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Submitted electronically via: comments@efficiencymaine.com

Michelle Turner, Administrative Secretary
Efficiency Maine Trust
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Augusta, ME 04330-6856

Re: Triennial Plan V: Staff's First Draft (6/9/2021)

To whom it may concern;

On behalf of Northeast Energy Efficiency Partnerships (NEEP)[1], I am pleased to submit comments relative to the Efficiency Maine Trust's Triennial Plan V, First Draft (Draft Plan). NEEP is a non-profit whose mission is to accelerate regional collaboration to promote advanced energy efficiency and related solutions in homes, buildings, industry, and communities.

NEEP thanks the Efficiency Maine Trust for the opportunity to provide input on the first draft for Triennial Plan V. We commend Efficiency Maine Trust (the Trust) and the state of Maine for the work done so far to accelerate the transition to a clean grid and combat the impacts of climate change. Because of ambitious goals set by the legislature and governor, Maine is a national leader in heat pump deployment and adoption of clean heat technology. In addition, the Trust is recognized nationally for the quality of its energy efficiency programs.

The state's recent climate action plan, *Maine Won't Wait*, articulated an ambitious climate policy and highlighted that carbon emissions reductions are critical in the energy sector. This plan also identified the Trust as the vehicle to implement energy efficiency and beneficial electrification programs to help in this effort. NEEP hopes that these comments will help Maine and the Trust achieve the goals articulated in *Maine Won't Wait* and continue to innovate and set new ambitious targets in the coming years. In addition to the comments and reports referenced, NEEP can provide direct technical assistance and has additional tools and resources available.

Aligning Cost-Benefit Practices with State Policy

With the release of *Maine Won't Wait* and subsequent legislation, Maine is changing its commitment to climate and decarbonization. NEEP recommends as part of the Trust's Draft Plan review, it consider modifying the methodology used to establish the state's cost-benefit test, known as the maximum achievable cost-effective resources (MACE) , to better reflect these changes in state energy and equity policy.

[1] These comments are offered by NEEP staff and do not necessarily represent the view of the NEEP Board of Directors, sponsors or partners. NEEP is a 501 (c)(3) non-profit organization that does not lobby or litigate.

As outlined in the Draft Plan to achieve MACE the Trust must take into account certain considerations these factors include:[2] real-world barriers to consumers' adoption of efficiency measures; market-specific barriers that the "program intervention" is modeled to overcome; and consideration of state policy and future market trends. Maine's new commitments to equity and accelerating clean energy technology have changed some of these considerations. We applaud the Trust for recognizing this already and taking the step of included the non-embedded cost of carbon into the calculations for cost-effectiveness. NEEP would like to highlight three additional modifications the Trust can take to better align MACE with Maine's climate commitments:

- ✓ **Measuring to Allow for Innovation in the Market.** NEEP recommends that the Trust consider applying the cost-benefit analysis at the program or portfolio level as measuring at a higher level of implementation can allow for more innovation in program design and deeper savings for customers. Measuring the impacts of programs on a measure level can create missed opportunities because higher upfront costs and the inability to bundle measures together can prevent longer term, higher cost measures from being offered. The Trust has recognized this barrier in the implementation of the low-income programs and modified practices. NEEP would encourage the trust to consider doing the same for other programs offered as this can result lead to a real change in program offerings and move towards a holistic approach to program delivery.

- ✓ **Metrics to Measure Participant Benefits Recognized by State Policy.** NEEP encourages the Trust to consider the addition of participant and societal non-energy benefits (NEBs) to the cost-benefit test because it can help to align energy efficiency portfolio design with the environmental, energy, and equity policies of the state. A key part of ensuring cost-effective climate energy policies is acknowledging the environmental and societal impacts of our energy system. Yet many states do not include them because they can be hard to identify and quantify, but by not including them, states are failing to fully capture the benefits these programs provide. In addition to ensuring states consider both participant costs and participant benefits, measuring non-energy benefits can provide two valuable inputs to a state cost-benefit test for programs administrators and regulators. First, they can drive meaningful investment that can improve homes, businesses, and whole communities by signaling to the Trust and other programs administrators what to prioritize in program design. Second, NEBs can began to identify the environmental and societal costs and benefits that can go unaccounted for in energy policy and deter investment that does not align with state policy.

  To include NEB's in this cycle, the Trust can look to use metrics identified in other state tests or use an adder. An adder is a percentage applied to metrics that are difficult or costly to monetize. An additional benefit of using an adder is that they can be applied across a range of benefits and implemented quickly. Currently, five percent, 10 percent, and 15 percent adders have been used to account for general societal and low-income benefits in various states. To see more on how states use adders, the Trust can

[2]Efficiency Maine Trust, Triennial Plan for Fiscal Years 2023-2025, Draft as of 6/9/2021 at 22. ("Draft Plan")

reference NEEP's Non-Energy Impacts Approaches and Values: An Examination of the Northeast Mid-Atlantic, and Beyond.

- ✓ **Metric to Measure the Real Time Cost of Energy Generation.** A final suggestion NEEP would like to propose is for the Trust to consider modifications to the current cost-effectiveness test to account for when and how energy is generated and used. Making these changes will allow for the benefits of load shifting and distributed resource programs to be fully realized and can be done through the adoption of a new metric. California recently adopted such a metric, the Total Systems Benefit (TSB). The TSB is a dollar value that calculates savings and load shape of an energy efficiency resource by applying hourly values for energy, capacity, and greenhouse gas (GHG) compliance costs from the Avoided Cost Calculator created by Energy+Environmental Economics. Because of its use of very granular data, the TSB can identify costs and benefits of programs that seek to reduce peak demand and utilize storage or off-grid resources. Further a metric like the TSB is able to serve multiple energy sectors as it can calculate real time energy cost and provide a more level footing for distributed energy resources when compared to traditional energy sources. In California, they are working on using this metric to not only measure energy efficiency programs but also provide a metric to integrate these programs with other grid planning efforts.

  NEEP recognizes that this is a metric may require a lot of input, but would encourage the Trust to consider is as a a part of this filing or a future filing. It would be valuable to hold stakeholder meetings on the inputs for this metric. Making these changes can align the cost-effectiveness test with the state policy articulated in *Maine Won't Wait* and recent legislation proposed that seeks to accelerate the adoption of distributed energy resources in the state. To see more on this tool, the Trust can refernce NEEP's End Use Load Profile (EULP) Priority Research and Data Recommendations.

Modifications to Accelerate Heat Pump and Weatherization Adoption

Maine Won't Wait recognized that "cooling homes and businesses with heat pumps and heat-pump water heaters, and weatherization are among the most cost-effective ways to reduce greenhouse gas emission." As a result, the plan outlined ambitious weatherization and clean heat technology goals, including doubling the current pace of home weatherization to achieve at least 35,000 homes weatherized by 2030 and the installation of at least 100,000 new heat pumps by 2025.

While the Trust is still identifying the best pathways to enact the goals outlined in *Maine Won't Wait*, the Trust can be the vehicle to help the state achieve these benchmarks for homes weatherized and heat pumps installed through the Home Energy Savings Program (HESP). NEEP applauds the Trust's weatherization and heat pump progress through this program and would like to provide some modifications to the program design the may help accelerate its success and aid in achieving weatherization and heat pump goals for the state.

NEEP recommends the Trust consider designing a whole building strategy for the program that includes weatherization plus electrification to ensure an accelerated yet sustainable market growth because it is

important that these programs consider the amount of time it will take to ready the market to embrace clean heat technology. To do so the Trust can develop a series of tools to support a holistic approach to quality heat pump performance and consumer experience now. Below is an outline of different components the Trust can consider in creating this strategy:

- ✓ **Include Consumer Education**: As recognized in the Draft Plan, barriers are present in this program because there is a lack of technical expertise and familiarity with energy efficiency and beneficial electrification benefits. Consumer education should be a core component of this program to drive awareness and understanding of the technology and achieve climate goals. A heat pump doesn't "act" exactly like traditional fossil heating systems and consumers will need to have the opportunity to learn about this technology. Additionally, as identified in the Draft Plan, it is hard to get a customer interest in weatherization. Yet, there are numerous benefits that are of interest to the everyday consumer that includes: lower bills; improved health from home repairs; and additional housing benefits of home improvement.

- ✓ **Modify Weatherization Implementation**: Weatherization of buildings will be an important component of heat pump satisfaction and cost-effective installation. To start to take steps now to increase weatherization, NEEP recommends that the Trust consider standardizing the measures offered to every home through the program. This could help in implementation through streamlining the offerings and ensuring deeper savings in every home. Additionally, the Trust can consider ways to weatherize every home that interacts with the HESP and other programs offered. For example, every participant is followed up to see about weatherization who has participated in the appliance rebate, demand response, or other Trust programs.

- ✓ **Ensure Quality Installation and Performance**: Ensuring quality performance and insulations of the heat pumps installed will be important to growing customer trust in the product. To ensure that the heat pumps meet high performance specifications, the Trust can reference NEEP's cold climate ASHP Specification and product for product qualification. Further, the Trust can partner with manufacturers and construction businesses to ensure they are including best practices that support high quality installations. New York is rolling a similar program model in 2022. Additionally, quality installation verification is another tool programs should use to monitor participating contractors.

- ✓ **Integrate Renewable Energy***:* NEEP recommends the Trust consider creation of a Total Energy Pathways (TEP) as a pathway for customers in the HESP program. TEP is a contractor-based comprehensive, bundled approach to offer beneficial electrification upgrades by combining weatherization, electrification, and renewable energy into one package that offers customers the opportunity to finance energy improvements with the resulting energy savings. TEP is starts with the training and certification of contractors; these contractors then guide customers through the process by coordinating subcontractors with expertise in different energy technologies and connecting customers with the appropriate finance and incentives available. A version of this program is ongoing in Vermont, the Zero Energy Now Program. The Trust could create a similar model that would allow for customers who are interested in full comprehensive upgrades plus renewable energy an easy pathway to do so.

- ✓ **Create Design and Construction Industry Training**: It is important to also consider the transition of the building design and construction industry as the state shifts to clean heating technologies and other building improvements. NEEP recommends that as part of the design of the HESP program, the Trust, and other stakeholders, consider what training and education will be needed to provide opportunities in this space for the design and construction industry workforce as well. Part of this should consider how to provide support for training and accreditations, including opportunities such as establishing quarterly up-to-date, free-of-charge CEU credit-accruing workshops and classes to architects, contractors, manufacturers, code officials, inspectors, builders and related design and construction professionals that focus specifically on base and stretch energy code provisions.

Recommendations to Enhance Equity Priority

The Trust has identified maintaining fairness and promoting equity as a priority. In addition to the commitments of the Trust, in *Maine Won't Wait*, the state committed to installing at least 15,000 new heat pumps in income-eligible households by 2025. NEEP applauds the Trust for identifying this priority and committing to implementing it through budget allocation and program design and implementation.

From an energy justice perspective, energy efficiency policies have the significant potential to reduce energy poverty and the home energy affordability gap, but without thoughtful design, these same policies are susceptible to furthering social inequities. NEEP would like to highlight some ways that the Trust could enhance its equity efforts so far and help in achieving the goal identified on the state level.

- ✓ **Use data to identify potential participants and inform portfolio implementation.** In the Draft Plan, the Trust stated that "identifying potential participants remains challenging for the Trust."[3] NEEP encourages the Trust to consider using energy data to drive program design and implementation by identifying customers through energy or building usage patterns. This data can be used to target programs and education efforts for communities that need it most and has shown to improve customer identification by finding those who need to save energy the most. To do so, programs in other states use data on energy usage and arrearages to identify participants with the highest energy burden first. An additional way to open the pool of participants, without the need for data, is to consider allowing for customers to qualify for programs based on location. The Trust can identify overburden communities throughout the state and allow them to qualify for these programs without the need to provide paperwork.

- ✓ **Offer incentives for weatherization plus repairs and customer services to help with the process of participation in these programs**. Currently, the Draft Plan offers no cost direct installation and market-based initiatives to low-income customers. While these steps help to increase participation, additional

[3] Draft Plan, page 65.

incentives and administrative support could help. NEEP recommends the Trust consider modifying this program to include deep energy retrofits by adding elements such as weatherization and structural repair to the process and incorporating clean heating systems and other efficiency appliances as standard equipment. Delaware has such a program, the Pre-Weatherization Program. For the program, RGGI funds are used to provide structural repairs when a home is deferred from the state's weatherization program. Maine could create a similar program to help any homes that may be deferred from current program offerings from the Trust. Additionally, the Trust can consider offering a network of contractors plus program managers to help homeowners navigate the process of home retrofits and installation of new appliances.

- ✓ **Use innovative financing mechanisms to lower upfront costs**. One program the Trust can look to alleviate the barriers of high upfront cost is Tariffed On-Bill Model or Inclusive Utility Financing. Thoughtful tariffed on-bill programs can result in consumer bill savings, increased system reliability, and reduced emissions. By using the Pay As You Save® model, consumers are guaranteed to see at least 20% bill savings while paying the utility back for the cost of the upgrade on bills. Since this model ties the investment to the meter, rather than to the customer, and guarantees savings, it is particularly useful for low-income and rental populations. A tariff is not categorized as a loan to the customer, therefore, it does not add to the debt profile of the property owner the way a bank loan would and is more accessible to customers with limited credit.

- ✓ **Provide Additional Support for Small Businesses.** It is great that the Trust has implemented a small business initiative. These customers face numerous barriers to participation, but through steps such as tailored program delivery and funding the Trust can help to ensure they receive equal access. NEEP recommends the Trust consider providing project managers or circuit riders for small business customers to help with technical assistance. Assigning a form of technical assistance can help small businesses navigate the process of identifying contractors, appliances, and rebates. Further, this modification can ensure that all small businesses have the same amount of information and opportunity when they participate in the program.

Additional Load Shifting Technology Considerations

NEEP encourages the Trust to consider additional technology available under its load shifting initiative because this program is limited to EV chargers, batteries, and thermal storage. Achieving aggressive decarbonization goals will require energy efficiency program administrators to not only reduce energy use overall through their programs, but also to understand when energy efficiency programs are reducing energy use. Designing and implementing Load Shifting programs lays the ground work for these future shifts. Further, load shifting technology programs can include rate programs, such as time-of-use appliance based offerings, that can lower energy costs and are a great tool to engage and educate a wider swath of customers about their energy habits, empowering consumers to have more influence over their power bill.

The Trust has three qualifications that products must meet to be included in this program.

- Can the load be easily controlled and aggregated through a central platform?
- Is there enough load associated with the measure to justify the expense of customer incentives and compensation to the aggregator?
- Can the Trust shift the operation of a device without inconveniencing the customer?

These qualifications are important for every load shifting technology to have, but the current application only allows for bring-your-own device programs with EV chargers, batteries, and thermal storage. NEEP encourages the Trust to consider expanding the technology included in these programs and consider offering enhanced incentives for demand response ready appliances. For example, the Trust can offer an additional rebate for demand response ready appliances that will auto-enroll the customer in the demand response programs, enrolling consumers at the purchase point. Other states in the region have implemented programs with these devices and seen success with them. Further, they offer a way to encourage more customers to engage in energy efficiency.[4]

Additionally, the Trust can look to use new studies on appliance and building load shapes that may show other technology that can be used for these programs. Massachusetts just completed the Three-Year Massachusetts Residential Baseline study a year-by-year residential baseline comparison in energy usage of residential appliances. This study allows for a side-by-side breakdown of residential energy usage by appliance in Massachusetts. To see more about how this data can be used to enhance energy efficiency program planning see NEEP's Regional End Use Load Profile Priority Research and Data Sharing Recommendations.

Consider an At Home Virtual Energy Audit Initiative

The Trust already has two great programs to engage homeowners in Maine virtually, the At Home Savings Calculator and At Home Lighting Solutions. Programs that are accessible virtually are a great resource to expand the impact of energy efficiency investments because they can serve a wide range of residents and act as tools to identify and target participants for programs.

NEEP recommends that the Trust consider building on these programs and creating an At Home Virtual Energy Audit. By offering a more detailed audit to homeowners, the Trust can provide a more complete picture of offered incentives and put homeowners directly in touch with proper contractors throughout the whole state of Maine. Further, NEEP has a solution that could be used to provide virtual assessments call Energy Estimator-Powered by HELIX and ClearlyEnergy. This tool is readily available for the Trust to use and will create an online virtualization of the audit programs offered the Energy Assessment.

The Energy estimator works by utilizing publicly-available tax assessor databases to generate a preliminary breakdown of annual energy costs estimate that can be used to generate a home energy report. This

[4] Mims Frick, Natalie, Wilson, Eric J, Reyna, Janet, Parker, Andrew S, Present, Elaina K, Kim, Janghyun, Hong, Tianzhen, Li, Han, & Eckman, Tom. End-Use Load Profiles for the U.S. Building Stock: Market Needs, Use Cases, and Data Gaps. United States. https://doi.org/10.2172/1576489.

information can be entered by a homeowner or energy professional, if the Trust were to consider moving to virtual energy audits. After the report is completed, homeowners, can engage with energy professionals identified on the portal and proceed to starting energy improvements. The resulting report is saved in HELIX with the ability to track measures on the home. If incorporated into Maine's current Energy Assessment offering, this tool would allow the Trust to evaluate virtual assessments and determine the level at which they lead to weatherization work or other upgrades.

Further, Efficiency Maine could use the Energy Estimator to provide means for contractors to engage with homeowners and identify candidates for retrofit, weatherization, and appliance upgrades now to create a pipeline of work for efficiency contractors. Additionally, using Energy Estimator allows for the flexibly to shift work between online and in-person assessments. Virtual visits first could be a useful tool for pre-screening before onsite visits to better prepare for a more efficient visit. Working with the homeowner, the contractor can enter additional information about the home including utility bill data and information about in-home assets. Furthermore, the contractor may be able to better ascertain the opportunity and scope of work so the length of the scheduled visit is more precise. This could result in more efficient scheduling and perhaps more efficient utilization of existing technical resources.

NEEP is available to provide more information on Energy Estimator, online training resources, and encourages the Trust to reach out with any questions. There are also existing report templates that can be used, which ensures a very rapid setup for Maine.

Recommendations for Schools Decarbonization Programs

Maine recently passed an act to support school decarbonization program. As a result of this legislation, the Trust has been asked to "develop a program to provide technical and financial support to help kindergarten to grade 12 schools…to become carbon neutral." NEEP has long worked with schools in the northeast region and would like to recommend the Trust consider including the following components to this programs to optimize investment in schools.

- ✓ **Comprehensive Design Approach:** New school construction projects and major renovations require careful planning to ensure the facility is meeting its energy, health, and educational goals (amongst other priorities). By following an established comprehensive design criteria, such as NE-CHPS, schools will be designed and built in a comprehensive manner that provides maximum benefits to students, teachers, and the greater community because Utilizing NE-CHPS incorporates the following key components into one design guide. To encourage more savings, the Trust can provide additional incentives to schools that achieve certain performance design targets.

- ✓ **Climate Resiliency in Design:** Science has shown that extreme weather events will become more likely and recent events have highlighted the consequences not planning for climate change can have on the built environment. NEEP encourages mandating building design practices that assess climate change vulnerability and that plan for changing climatic conditions over the building lifespan. This can be done

through ensuring that alongside efficiency upgrades, climate vulnerability and risk is considered. This life cycle approach will increase the long-term durability and performance of buildings, and help avoid unnecessary and perhaps catastrophic impacts on facilities and their occupants. It will also help state-level adaptation, mitigation, and resilience planning in meeting goals for energy efficiency, emergency disaster planning, and GHG reductions in their schools.

- ✓ **Community Engagement and Input:** Schools are often times the center of their communities. Therefore, as the Trust plans the implementation of this program, it is important that it include provisions to be sure that these designs are aware of and incorporate the needs of the communities around the schools. This can be done through mandating outreach and/or requiring that program implementers partner with the local community groups, interact with the faculty and students, and incorporate community concerns in the design.

- ✓ **Long-term Maintenance and Operation**: Buildings, even simple structures, are complex systems of electrical, mechanical, and structural components whose performance can be significantly affected if it does not receive adequate maintenance. It is important that as part of a schools program consideration is given to how a school will maintain its improvements and performance over time. NEEP published and maintains a Regional Operations and Maintenance Guide with best practices, checklists, and examples for schools to operate their facilities in a high performance manner. The guide can be a part of the State's resource library to assist local school districts with their ongoing operational needs.

Conclusion

NEEP thanks Efficiency Maine Trust for the opportunity to comment on the Trust's Draft Triennial Plan V. Maine is an exemplary state in its energy efficiency and clean heat technology goals and implementation. NEEP looks forward to continuing to work with the Trust as well as various stakeholders in Maine to help the state move towards its climate, resiliency, and equity goals.

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