



Memorandum

To: Board of Trustees
From: Staff
Re: Triennial Plan VI Stakeholder Engagement and Comments
Date: July 18, 2024

As part of the *Triennial Plan VI* (Plan) drafting process, the Trust sought stakeholder input through four channels: (1) a Request for Information (RFI), (2) public Board meetings and workshops, (3) public hearings, and (4) an opportunity for written comments on the Triennial Plan VI Draft Overview for Public Comment. This memo provides an overview of these activities, summarizes the commentary received, and provides Staff responses to the comments.

1. Key Opportunities for Engagement

a. Request for Information

The Trust sought preliminary comments from interested parties on implementation strategies, budgets, and metrics. The Request for Information included specific questions on programs and strategies including the Innovation Program, analysis of cost-effectiveness, training, equity, load management strategies, and other topics. The Request for Information (RFI) was open for stakeholder comments from September 12, 2023 to December 12, 2023. The Staff then reviewed the RFI comments received. Comments were researched, discussed, and integrated into the Plan or appendices as Staff deemed appropriate. RFI comments are summarized in the table below with the comments received through other channels.

In addition, all RFI written comments received are posted at the Trust website at <https://www.energymaine.com/triennial-plan-vi-stakeholder-process-and-input/>.

b. Board Meetings and Workshops

Over the past eleven months, Efficiency Maine Trust Board Meetings have included presentations on key aspects of the Plan. In addition to these regular, monthly meetings, Trust Staff and Trustees have held workshops to further discuss elements of the Plan. All workshops and meetings were open to the public and were publicly noticed on the Trust website and Trust's notification list for Board Meetings, comprising more than 4,100 subscribers.

c. Public Hearings

The Trust Staff held two public stakeholder meetings – one in-person and one virtual – to present the major elements of the Plan, including draft budgets, and solicit feedback. The meeting was noticed through the Efficiency Maine Trust website, emails sent to the Trust lists of interested stakeholders, and in the public meeting notice section of the major Maine newspapers. At the in-person meeting, participants joined breakout sessions organized by major Trust programs. There they were able to provide comments, ask questions, and submit formal feedback. During the online session, stakeholders were invited to provide oral comments during the period for public comment and questions.

Comments provided during the meetings have been researched and discussed by Staff and considered for incorporation into the Plan as appropriate. Comments and the Staff response are summarized below.

d. Online Engagement

The Triennial Plan VI Draft Overview for Public Comment was shared with stakeholders via email and posted on the Trust website on May 31, 2024. The Trust accepted written comments on the Plan through July 5, 2024. Comments have been reviewed by Staff and researched, discussed, and will be considered in the development of the Plan, as appropriate. Comments and the Staff responses are summarized in Sections 3 and 4 of this memorandum, below.

e. Timeline of Workshops and Stakeholder Engagement

August 23, 2023 Board Meeting	<ul style="list-style-type: none"> • Legal Framework and Process Overview
September 12, 2023	<ul style="list-style-type: none"> • Request for Information Launched
October 25, 2023 Board Meeting	<ul style="list-style-type: none"> • Methodology of Identifying Cost-Effective Opportunities
November 15, 2023 Board Meeting	<ul style="list-style-type: none"> • Update of Beneficial Electrification Rulemaking • Update on Natural Gas Programs
December 12, 2023	<ul style="list-style-type: none"> • Request for Information Comments Due
December 20, 2023 Board Meeting	<ul style="list-style-type: none"> • Update on Input for the Beneficial Electrification Plan • EV Charging in Triennial Plan VI
January 24, 2024 Board Meeting	<ul style="list-style-type: none"> • Update on Beneficial Electrification Plan • Financing Initiatives
February 28, 2024 Board Meeting	<ul style="list-style-type: none"> • Interim Beneficial Electrification Plan • Federal Inflation Reduction Act (IRA) Rebate Strategic Plan • Contractor Support and Engagement
March 15, 2024 Special Workshop	<ul style="list-style-type: none"> • Income-Eligible Initiatives and Equity
March 27, 2024 Innovation Advisory Group Meeting	<ul style="list-style-type: none"> • Innovation Program
March 27, 2024 Board Meeting	<ul style="list-style-type: none"> • Regional Greenhouse Gas Initiative (RGGI) Funding Priorities (e.g., Weatherization, Heat Pumps, etc.) • Heating System Measures Beyond Air-to-Air Heat Pumps
April 12, 2024 Special Workshop	<ul style="list-style-type: none"> • Beneficial Electrification Plan for Triennial Plan VI
April 24, 2024 Board Meeting	<ul style="list-style-type: none"> • Beneficial Electrification Plan Stakeholder Meeting – Update • Heating System Measures Beyond Air-to-Air Heat Pumps— Further Discussion
May 10, 2024 Special Workshop	<ul style="list-style-type: none"> • Evaluation, Measurement, and Verification
May 22, 2024 Board Meeting	<ul style="list-style-type: none"> • Avoided Costs and Non-Energy Benefits • Residential Baseline Study
May 31, 2024 Special Workshop	<ul style="list-style-type: none"> • Demand Management Program
May 31, 2024	<ul style="list-style-type: none"> • Triennial Plan VI Draft Overview for Public Comment posted/shared
June 14, 2024 Stakeholder Meeting	<ul style="list-style-type: none"> • Triennial Plan VI Overview and General Comments (in-person)

June 26, 2024 Board Meeting	<ul style="list-style-type: none"> • Market Study Results for Light-Duty Electric Vehicles • Maximum Achievable Cost-Effective Energy Conservation (MACE) and Budgets • Demand Management Program Update
June 27, 2024 Stakeholder Meeting	<ul style="list-style-type: none"> • Triennial Plan VI Overview and General Comments (online)
July 12, 2024 Special Workshop	<ul style="list-style-type: none"> • Light-Duty Electric Vehicle Market Study Results and Discussion

2. Comments Received and Participants

In addition to the Trustees, over 390 individuals and organizations participated in the various stakeholder engagement opportunities listed above. Comments on the Plan were received from oral comments made during the public hearings and workshops, as well as written comments provided in response to the Request for Information and on the Triennial Plan VI Draft Overview for Public Comment. Some commenters submitted comments multiple times.

Comments on the Plan were provided by:

- Aikin, Kay, Introspective Systems
- Anthony, Ross, Governor's Energy Office
- Beal, Naomi, passivhausMAINE
- Bell, Bill, Maine Pellet Fuels Association
- Bell, Matthew, Northeast Pellets
- Bouchard, Stephanie
- Bowen, Mark, TRC Companies
- Brag, Rick
- Burbank, Richard, Evergreen Home Performance
- Conservation Law Foundation
- Cost, Emma, Governor's Energy Office
- Deprey, Elizabeth, Office of the Public Advocate
- Doran, Dana, Board of Directors of the Professional Logging Contractors of the Northeast (PLC)
- Ellis, Luke, Northeast Insulation
- Feigenbaum, Eric, Versant
- Fetcher, Anya, Natural Resources Council of Maine
- FutureMetrics
- Geiger, Valli, State Representative
- Giambro, Tony, ReVision Energy
- Gibson, David, College of the Atlantic
- Howard, Eric, E2Tech
- Island Institute
- Kessler, Chris, State Representative
- Kroick, Clifford
- Kvietok, Frank
- Landry, Lee, True North Energy Services
- Litell, David, Versant
- Maine Energy Systems
- Millar, Kirsten, Virtual Peaker
- Mulliner, Jared, Maine Energy Systems
- Natural Resources Council of Maine
- Nichols, Scott, Tarm Biomass
- Northeast Energy Efficiency Partnerships
- Northern Forest Center
- Opower/Oracle
- Otten, Les, Maine Energy Systems
- Parrot, Jonathan, BioThermal Energy Council
- Pearl Certification
- Preecs, Sandlin
- Ragsdale, Dave, ReVision Energy
- ReVision Energy
- Roy, Rachel, Mitsubishi, Inc.
- Schen, Molly
- Schultz, Rebecca, Natural Resources

- Council of Maine
- Scott, Jessica, Governor's Office of Policy Innovation and the Future
- Shapiro, Jack, Natural Resources Council of Maine
- Sierra Club, Maine Chapter
- Simpson, Kellan
- Smith, Aaron, Central Maine Power
- Tidwell, Kiki
- VonSeggern, David
- Werwaiss, Andy
- Wheeler, Dan, Maine Energy Systems
- Wood, Tony, Wood & Sons
- Wright, Devon, Compressor Energy Services

3. Comments

The comments received by the Trust have been sorted into topics and summarized in the table below. The Trust posted all written comments on the Efficiency Maine website at <https://www.energymaine.com/triennial-plan-vi-stakeholder-process-and-input/>.

Topics	Comment Summaries: The Trust, in Triennial Plan VI, should ...
New Measures and Incentives	<ul style="list-style-type: none"> • Consider incentives for air-to-water heat pumps and window-mounted heat pumps, electric lawn equipment and electric bikes (e-bikes), cold-start controls on boilers, new construction of multifamily buildings, low-flow showerheads, window inserts, compressed air leak detection and heat recovery, commercial building controls • Consider offering incentives for certain measures and/or program delivery using a “pay-for-performance” approach • Pay incentives to contractors
EVs and EV Charging	<ul style="list-style-type: none"> • Provide incentives to low- and moderate-income Mainers to purchase and/or install EV charging units in their homes • Promote EV charging stations in multifamily buildings and workplaces • Consider bundling EVs and managed charging • Expand work in medium- and heavy-duty (MHD) electrification space
Weatherization	<ul style="list-style-type: none"> • Expand eligibility to small commercial buildings • Consider incentives for health and safety measures • Increase the basement/crawlspace insulation requirement to include the entire foundation wall (vs. 2’ below frost line) • Consider requiring weatherization prior to a heat pump installation • Consider increasing low-income weatherization targets
Heat Pumps	<ul style="list-style-type: none"> • Reinstate incentives for supplemental heat pumps for non-low-income participants • Consider incentivizing residential multizone heat pumps to keep things simpler for consumers
Biomass	<ul style="list-style-type: none"> • Maintain and expand (vs. eliminate) incentives for residential pellet boilers and furnaces • Consider evaluating pellet fuels as carbon neutral • Align carbon accounting methodology with the Maine Department of Environmental Protection • Consider expanding eligibility for the Thermal Energy Investment Program to include residential sector
Income-Eligible Initiatives and Equity	<ul style="list-style-type: none"> • Prioritize federal investment in low-income programs • Prioritize protecting low-income customers from rate increases • Prioritize renters • Allocate 40% of program funds, in alignment with federal Justice40 principles, even where not specifically required by federal funding

<p>Demand Management Program</p>	<ul style="list-style-type: none"> • Go beyond demand management focused on just peak-shaving and curtailment, moving toward load flexibility and ultimately load-shaping • Serve as a trusted advisor to EV owners, providing proactive education on potential savings with time-of-use rates • Consider ways to transition from an incentive-based load management regime with aggregators to a rate-based incentive system that is more reflective of the costs to the grid • Offer location-based bonus incentives • Consider residential behavioral demand response incentives to ensure all sectors are able to benefit • Continue to explore controllability of devices and managed charging as they tie in with beneficial electrification measures • Launch a pilot for bi-directional EV charging for vans and buses • Provide more information on demand management benefits not captured in benefit cost calculations • Subject load shifting programs and plans to greater public and stakeholder scrutiny and input, including by making up-to-date information readily available on the website or from the 3rd party platform providers for direct customer and public engagement
<p>Efficiency Maine Green Bank</p>	<ul style="list-style-type: none"> • Partner with local banks and credit unions • Partner with the Maine Public Employee Retirement System to create a home energy loan program for all 100,000 public employees and retirees statewide • Partner with mortgage lenders to prioritize Energy Efficient Mortgages and upfront financing for transitioning homes off of fossil fuels at the time of sale • Offer loans to energy efficiency contractors to scale up their businesses • Offer loans for e-bikes • Explore opportunities for on-bill financing • Remove the maximum loan amount cap for low- and moderate-income residential borrowers
<p>Innovation</p>	<ul style="list-style-type: none"> • Consider projects where participants might participate in energy supply markets • Consider a networked geothermal pilot project
<p>Beneficial Electrification</p>	<ul style="list-style-type: none"> • Work to adjust cap in order to invest in more beneficial electrification projects • Expand cost-effectiveness test to account for net cost savings between fuel types • Include load flexibility in the beneficial electrification plan
<p>Cost of Carbon and Non-Energy Benefits</p>	<ul style="list-style-type: none"> • Include the Environmental Protection Agency’s (EPA’s) Public Health Benefits per kWh of Energy Efficiency and Renewable Energy • Consider applying the federal social cost of greenhouse gases

Workforce	<ul style="list-style-type: none"> • Offer Building Performance Institute (BPI) training to expand the weatherization workforce • Support entry-level workers by supporting the continuation of the ReMaine Clean Energy Internship Program • Support engineers with heat pump and variable refrigerant flow (VRF) system training • Support entities providing energy efficiency sector job training • Support entities advertising energy efficiency job opportunities
Marketing, Education & Outreach	<ul style="list-style-type: none"> • Consider preK-12 education programs • Disseminate low-income program offering collateral through State and Federal means-tested assistance programs' communication channels • Create a checklist for homes/businesses on how to transition entirely off of fossil fuels (see example) • Consider reducing the number of dropdowns on the Trust's homepage • Consider funding an "energy navigator" program where Building Performance Institute (BPI)-trained analysts conduct energy audits in certain communities and assist homeowners in managing next steps.

4. Staff Response to Comment Topics

a. New Measures and Incentives

Several commenters suggested specific measures and incentives that the Trust should offer during the Triennial Plan VI period. These are outlined below along with Staff responses on the status of these measures at this time. The Trust's Strategic Initiatives team continuously assesses the portfolio of measures being offered through the Trust's programs, and seeks to include new measures when appropriate. Where Staff finds that additional information is needed to better understand actual costs and performance of an emerging technology or process, it may conduct a pilot project through the Innovation Program. This process of continuous analysis and evaluation also results in some measures being retired from Trust programs. Notably, incentives for LED bulbs were recently eliminated from the Retail Initiatives after the baseline for lighting shifted due to federal regulations. The status of the measures outlined below, and others, may change during the Triennial Plan VI period as part of the Trust's measure research.

- *Air-to-Water Heat Pumps.* The Trust is currently piloting air-to-water heat pumps in its Innovation Program. At the moment, the universe of commercially available systems in Maine is small and the reliability of the performance of those systems is unclear. The Trust is hopeful that its pilot will help develop a reasonable performance standard upon which to build a qualifying measure in its regular programs.
- *Window-mounted heat pumps.* The Trust is closely following this emerging technology as it has significant potential to condition spaces, particularly in multifamily buildings, that are more difficult to serve when using a conventional heat pump. Trust staff has undertaken considerable research into this measure and have found it not yet cost-effective in Maine. The Trust is awaiting the results from a large pilot currently underway in New York State. Staff will also continue to watch the technology as additional models become available.

- E-Bikes.* Maine statute was recently amended to state that the Trust may, in its discretion, extend EV rebates to e-bikes, but the legislation did not allocate or appropriate any new funding for this purpose. The amendment also limited eligibility for e-bike rebates to recipients who are low-income and moderate-income individuals or to entities that serve those individuals where the e-bike will serve as the recipient's principal means of commuting. After discussing opportunities with various stakeholders (including the Bicycle Coalition of Maine, housing authorities, and State agencies) and reviewing existing e-bike programs in other jurisdictions, the Trust set a budget of \$50,000 to pilot an e-bike program and issued a request for proposals from organizations serving low-income clients. EMT awarded grants to proposals from three public housing authorities. The Trust will review the results of these pilot projects to analyze issues around the amount of gasoline being displaced, cost-effectiveness, carbon reductions, and the scope of the opportunity for e-bike use in Maine, and then make a decision during the Triennial Plan VI period about whether and how to expand the program offerings.
- Electric lawn equipment.* The Trust evaluated electric lawn equipment as part of a review of potential new measures and the Beneficial Electrification Plan as outlined in Appendix K: *Comprehensive Literature Review*. That analysis found that there is considerable uncertainty about the hours of use of commercial and residential lawn equipment, making the potential cost-effectiveness of such measures difficult to assess. The Trust was not able to access primary data on hours of use, and there is considerable variability in incremental cost against gasoline mowers (particularly for commercial applications). The Trust will carefully watch the electric lawn equipment literature and studies, as well as consider an Innovation pilot, to get better data on hours of use, costs, and other energy-saving metrics. Regardless of whether electric lawn equipment were to meet the Trust's cost-effectiveness test, they do not "reliably reduce rates." As a result, they fail to meet the second prong of the test of a beneficial electrification measure that is eligible for funding through the Electric Efficiency Procurement. While it is theoretically possible under the Efficiency Maine Trust Act that the Trust could fund electric lawn equipment measures using RGGI revenues, the Staff's recommendation is to decline this option until better data is available in order to preserve RGGI revenues for use on measures that have the biggest opportunities to save energy statewide, lower energy costs, and reduce carbon.
- Cold-Start Boiler Controls.* While many boilers can be successfully converted to cold-start and such modifications would generate energy savings, in some cases adding cold-start controls to an older boiler can lead to undesirable results such as leaks and early boiler failure. Not all potential installers have the licensing or expertise required to assess the feasibility of converting an existing boiler to cold-start and to carry out the modifications. Offering a standalone incentive to add cold-start controls would be impractical given the necessary complexity (to avoid poor outcomes) and the difficulty in targeting appropriate applications.
- Multifamily New Construction.* It has been suggested that the Plan offer incentives for new construction of multifamily buildings that exceeds the building code. With regard to the heating systems, this is very much a component of the Trust's strategy in Triennial Plan VI. In fact, over the next several years, the Trust's budgets will reflect plans to invest more than \$15 million from the Inflation Reduction Act Home Energy Rebates Funding to promote high-efficiency electrification of new multifamily buildings housing low-income tenants. This initiative will

target the installation of efficient heat pump and VRF systems.

However, concerning the building envelope, the Plan will not be allocating funding for construction that exceeds the code. By the time the Plan is in effect, Maine's new construction of multifamily buildings will be subject to the 2021 edition of the International Code Council (ICC)'s family of building codes. Because 2021 building energy code has become very stringent (in terms of energy efficiency), it creates an efficient baseline, which means the marginal savings potential of exceeding the code is relatively limited. As such, providing incentives for upgrades beyond the code presents a relatively undesirable savings opportunity at relatively high cost. It should also be noted that the opportunity for achieving energy and carbon savings in new construction is limited to the several thousand new construction projects that occur each year in Maine. By contrast, the more than 700,000 existing residential dwellings and many tens of thousands of existing commercial buildings present a far larger and more scalable opportunity and thus a higher priority for the Trust's incentive programs.

- *Low-Flow Showerheads.* The Trust includes low-flow showerheads among the energy-saving devices in its free do-it-yourself retrofit kits for low-income households. It does not, however, discount this measure through Retail and Distributor initiatives because the Trust has found no consistent cost difference between low-flow and standard showerheads available in retail stores. With prices ranging from \$13 to over \$100 dollars for different styles and finishes, it would be difficult to offer an incentive that was motivating to the average shopper.
- *Window Inserts.* Window inserts do not pass the Trust's cost-effectiveness test and will therefore not be eligible for incentives. One challenge with this measure is the persistence of the savings; the units are not cost-effective with a 3-year measure life. The cost-effectiveness of window inserts is also highly dependent on the heating fuel used. Even if we assumed a 4-year measure life, the inserts are only cost-effective when a house is heated with propane, kerosene, or electric resistance given the Trust's current savings assumptions and avoided energy costs. Finally, to qualify for rebates, there needs to be a reasonable expectation that those rebates will motivate action that would otherwise not occur.
- *Compressed Air Leak Detection.* The Commercial and Industrial (C&I) Custom Program is actively designing a compressed air leak detection initiative that could launch as early as FY2025. Assuming the initial results are positive, this measure is likely to be continued in Triennial Plan VI.
- *Compressed Air Heat Recovery.* Incentives for cost-effective compressed air heat recovery projects are available through the C&I Custom Program and will continue to be offered through this program in Triennial Plan VI.
- *Commercial Controls.* Incentives for cost-effective controls are currently available through the C&I Custom Program. The C&I Prescriptive Program discontinued lighting controls (i.e., occupancy sensors) in FY2025 because they were no longer cost-effective. It also discontinued HVAC controls because they are generally standard with most air-source heat pump systems. It also eliminated fossil fuel boiler controls because there was minimal uptake when it was offered in the past, and did not contribute to Efficiency Maine's focus on beneficial electrification. During Triennial Plan V, the Board voted to discontinue the use of the Trust's RGGI funds for

support of fossil fuel systems. The Trust does not project having other funds at its disposal with which to support fossil fuel systems during Triennial Plan VI, and intends to continue prioritizing measures, such as beneficial electrification, that are recommended in Maine’s climate action plan.

- *Contractor incentives.* The Trust’s various funding streams generally carry the requirement that funds support projects that generate direct energy savings. Though providing incentives to energy efficiency contractors to expand their businesses (e.g., to purchase box trucks, spray foam rigs) certainly facilitates investment in energy efficiency projects, it does not generate direct energy savings and would be difficult, if not impossible, to calculate how it is “cost effective” using traditional methods. Additionally, several new initiatives of other institutions are likely better positioned to provide this kind of support. For example, the Governor’s Energy Office (GEO) is funding a variety of workforce development initiatives, and Coastal Enterprises Inc. (CEI) is offering financing to small businesses in the clean energy space.

b. EVs and EV Charging

Commenters encouraged the Trust to consider ways to help low- and moderate-income households access EV charging, whether that be through subsidizing installation of chargers in private homes or at multifamily buildings (apartments).

The Trust is relying largely on the Electric Efficiency Procurement as the primary funding stream for EV rebates in Triennial Plan VI, which will also have implications for in-home EV chargers. Only where EVs are bundled with managed charging can they be both cost-effective and reliably reduce rates, and therefore an eligible “beneficial electrification” measure fundable with these ratepayer dollars. To that end, the Trust proposes bundling EV rebates with incentives on “smart chargers” through the Demand Management Program where the incentive will cover the incremental cost over a standard Level 2 EV charger and compensation for ongoing management of charging.

The Trust also stands ready to provide incentives on home EV chargers should other sources of funding become available (e.g., through a federal grant) and where the requirement to reliably reduce rates would not apply. It would likely focus these offerings on low- and moderate-income households for whom the upfront cost barrier to purchasing this equipment is higher. To the extent such other funding sources become available, the Trust would consider supplementing and/or expanding rebates for private chargers.

The Trust does intend to increase emphasis on promoting EV charging stations in multifamily buildings in Triennial Plan VI thanks to dedicated funding from the Charging and Fueling Infrastructure (CFI) program’s “Community” grant.

In 2024, the Legislature enacted LD 122, *An Act to Update the Electric Vehicle Rebate Program and to Establish a Pilot Program to Support the Uptake of Medium Duty and Heavy Duty Zero-emission Vehicles*, requiring the Trust to establish a pilot program to provide commercial incentives for medium- and heavy-duty EVs. The Trust will take any learnings from this pilot program and consider whether to continue offering incentives for medium- and heavy-duty vehicles through its ongoing EV Initiatives rebate program. Additionally, the Maine Department of Transportation (DOT) is now in the process

applying to the second round of competitive grant opportunities through the federal Charging and Fueling Infrastructure fund. Staff is expecting that Maine DOT's application will specifically request budgets to promote installation of chargers to accommodate medium- and heavy-duty EVs in Maine.

c. Weatherization

Weatherization is a valuable way to improve a building's energy efficiency, reduce greenhouse gas (GHG) emissions, and enhance occupant comfort. In recognition of these benefits, the Trust offers generous incentives to support weatherization of residential buildings, including multifamily buildings.

Triennial Plan VI proposes to continue offering incentives for weatherization in small multifamily buildings (<15 units). These multifamily apartments are technically considered "commercial" buildings, which is why the incentives and outreach are administered through the C&I Prescriptive Program. Also, the Plan will accommodate C&I customers applying for incentives for cost-effective building envelope measures through the C&I Custom Program. Those applications will be reviewed on a case-by-case basis to determine if they meet the cost-effectiveness requirement and other program criteria.

Beyond those two pathways for select commercial buildings and projects, Triennial Plan VI will not offer prescriptive incentives for weatherization in commercial buildings. One reason for this is that, in contrast to single-family homes, there is wide variability in non-residential buildings (e.g., building enclosure types, occupancy schedules, sizes). As a consequence, determining appropriate deemed savings values for prescriptive measures is challenging. A second reason is that weatherizing commercial buildings is a lower priority than other potential uses of limited RGGI funds. The most common heating fuels used in Maine's commercial properties – oil and propane – do not contribute any funding to Efficiency Maine's conservation programs. Therefore, the Trust must use other revenue streams, such as RGGI or federal grants, to fund weatherization. Since those funds are limited, the Trust's Plan calls for prioritizing their use on residential weatherization and other measures. The projected demand for RGGI funds to meet the needs of residential weatherization, heat pumps, and other priorities, in the Staff's projections, unlikely to leave sufficient budget for adding a prescriptive measure for weatherizing commercial properties.

The Trust currently allows the inclusion of ancillary health and safety measures in the rebatable weatherization project cost, provided they do not exceed 25% of this cost. The Plan contemplates continuing this practice in Triennial Plan VI.

The Trust does not intend to increase the basement insulation requirement to include the entire height of the foundation wall (versus the current requirement to cover at least 2' below grade); the marginal energy savings in doing so are minimal, while the cost can be high. To be clear, the Trust does not *prohibit* full wall insulation in basements.

The Trust does not currently require weatherization as a prerequisite to heat pump installations and does not intend to change this approach in Triennial Plan VI. The reasons for this are described in more detail in the Plan's Appendix J – *Heat Pump Analysis and Considerations*. Chief among them is the fact that the Trust is reluctant to add friction to the process of contractors marketing, and consumers purchasing, heat pumps. This program is successful, in large part, due to its simplicity. Layering on more steps to the process, and project costs, will tend to frustrate customers and contractors, slowing program activity. Additionally, the risks associated with oversizing a traditional heating system are not as

pronounced with heat pumps as they are with combustion heating systems because heat pumps can ramp up and down efficiently to meet the current needs of a space. Finally, heat pumps generate considerably more benefit per dollar than weatherization. A typical weatherization project costs between \$3,400 and \$13,700, saving between 4 and 22% on energy use (and therefore between 4 and 22% of carbon emissions). A hypothetical whole-home heat pump system, comprising three single-zone heat pumps, might cost \$14,000 and would be expected to save 67% in energy use per year.

d. Heat Pumps

As described in Appendix J – *Heat Pump Analysis and Considerations*, the Trust intends to maintain its focus on promoting heat pumps that meet the needs of a whole-home/building during the Triennial Plan VI period. The program shift to heat pump systems serving the whole-home/building, initiated in FY2024, coincided with a number of developments, including a new federal tax credit for heat pumps (30% up to \$2,000 – considerably higher than the Trust’s previous incentive), a need to accelerate activity to meet the climate action plan’s whole-home heat pump goals, and the release of the Trust’s heat pump evaluation results showing underusage when heat pumps are used as supplemental systems. Though the Trust will not reinstate incentives for supplemental heat pumps for all consumers, it will maintain an offering for low-income households that are less likely to be able to take advantage of the federal tax credit.

Until new information about improvements in multizone heat pump performance comes to light, the Trust also will continue to limit eligibility for the whole-home heat pump incentive to single-zone units. (It will be allowable to receive rebates for more than one single-zone unit, so long as the whole-home standard is met.) Multizone units work well when properly sized and balanced, but they cannot modulate as low as single-zone units before they need to start cycling on and off. They also must circulate a minimum amount of refrigerant through all indoor units even when heat (or cooling) is not being called for, which can lead to overheating (or overcooling) in some rooms. A study conducted by Cadmus (and supported by anecdotal evidence through the Trust’s programs) indicates much lower average efficiencies for multizone units compared to single-zone units – far greater than the difference in heating seasonal performance factor (HSPF) would explain.¹ The Trust will continue to allow multizone units to be part of a whole-home solution, but will limit its rebates to the single-zone units within the project.

It is worth noting that though the Trust does not intend to provide *rebates* for supplemental or multizone heat pumps, it will offer access to financing for qualified borrowers and projects, through the Efficiency Maine Green Bank, for these measures.

e. Biomass

In the first draft of the Plan, Staff recommended discontinuing incentives for residential pellet boilers and furnaces. Several stakeholders representing Maine’s wood products industry urged the Trust to reconsider, arguing that the pellet heating systems have a positive impact on carbon emissions and local economic development.

The Staff’s initial recommendation was based on a combination of factors. First, even with a \$6,000 per

¹ Cadmus, [Residential ccASHP Building Electrification Study](#), June 3, 2022.

year rebate from the Trust, fewer than 225 of these units were rebated for Maine homeowners in FY2023 and approximately 100 more were rebated in FY2024. After a decade of rebates on this technology, the pattern of market demand in Maine has remained at or below this range. Second, Staff's analysis indicates that the whole-home, pellet-fired heating systems represent a relatively expensive capital investment that, as shown in the Efficiency Maine Heating Cost Comparison Tool, delivers only modest savings on operating costs when comparing to the more expensive fuel types.² Third, Staff noted that biomass has a high emissions rate of carbon when measured at the site of the combustion, and expressed concern that adding more biomass boilers may frustrate the State's efforts to meet "gross" carbon emissions reductions called for in statute and the State's climate action plan. Fourth, Staff notes that presently residential pellet boilers are funded with RGGI revenues, and there are many competing demands for these funds. If the Trust were to redirect the annual expenditures on pellet boiler incentives to add to the budgets for insulating homes or electrifying heating systems, it would directly advance the specific targets for those two measures contained in the State's climate action plan (and codified in the Efficiency Maine Trust Act). Finally, the Staff notes that industry representatives acknowledge that their market opportunity is principally with consumers in the middle- and upper-income levels given the high project cost.

Pellet boiler advocates point out that when the pellets are composed of waste material that would have otherwise become a short-term emission, they deliver some carbon benefit by displacing emissions from oil or similar combustion fuels that would have otherwise been consumed. Staff agrees this is a valid consideration. Also, Staff acknowledges that pellet boilers are bringing benefits of economic development and energy independence to the local economy. This is a case where there are pros and cons to each path forward, and each path forward could be accommodated and defended in the Triennial Plan.

Regardless of the ultimate decision about whether the new Plan will retain incentives for pellet boilers in residential buildings, it is important to note that the Trust will continue to offer incentives for biomass heating systems in *commercial buildings* through the dedicated Thermal Energy Investment Program established by the Legislature. Some stakeholders suggested that eligibility for this program could be expanded to include the residential sector, thereby providing the Trust with a dedicated funding stream to preserve its pellet boiler and furnace incentives. However, this would require an amendment to the current statute. The Trust welcomes the opportunity to participate in any related discussion at the Legislature should stakeholders decide to bring a bill forward.

f. Income-Eligible Initiatives and Equity

Triennial Plan VI reflects a significant expansion of energy efficiency investment in low- and moderate-income households and disadvantaged communities. This is driven in part by the Trust's role in administering an unprecedented number of federal grants, each of which carries the federal Justice40 requirements that at least 40% of benefits flow to disadvantaged communities.³ It also reflects certain priorities set forth in Maine's climate action plan.

The Trust's Staff also agrees with commenters that the effort to ensure its programs equitably deliver

² <https://www.energymaine.com/at-home/heating-cost-comparison/>

³ The federal government uses several categories of burdens to define certain census tracts as "disadvantaged communities". These are reflected in the [Climate and Economic Justice Screening Tool](#) (CEJST).

benefits of energy efficiency to tenants is an important objective. We understand that a significant share of low-income Mainers rent, and do not own, their home. In Triennial Plan VI, the Trust's programs will increase efforts to target affordable housing providers and other landlords, who hold the authority to make the purchasing decisions about the building envelope, mechanical systems and fixtures that impact energy consumption. This effort will be supported in large part by \$72 million of federal funding from the Inflation Reduction Act (IRA) Home Energy Rebate program, the majority of which the Trust plans to focus on improvements to multifamily buildings, and particularly those for low-income residents.

Some commenters called on the Trust to allocate 40% of all program funds to low-income or disadvantaged communities, even where not specifically required to do so. Staff notes that the Trust is directed by statute to pursue multiple objectives, of which fairness for low-income consumers to access Trust programs is just one. Other important objectives of the Trust's work include: maximizing energy efficiency savings, reducing energy costs and improving security of the state and local economies, advancing carbon emission reduction targets (and other pollution reductions), reducing peak demand (enhancing grid reliability), and promoting beneficial electrification. To fulfill its obligations to each of these objectives, the Trust must find a balance of program designs, strategies, and budget allocations. Given the Plan's heavy emphasis on using federal funds for projects benefitting low-income and disadvantaged communities, Staff's proposal in the Plan is to dedicate portions of its other revenue streams to emphasize market transformation, getting the most "bang for the buck," projects that will improve grid reliability and lower rates for all ratepayers, and piloting new technologies and processes.

Finally, Staff notes that the Plan's programs promoting electric energy efficiency, beneficial electrification, and demand management, all have the effect of lowering electricity costs for all ratepayers – even non-participants (i.e., those who do not participate in one of the Trust's programs). The Trust is sensitive to any policies that may have the effect of raising electricity rates, as this frustrates long-term beneficial electrification goals. As the operating costs for beneficial electrification measures increase, these measures become less attractive to consumers. Increased electricity rates are also problematic in that they exacerbate the already high energy burden for low-income customers. For these reasons, the Trust supports the suggestion to protect all consumers, and low-income customers in particular, from rate increases. With the passage of the Beneficial Electrification Policy Act, the majority of the Trust's ratepayer-funded initiatives will, by definition, "reliably reduce rates". Overall, Triennial Plan VI has identified a maximum potential to suppress electricity rates by up to \$550 million over the lifetime of beneficial electrification measures that could be installed if the budgets are fully funded.

g. Demand Management Program

Generally, the Trust agrees with the suggestion that it should be seeking to spearhead "load flexibility" capability in Maine. That is why it intends to make it a key focus of pilot projects in the Innovation Program during Triennial Plan VI. The most recent draft of the Plan has been edited to clarify this intention. By designing and implementing good quality pilot projects on load flexibility, the Trust can generate critically important data and learnings to back up a narrative that will spur investment in the grid and the regulatory changes needed to fully implement load flexibility measures.

That said, the Trust does not want to lose sight of the significance and value of launching more traditional demand management program designs. While the Plan calls for piloting load flexibility measures, the Trust also wants to deliver the benefits associated with established "demand response"

and “load shifting” initiatives.

One reason the Plan’s Demand Management Program emphasizes peak reductions is that this is where there is the most value in terms of avoided costs. For these initiatives to be paid for by the Electric Efficiency Procurement (i.e., electricity ratepayers), the programs must be cost-effective. To be cost-effective, the economic benefits (from avoided costs) must exceed the economic costs. To determine the avoided costs, the Trust looks to Synapse’s 2024 Avoided Energy Supply Cost Study and the Trust’s own study of statewide avoided marginal transmission and distribution costs, where it notes that the primary value of demand management measures is found in peak reductions. This would likely explain why, when the Staff studied all the other demand management programs in the northeast states, it noticed that they all include strategies of peak demand reduction.

Another reason the Plan proposes to start with peak reductions is that presently there is limited experience in Maine with demand management programs. Neither the customers, the vendors, nor the Trust have extensive experience participating in or administering a full-scale demand management program. Only a handful of consumers, those with large loads and enough sophistication to participate in the ISO-NE regional demand response program, have participated.

Finally, there are some significant technical and regulatory challenges that would complicate efforts to promote load flexibility. For example, for load flexibility to realize its transformative power it needs to be implemented at the distribution circuit level. But Maine’s utilities do not currently have the monitoring capabilities across their entire system nor do they have the IT and communications infrastructure to collect and transfer this information in real-time to support distribution-level load flexibility. Also, devices participating in load flexibility need to respond to real-time pricing. While the Trust will continue to advocate for real-time pricing in the appropriate conditions, it is not prepared to design and operate a full-scale program around it until such pricing schedules are adopted and in place.

h. Efficiency Maine Green Bank (EMGB)

The Trust has explored the suggestion to partner with mortgage lenders to prioritize Energy Efficient Mortgages and upfront financing for transitioning homes from fossil fuels at the time of sale. Staff’s initial research suggests that this strategy may be best suited to the purchase/sale of commercial property, since leveraging property as collateral for residential loans creates several challenging compliance issues. The Trust has historically focused its efforts on unsecured loans. Nevertheless, the Trust will continue to evaluate this strategy during the Triennial Plan VI period.

With respect to a suggestion that the Trust partner with the Maine Public Employee Retirement System to create a home energy loan program for all 100,000 public employees and retirees statewide – the Trust appreciates the suggestion and will discuss it with the Maine Public Employee Retirement System.

Though e-bikes would meet the eligibility requirement of saving energy, the Trust has reservations about using the limited capital of the EMGB on e-bikes. Compared to other measures that we could be promoting in Triennial Plan VI, e-bikes appear to have far lower potential to save energy or reduce carbon emissions, and represent a much smaller outlay of capital. A small outlay of capital suggests that the customer’s barrier to the efficiency/electrification measure is less pronounced than for other measures. Also, such small loans will create significant challenges for the EMGB to recover the transaction costs of underwriting and servicing the loan. All that said, if further analysis reveals that e-

bikes present a significant opportunity to save energy and reduce carbon emissions, and if it is shown that limited access to capital is proving a barrier, the Trust would consider adding e-bikes as an eligible object of financing in the future.

Though the Trust is supportive of the idea of offering loans to energy efficiency contractors to scale up their businesses, the EMGB's current and anticipated sources of capital require that these funds be used only to support projects that generate direct energy savings. Staff's perspective is that financing the businesses of contractors is not consistent with the requirement to achieve direct energy savings. We also note that other institutions in Maine may be better positioned to provide financing to the businesses serving Maine's energy consumers. For example, Coastal Enterprises Inc. currently offers loans to help small businesses with start-up costs, working capital, equipment purchases, and facilities expansion.⁴

The Trust has been actively exploring several of the suggested financing strategies, including opportunities for on-bill financing and partnerships with local banks and credit unions. Over the past few months, the Trust has been researching on-bill programs in other jurisdictions by reviewing literature and meeting with program managers and other experts. It has also started discussing the concept with Maine's electric utilities. It will continue this process into the Triennial Plan VI period. If it determines that the mechanism is workable and will reliably fill market gaps for financing in Maine, the EMGB stands ready to collaborate with the utilities to launch an on-bill offering. The Trust is also establishing relationships with local banks and credit unions, seeking third-party lending partners to supplement the EMGB's capital sources. The Trust intends to position EMGB loan and lease assets to be attractive to the private market. It also plans to aggregate or warehouse assets and attract private capital through the use of credit enhancements. Furthermore, the Trust intends to raise the maximum loan amount cap for its Home Energy Loans for all borrowers to accommodate the typical project costs associated with a deep weatherization retrofit or a new whole-home heat pump system, and to support more comprehensive home energy efficiency projects involving multiple measures.

i. Innovation

The Staff appreciates the various suggestions for Innovation Program pilots in the Triennial Plan VI period. These include pilots where participants might participate in energy supply markets, as well as a networked geothermal pilot. Each of these involve novel applications of technology or processes and the cost and benefits are not well established, which makes them appropriate for further analysis and consideration through the Innovation Program. The Trust will add them to the list of considerations for its Innovation Advisory Group.

j. Beneficial Electrification

One recommendation from stakeholders was to adjust the statutory cap on the amount of allowable Electric Efficiency Procurement so that it can accommodate full funding of the budgets needed to achieve maximum achievable cost-effective (MACE) beneficial electrification. Staff notes that this would require an amendment of existing statute, which is outside the scope of Triennial Plan VI. If there are to be discussions of legislative amendments to this part of the statute, the Staff will make itself available to answer questions and participate in the discussion.

⁴ <https://www.ceimaine.org/financing/small-business-loans/#business-loans>

A second recommendation was to expand the cost-effectiveness test to account for the net cost savings between fuel types. The Trust’s standard practice already accounts for net cost savings between fuel types. In the case of energy efficiency measures and demand management measures, the Trust limits those net costs to the incremental change in consumption, and/or demand, attributable to the measure. In other words, it will not simply pay incentives to arbitrage prices between fuel types. But where there is an energy or demand savings due to a measure, the Trust will factor the net cost savings from the incremental change in consumption/demand of all fuel types involved in the project.

A third recommendation was to include load flexibility in the Plan’s section on beneficial electrification. Staff’s responses about load flexibility are provided in the section on the Demand Management Program, above.

k. Cost of Carbon and Non-Energy Benefits

The Trust received a suggestion to adopt the federal Social Cost of Carbon (SCC) as part of its cost effectiveness test. In the cost-effectiveness test, the Trust determined that the SCC offers a more rigorous methodology for calculating the harm caused by carbon emissions. Use of the SCC also aligns with the practices of most other New England states. For calculating cost-effectiveness in Triennial Plan VI, the Trust applies the SCC as provided in the 2024 AESC Study using the Office of Management and Budget-recommended discount rate of 2%. The 2024 AESC Study estimates this levelized cost at \$249 per short ton of carbon dioxide-equivalent emissions.⁵

Staff also was encouraged to incorporate avoided costs related to health benefits as provided in the EPA’s May 2021 report “Public Health Benefits per kWh of Energy Efficiency and Renewable Energy in the United States: A Technical Report.”⁶ Staff note that in its May 22, 2024 approval of the use certain values for avoided energy costs and the Social Cost of Carbon, the Board declined, for now, to add public health benefits to the calculations of cost-effectiveness. The Board noted that it may require an amendment to the statute, or a change in the approach employed by the authors of the Avoided Energy Supply Component (AESC) in New England 2024 report. At this time, the Staff recommends relying on the values contained in the AESC (which exclude avoided health costs) until AESC introduces new values for avoided health costs or the Maine statute is amended directing the Trust to incorporate such values.

l. Workforce

The Trust monitors workforce capacity and skillsets as part of its planning and implementation of conservation programs. Where the Trust identifies specific skills needed for designing, installing, and maintaining high-efficiency equipment, it may support targeted training and other means of promoting quality assurance if it is in the best position to do so. It has done this successfully in the past. For example, during the Triennial Plan IV and V periods, the Trust focused its workforce development efforts on the heat pump installer community, introducing the Efficiency Maine Heat Pump Basics Module and providing scholarships and grants to educational and training organizations for heat pump equipment and materials to outfit training classrooms with up-to-date equipment.

⁵ See Appendix E: *Avoided Costs*.

⁶ https://www.epa.gov/sites/default/files/2021-05/documents/bpk_report_second_edition.pdf

It should be noted that absent special circumstances, the Trust's general experience has been that the most effective and efficient use of its programs is to help build consumer demand, leaving recruitment and training of entry-level workers to the businesses providing the services that will satisfy this demand. Among other benefits, this approach avoids upsetting competition in the marketplace and disadvantaging the early movers who have spotted a business opportunity and developed their workforce at their own expense. It also avoids creating a glut of workforce that may exceed what the market will bear, as occurred with energy auditors in 2009-2010.

That said, however, there are special circumstances where it makes sense for the Trust (or other organizations) to intervene. Recent examples include providing training in targeted best practices in heat pump installation and operation, noted above, as well as handling the widespread and sudden change in requirements associated with updated building energy codes in 2019. In Triennial Plan VI, the focus on expanding heat pump installations serving a whole home/building is a likely candidate for the Trust to assist the marketplace in best practices training. Specific trainings for installers and building contractors will be offered as appropriate during the Triennial Plan VI period when new technologies come on the market or as the Trust becomes aware of evolving demands for knowledge, skills or other capacity that is not otherwise being met through market forces alone.

The Trust will also continue to support the GEO in its work leading the Maine Clean Energy Partnership (CEP) and its efforts to advance its clean energy, climate, economic development, and workforce goals – including Governor Janet Mills' goal of more than doubling Maine's clean energy and energy efficiency jobs by 2030. The CEP provides workforce development funding to subrecipients comprised of diverse community, education, employers, union and labor associations. These subrecipients support individuals through training, credentialing, and job placement, as well as clean energy education and career outreach. The CEP also supports Maine businesses and contractors with entrepreneurship and innovation programs by awarding funding for clean energy incubator and accelerator programs. One such program supports energy efficiency contractors specifically, providing business advising services aimed at growing and scaling contractor businesses that deliver home weatherization and energy efficiency services in rural and low-income communities.

To facilitate cross-sector partnership and stakeholder engagement, the CEP established an Advisory Group comprised of members of the Governor's Office of Policy Innovation and the Future (GOPIF), the Maine Department of Labor, Department of Economic and Community Development, the Maine Community College System, the University of Maine system, the private sector, labor unions, nonprofits, and others. CEP also plans to establish an Energy Efficiency Workforce Development Sub-Committee under its existing Advisory Group. The Trust will join and support the administration of this sub-committee, as well as complement CEP activities with its established channels and processes for engaging contractors throughout the Triennial Plan VI period.

m. Marketing, Education and Outreach

The Trust appreciates the specific suggestions made by stakeholders regarding marketing and outreach. The Trust agrees with commenters that reaching low-income customers should continue to be a major focus of the next Plan. Commenters suggested sharing program information through means-tested assistance programs, at community assistance and other social service agencies, and via direct mail to eligible households. The Trust will continue to employ these and other strategies to encourage participation by low- and moderate-income households in Trust programs.

Some commenters encouraged the Trust to explore creating more checklists and simplifying navigation on the Trust’s website. Staff will explore these suggestions further and consider implementing them; however, they are at a level of detail that we do not include in the Plan.

Finally, the Trust appreciates the suggestion that it add targeted education efforts for K-12 students to its Public Information and Outreach initiatives. For many years, the Trust collaborated with the Maine Mathematics and Science Alliance on the creation and delivery of a middle-school energy conservation and efficiency curricula. After a period of several years, Trust staff was unable to identify significant, quantifiable results of the program. Further review of the program’s costs and benefits led Staff to conclude that while directionally desirable, energy education for K-12 students is a job better left to the traditional institutions and budgets of the education system. The Trust, it was decided, should focus its finite funding on consumer education, training and marketing where it will have the highest likelihood of translating into purchases and installation of energy efficiency and clean energy measures. To spur short-term action on measures such as the weatherization of a home, purchase of a heat pump, of use of demand management strategies, the target audience is not school children but homeowners, commercial property owners, businesses and institutions that their energy bills. It is the Staff’s position that the Trust’s Public Information and Outreach funds continue to be most effective, and the best fit for the Trust’s role vis-a-vis other agencies and organizations, when they are invested in outreach directly aimed at consumers, and the contractors who serve them, with information that is closely tied to Trust programs.

The Trust also received comments recommending that it consider funding an “energy navigator” program where Building Performance Institute (BPI)-trained analysts would conduct energy audits in communities and assist homeowners in managing the steps of a project (and a getting a rebate). Staff is disinclined to add this element to the Plan’s budgets. The Trust’s preferred, and tested, approach is to invest resources in supporting trade allies (contractors) and to promote competition among them. The Trust’s support of trade allies includes offering trainings and training scholarships, marketing and marketing subsidies, newsletters, collateral materials, a call center backed by specialists, and a robust website. This approach has delivered some of the most successful programs in the country, and has enhanced the quality, and competitiveness, of services offered to Maine consumers. Another reason to stick with this approach is the fact that over the past 15 years, the Trust’s home energy programs have experimented with funding teams of individuals to assist homeowners with the process of arranging energy audits, analyzing upgrades, selecting contractors and applying for rebates. Even in the best scenarios, these experiments have been relatively costly, have been limited to specific communities (i.e., not universally available), and failed to significantly increase the number and scope of program participation. Staff’s preference is to reserve the use of its budgets for the tried and tested approach of supporting the contractor community through technical support, education and marketing, and quality assurance.

5. Next Steps

The public will continue to have the opportunity to provide input on Triennial Plan VI through the adjudicatory process that will be held at the Maine Public Utilities Commission. Anyone seeking to play a formal role in the process must file at the Commission to request status as an interested party or an intervener in the case.