGGI cap with Maine and other state climate targets, Maine's adoption of the Emissions Containment Reserve (ECR), and multiple measures to deliver inclusive decision-making processes and ensure equitable investment of RGGI proceeds.

For the *Triennial Plan V* period, the Trust continues to promote GHG reductions through measures and programs that are not otherwise sufficiently funded through other revenue streams. Acadia Center particularly supports the Trust's decision not to budget RGGI funds for fossil-fired heating systems.

Non-Wires Alternatives (NWA)

In 2019, the Maine Legislature amended the process for planning and approving transmission and distribution investments by establishing a non-wires alternative (NWA) coordinator in the Office of the Public Advocate and directed the Trust to provide analysis of the benefits and costs of potential NWAs (such as energy efficiency, demand response, distributed generation, or storage) that can be found behind the meter (BTM). Where these alternatives are found to be more cost-effective than a T&D upgrade or other resources, the law directs the Trust to procure and deliver the BTM resources.

It's time to review how the NWA stakeholder process is working, with an emphasis on advancing data sharing and transparency and how to achieve the full potential contemplated by NWA projects in the context of utility innovation and reform, grid modernization, and decarbonization and beneficial electrification initiatives and PUC dockets currently being considered.

Transportation & Climate Initiative (TCI)

The Governor's Office of Policy Innovation and the Future, in partnership with the Governors Energy Office, Maine Department of Transportation, and Efficiency Maine Trust, launched a Clean Transportation Roadmap process "to help identify necessary policies, programs, and regulatory changes needed to meet the state's transportation emission reduction goals." Acadia Center looks forward to working with the Trust and other State entities to ensure the Roadmap is a robust plan to reduce emissions from the transportation sector via an variety of "strategies to increase the efficiency of existing vehicles, strategies to reduce the number of miles Maine people drive (i.e. expanding

¹⁰ [The Investment of RGGI Proceeds in 2019](#), RGGI, Inc., June 2021.

telework and teleservice opportunities, expanding public transportation, and supporting development in downtowns and village areas), low carbon fuels expansion, and large-scale electrification of Maines transportation system.”

The transportation sector is responsible for 54% of the State’s greenhouse gas (GHG) emissions, making emissions reductions in this sector critical to reaching emissions reduction targets. Reducing emissions from the transportation sector will require implementation of several complementary strategies including strategies to increase the efficiency of existing vehicles, strategies to reduce the number of miles Maine people drive (i.e., expanding telework and teleservice opportunities, expanding public transportation, and supporting development in downtowns and village areas), low carbon fuels expansion, and large-scale electrification of Maines transportation system.

Getting at the 54 percent of greenhouse gas emissions from the transportation sector in Maine will require smart investment in clean infrastructure and technologies, including tapping into a proposed regional Transportation and Climate Initiative Program (TCI-P) for investment dollars. A similar program in the power sector – Regional Greenhouse Gas Initiative (RGGI) – has successfully channeled millions of dollars via the Trust for Maine residents and businesses to improve their homes and buildings. While Maine is not actively involved in TCI-P discussions, participation in the program would significantly boost the Trust’s 2023 – 25 budget and programs.

The rural nature of the State lends itself to more vehicle miles traveled, with nearly 100% dependence on oil for transportation. Maine uses more transportation energy per capita and more gasoline per capita than the United States average, while spending less than the United States average on transportation services.¹¹ Being rural with high miles traveled, it also has low adoption of alternative fuel vehicles and small concentrations of public transportation.

Acadia Center supports an equitable TCI-P as part of a suite of policies to reduce Maine’s largest and fastest-growing source of carbon pollution and address long-standing transportation investment deficits . A well-designed TCI would generate more than \$150 million per year for increased investments in cleaner, smarter transportation solutions that:

- Better address the transportation needs of all residents by dedicating a high, minimum percentage of program benefits to under-resourced and overburdened communities, such as rural communities;
- Expand the capacity, geography, and frequency of bus, rail, and other public transportation services across the state, with the aim of doubling public transportation ridership in Maine by 2030;
- Increase electric vehicle infrastructure and purchase incentives, with the goal of boosting zero-emissions car and truck sales in Maine to 70% by 2030 and 90% by 2035; and
- Expand sidewalks and bikeways, and repair existing roads and bridges to enhance public safety, encourage increased walking and biking, support healthy activity, and reduce traffic congestion.

As mentioned above, transportation is responsible for more than half of Maine’s CO₂ emissions through the combustion of imported gasoline and diesel. According to the U.S. Energy Information Administration (EIA), Maine falls in the top ten states for money spent per capita on energy, with the highest proportion of energy spending going to transportation. Gasoline and diesel fuel prices can be extremely volatile due to global, national, and regional

¹¹ [Maine – State Profile and Energy Estimates](#), U.S. Department of Energy, Energy Information Administration, July 16, 2020.

constraints, which brings additional economic uncertainty to Mainers. These issues, along with aging transportation infrastructure, creates a challenge for clean and cost-effective transportation throughout the State.

A survey of voters indicates that 73% of rural Maine residents support the creation of a clean transportation fund, and a majority of rural Maine residents are willing to pay more to improve their mobility and quality of life.¹² A well-designed transportation policy will deliver benefits for all and center our most vulnerable citizens. In a rural state with an aging population, equity considerations need to be front-and-center when developing transportation policy.

Maine should be moving toward a transportation system with cleaner vehicles and fuels, transit options that are better suited to meet the needs of its rural communities, and resilient transportation infrastructure that can stand up to mud season and more frequent storms. By working on a regional, cooperative basis, Maine can achieve its transportation goals in a faster, more efficient way to enhance economic productivity, reduce reliance on fossil fuels, and address the State's largest source of GHG emissions while reducing the transportation pollution we breathe.

TCI-P could help Maine decrease transportation pollution, lessen price risk, and invest in new transportation options, including incentives for electric cars and trucks, electric vehicle charging infrastructure, better public transit, and more accessible communities for walking and biking. Analysis released with the TCI -P shows that regional action to reduce transportation pollution will deliver economic, health, and environmental benefits. Under the most ambitious pathway analyzed, the region would see at least a 26 percent reduction in CO₂ emissions from vehicles in the program's first 10 years, \$50 million in health benefits in Maine¹³—in 2032 alone—and nearly \$600 million in proceeds for Maine to invest in clean, equitable transportation solutions from 2023-2032, according to Acadia Center's analysis. The regional approach is intended to help build a strong clean energy economy by minimizing reliance on fossil fuels while promoting sustainable economic growth. The modeling shows it would do just that, adding jobs and revenue to the Maine economy.¹⁴

As gas tax revenues decline, a pollution pricing program will provide an important mechanism for necessary new transportation system investments. Investments funded by TCI-P must be dedicated to reducing pollution AND delivering a more equitable transportation system, and additional policies will be essential to the rapid and just transition to a clean transportation future. TCI-P is the only proposal on the table that guarantees reductions of emissions from the transportation sector AND provides a sufficient, stable, and sustainable revenue stream to pay for investments in clean, affordable transportation that benefits all of Maine's residents by improving air quality, access, mobility, and safety. Joining other states across the region through programs like TCI-P will help Maine reduce climate pollution in an efficient manner and must be a priority in any serious Climate Action Plan.

Conclusion

A robust energy efficiency funding and investment *Triennial Plan V* will benefit the overall energy system as well by reducing ratepayer costs and minimizing the environmental impacts of energy use.

¹² [*Small Town & Rural Voters' Views of Investments Related to the Transportation and Climate Initiative a Clean Transportation Fund in the Northeast & Mid-Atlantic*](#), FM3 Research, New Bridge Strategy, The Nature Conservancy, September 27, 2019.

¹³ [*Transportation, Equity, Climate and Health \(TRECH\) Project*](#), Harvard T.H. Chan School of Public Health, February 2021.

¹⁴ *Transportation & Climate Initiative*, <https://www.transportationandclimate.org/>.

Energy efficiency is the cornerstone of effective state energy policy. State energy efficiency programs that are well-funded and provide the right mix of investment in residential (including affordable housing), commercial, municipality and school buildings are very successful at reducing both energy costs and consumption. An added benefit of a strong efficiency program is the increasing number of companies in the industry and the jobs they create and maintain.

While Maine is a national leader in energy efficiency, far more must be done to improve the efficiency of our homes and businesses and to ensure that all communities reap the full benefits of energy efficiency programs and funding to which all ratepayers contribute. We must ensure that efficiency programs deliver benefits equitably across all communities and income levels. At the same time, efficiency programs must be better aligned with electrification efforts, and energy efficiency should be elevated as a key tool to reduce greenhouse gas emissions. We must pursue *Next Generation Energy Efficiency* through a new approach to energy efficiency – one that focuses on energy savings as a core energy system resource, but is also centered on meeting climate, environmental justice, and electrification goals and sustain investments in energy efficiency as a leading energy resource. Energy efficiency can be a key tool in improving housing quality and alleviating housing quality burdens that are disproportionately borne by low-income populations and communities of color. These communities also face higher energy burdens, as well as more significant barriers to participation in efficiency programs. The *Triennial Plan V* will help Maine move more quickly on efficiency and equity.

Acadia Center strongly supports the *Triennial Plan V* energy efficiency levels as well as investments and looks forward to working with Efficiency Maine Trust to ensure that the Plan builds on the solid programs already in place and fulfil the goals and targets in the Maine Climate Action Plan.

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