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Subject: Comments from the Natural Resources Council of Maine in response to Efficiency Maine Trust's Request for Information on Triennial Plan VI

On September 12, 2023, the Efficiency Maine Trust (the Trust) release a request for information on its sixth triennial plan. The Natural Resources Council of Maine (NRCM) appreciates the critical role that the Trust plays in reducing emissions and energy costs for Mainers in homes and businesses, as well as its important work on the myriad issues related to the electric grid, and in decarbonizing the transportation sector. The Trust fills an essential space in Maine's ability to achieve our greenhouse gas emissions reduction and clean energy goals, and in pursuing the strategies laid out in Maine's current climate action plan, *Maine Won't Wait*.

NRCM is Maine's leading environmental advocacy organization, with more than 30,000 members and supporters. NRCM has been working for more than 60 years to protect, restore, and conserve Maine's environment. NRCM's climate and clean energy program is focused on promoting solutions that will have the greatest impact on reducing climate pollution: cleaner cars and trucks, expanding renewable energy resources and modernizing the grid, and energy efficiency and decarbonization of buildings – all areas that intersect with the Trust's work.

We appreciate the opportunity to provide input in the early stages of developing this plan.

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Below we provide our responses to certain questions included in the RFI.

2. Innovation: The Innovation Program is designed to analyze and demonstrate cost-effectiveness of emerging measures that have reached (or are about to reach) commercialization, and to gain a better understanding of what strategies should be employed to promote a measure if it were to be added to the list of eligible measures through the Trust's regularly offered programs. (A) What emerging technologies, operational or behavioral conservation measures, or grid support/load management strategies should we consider for future Innovation Program pilot projects? (B) Historically, the Trust has set the budget for the Innovation Program at either 0.5% or 1% of program budgets. Please comment on the appropriate budget level for the Innovation Program and, where possible, share examples of budget levels used for equivalent initiatives in other jurisdictions to support your recommendation.

> Enabling the deployment of customer-sited resources configured, designed, and operated to provide grid services is a vital area of focus to avoid costs, prioritize investments to improve the efficient utilization of existing grid capacity. We encourage the Trust, as an essential participant in this area, to approach this opportunity with creativity, scale, leadership, and transparency as well as the staff and resources required to realize its potential. To help identify areas of emerging innovation especially on the grid edge, we strongly encourage Efficiency Maine Trust to host a series of external presentations from industry leaders in relevant fields to provide the Board, staff, and stakeholders with fresh and informed perspectives and insights in what is a very fast-moving space. Speakers could include for example: Kevala (https://www.kevala.com/); Recurve (https://www.recurve.com); Pecan Street (https://www.pecanstreet.org/); and Camus (https://www.camus.energy/).
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> We encourage the trust to explore options for incentivizing the electrification of motorized equipment including lawn and garden tools, and marine engines. While many of these motors are small, they are extremely inefficient and emit an outsize amount of air pollution and carbon emissions. A 2023 report found that lawn and garden equipment in Maine emits the same amount of carbon dioxide as 31,163 cars, and the equivalent amount of harmful fine particle pollution as more than 1.2 million cars, more than Maine's entire light-duty fleet.[1] The Island Institute is working to electrify working waterfronts, including deploying small electric boats in appropriate use-cases, for example for aquaculture and harbormasters, and an incentive program could provide cost savings and reduce pollution in part of one of Maine's iconic industries.

4. Evaluation, Measurement and Verification: In prior Plans, the Trust allocated 2.5% of the program budgets to "EM&V" (Evaluation, Measurement and Verification). EM&V activities encompass systematic data collection and analysis related to the Trust's programs. One type of EM&V activity is third-party evaluations, which are required for every program with annual budgets exceeding $500,000. Whereas Maine statute requires the Trust to evaluate major programs at least once every five years, the Trust's practice is to initiate these evaluations at

[1] Lawn Care Goes Electric. Environment America Research & Policy Center, October 2023. Page 24. https://publicinterestnetwork.org/wp-content/uploads/2023/10/Lawn_Care_Goes_Electric_Oct23.pdf

least once every three years. Measurement and verification are largely managed by the Trust Staff with assistance from subcontractors. The Trust seeks recommendations on the appropriate amount to budget for this strategic initiative in Triennial Plan VI and the basis for such recommendations.

> We encourage the Trust to seek ways to modernize and reduce costs for EM&V through data analytics. "Pay for performance" (P4P) energy efficiency uses modern analytics to provide accurate measurements of actual energy savings at the meter, tracking changes in consumption and facilitating performance-based transactions in aggregate. In contrast to the costly, traditional EM&V methods that the Trust currently uses, P4P analytics could preserve the Trust's budgetary and staff resources for other purposes. Importantly, innovations in this space could also precipitate market participation on the distribution system, in energy, capacity and ancillary services markets. New York, California, Oregon, and Massachusetts are some of the states that have pay-for-performance energy efficiency programs; Recurve Analytics[2] is one firm offering these services.

5. Workforce: Recent reports have assessed Maine's clean energy and energy efficiency workforce needs, including the 2022 Maine Clean Energy Workforce Analysis report. The Trust has generally focused on specific training needs related to the installation of efficiency measures – for example, the Trust supports industry training for new and experienced heat pump installers through its heat pump basics training module. Please comment on training needs of the energy efficiency workforce. Please also share any recommendations about the approach the Trust's Plan should take to support workforce training.

> We encourage the Trust to consider workforce needs related to additional areas of the Trust's programming. This should include the workforce needed to support Maine's transition to zero-emission vehicles (ZEVs), for example EV technician training, and EV charging infrastructure repair technicians. Additional focus on workforce training needs for weatherization would be beneficial as well. Partnerships with the building trades should be explored to leverage the existing recruitment and training infrastructure that exists with labor organizations.

6. Equity: The Trust places a priority on advancing equity in the delivery of its programs. For example, geographic equity informs the location and installation of electric vehicle charging infrastructure and municipal incentives. Many of the Trust's programs or incentives have enhanced incentives for income-eligible households, and others are available only for households that meet certain eligibility criteria. Also, the Trust's programs meet statutory requirements setting minimum budgets to benefit low-income Mainers. Please comment on how the Trust may continue to prioritize delivering benefits equitably to low-income and other priority communities while also advancing goals of maximizing energy savings, carbon reductions, and market transformation.

[2] https://www.recurve.com.

We encourage the Trust to continue to prioritize ensuring that its programs reach low-income and other disadvantaged communities and households. Energy burden, that is, the percentage of income a given individual or household spends on energy, is not equally distributed. According to the 2019 OPA Energy Burden study, low income Maine households use 18 to 19% of their income on energy compared to 6% in other Maine households.[3] The study further found that low income homes that heat with fossil fuels (utility gas, propane, and fuel oil) spent more on average than those that heated with electricity.

Please also see our comments below for expanded offerings to reduce financial and technical barriers for low-income participation in clean energy programs through the Green Bank.

7. Demand Management: The Trust launched a Demand Management program as part of the current Triennial Plan. The program consists of two discrete initiatives: (1) a Demand Response Initiative – a traditional demand response program where participants are compensated for reducing their electricity usage when called upon to do so; and (2) a Load Shifting Initiative – an initiative focused on using both passive and active load-shifting strategies across fleets of devices. This year, the Load Shifting Initiative will include small batteries and managed electric vehicle (EV) charging. What other technologies or strategies might the Trust consider as part of the Demand Management program in the next Triennial Plan period?

Load flexibility to increase utilization of existing transmission and distribution capacity is an essential strategy for reducing the cost of the clean energy transition. We strongly urge the Trust to be transparent, collaborative, and ambitious with respect to planning and scaling activities in this area. Through the Triennial Plan VI process, the Trust should set goals and targets for its initiatives, for example, number of participants, amount of load shifted, percentage of EVs under managed charging, etc., and describe how and on what timelines the Trust intends to bring its programs to scale. If the Trust is playing an incubation role, it should clearly define success and plans for spinning off self-sufficient markets and entities. The Trust should subject load shifting programs and plans to greater public and stakeholder scrutiny and input, including by making up-to-date information readily available on its own website or from the 3rd party platform providers for direct customer and public engagement.

We encourage the Trust to see its function as enabling market participation on the grid edge at scale. Beyond its own directly administered programmatic pilots and projects, EMT has an important role to play in fostering a favorable regulatory and market environment for broad participation in demand flexibility in front or behind the meter.

For example, CMP's December 1, 2023, filing in Docket No. 2022-00152 entitled CMP Recommendations Resulting from the CMP Rate Design Collaborative Stakeholder Process included in Section IV a commitment from CMP, GEO, the Trust and

[3] https://www.maine.gov/meopa/sites/maine.gov.meopa/files/inline-files/Maine%20Low%20Income%20Energy%20Burden%20Study%20June%202019.pdf

stakeholders for "Further Discussion of the Non-Firm Customer Rate Option." This is an area where The Trust's leadership could be very helpful for forging regulatory channels to allow interconnecting customers to readily reach agreement with the utility to configure and operate their resources in such a way that they provide benefit to the grid and value to ratepayers, while reducing the customer's interconnection upgrade costs. Having standardized regulatory channels for market participation, including through tariff rate options, can help shift load to low-use times and bring grid flexibility into service across Maine's distribution grid at scale. New York, California, and Illinois have experience in this area that Maine can draw from.[4]

Regarding its current load shifting projects, we encourage the Trust to include plans to incorporate a focus on local utility service areas. Responding to regional ISO market prices may provide adequate compensation to elicit customer participation, but demand flex capabilities should not stop there. The Trust and other stakeholders should establish collaborative partnerships with Maine utilities to begin to plan how demand flexibility solutions can be harnessed to respond to local grid conditions, particularly as digital communications and control technologies are being deployed across the grid and related data management systems are being built by the large utilities.

Additionally, the Trust should be a leading participant in proceedings before the Public Utilities Commission in securing amendments to the Chapter 324 rules that accommodate grid flexibility provisions, including but not limited to the issue of study assumptions for energy storage. Amendments should seek to increase and accelerate load flexibility and maximize the participation of distributed energy resources in providing value to the grid, beyond the scope of the Trust's programs in this area.

A related opportunity where the Trust should be an active party in pursuit of market reforms that can enhance grid flexibility is in Docket No. 2023-00316, the Commission Initiated Inquiry Regarding Utility Control or Ownership of Energy Storage. The Trust's leadership in this proceeding will be crucial to creating procurement pathways that leverage utility data and information to identify cost-competitive installations that are appropriately sited, configured, and operated. In these proceedings, the Trust should seek to reduce market barriers to increase customer participation without necessarily excluding utility ownership.

8. <u>Electric Vehicle Initiatives</u>: The Trust's Electric Vehicle Initiatives focus on speeding the adoption of electric vehicles through the installation of electric vehicle infrastructure and incentivizing the purchase of electric vehicles. The Trust's infrastructure investments are guided by statewide, collaborative planning efforts through the Recharge Maine initiative Maine EV Charging Infrastructure Plan. Please comment on what additional priorities or strategies the Trust should put in the Plan for transforming the market for electric vehicles?

[4] Strategen Consulting, on behalf of the Governor's Energy Office, Maine Advanced Rate Design Work Group, October 6, 2023.

We commend the Trust's current work providing electric vehicle incentives, as well as in planning and deploying EV charging infrastructure. We encourage the Trust to consider establishing incentive programs for medium- and heavy-duty (MHD) zero emission vehicles, and for electric bicycles (e-bikes).

MHDs account for a relatively small number of vehicles on the road, but a large proportion of fuel use and emissions from the transportation sector. Currently, MHD zero emission vehicles (MHDZEVs) are further from broad adoption than light duty cars and trucks, but there are many segments that are already readily available, especially smaller class 2b and class 3 pickup trucks and delivery vans. Efficiency Maine should evaluate how a MHDZEV rebate could be designed to make the most impact in market adoption and transformation in this important sector.

E-bikes are an extremely promising new technology to reduce emissions, reduce vehicle miles traveled (VMT) as called for in Maine Won't Wait, and to save Maine people on transportation costs. Compared to traditional bikes, e-bikes allow people to more easily bike further and along routes with more hills; to commute with groceries or children; to ride with mobility issues or at an older age; and to reduce worries about arriving sweaty and exerted at a destination. This allows e-bikes to replace short car trips. A detailed analysis of Denver's e-bike incentive program[5] found that program participants replaced 3.4 round trip vehicle trips per week, and income-qualified participants rode 50% more than standard voucher recipients, showing the potential for e-bike programs to improve equity in transportation access. E-bikes are also not limited to urban areas, with Mainers in Aroostook County[6] and Downeast Maine[7] taking advantage of e-bikes to replace car travel.

Additionally, we encourage the Trust to incorporate active participation in proceedings before the Public Utilities Commission on the issue of rate structures to support EV charging infrastructure, specifically relief from prohibitive demand charges that undermine the business viability of EV charging stations during the nascent deployment stage.

9. Efficiency Maine Green Bank: The Trust offers a suite of financing offerings for energy projects under one umbrella — the Efficiency Maine Green Bank. Efficiency Maine Green Bank initiatives are, when possible, designed to drive private capital into market gaps for energy efficiency and clean energy equipment and services. In FY2023, these offerings included home energy loans, small business energy loans, commercial property-assessed clean energy, municipal leases, manufactured home heat pump lease, and the Maine Clean Energy and Sustainability Accelerator. As the Trust's financing offerings continue to expand, what other sectors of the market or technologies might benefit from expanded or alternative forms of financing?

[5] https://www.ridereport.com/blog/ebike-inventive-programs
[6] https://www.bangordailynews.com/2023/07/09/news/aroostook/e-bikes-aroostook-terrain-joam40zk0w/
[7] https://themainemonitor.org/in-washington-county-getting-from-here-to-there-isnt-so-simple/

Pursuant to LD 1986, An Act Relating to Net Energy Billing and Distributed Solar and Energy Storage Systems, P.L. 2023, ch. 411, the Governor's Energy Office applied for $99.5 million from the federal Environmental Protection Agency's Solar for All program in October 2023.[8] EPA expects to announce decisions in March 2024. The proposal comprised a suite of policies to center low-income and other disadvantaged populations in the state's solar energy and battery storage programs that Maine should adopt regardless of whether or how much we may be awarded.

Many of the policies and programs in the state's Solar for All proposal fall within the purview of the Green Bank and adjacent partners. For eligible low-income homeowners, these included third-party lease to own and direct ownership of on-site solar and solar-storage installations through interest rate buydowns and loan guarantees offered through financial institutions to provide low or zero interest loans. For renters and residents of multifamily housing, the proposal included dedicated no-interest deferred loans and grants for on- or off-site solar and solar-storage installations. To support community-owned solar projects, the proposal also included technical and financial assistance for resident owned manufactured/mobile home communities, and island, tribal and other communities that might want to build wealth through clean energy asset ownership.

These are programs that Maine's Green Bank/Clean Energy and Sustainability Accelerator should be creating and seeking resources to fund, regardless of the EPA award status, to help ensure Maine's low-income and disadvantaged populations participate in Maine's clean energy transition.

Additionally, the Green Bank should support the build out of inclusive utility financing programs to ensure that vulnerable population who fail to qualify for loans due to bad credit won't be disqualified from making crucial home energy improvements. Innovations in tariff on-bill financing can associate the debt repayment with the utility meter instead of the individual resident and be structured to provide savings on that account from the outset.

10. <u>Beneficial Electrification</u>: Recent legislation enacted through LD 1724, "An Act to Enact the Beneficial Electrification Policy Act of 2023," allows the Trust to leverage electric procurement funds for fuel switching measures in certain limited circumstances: where those measures are cost-effective and would, over the life of the measures, reduce rates. The act directs the Trust to incorporate "beneficial electrification" into its triennial plans and updates. The act also requires the Maine Public Utilities Commission to incorporate beneficial electrification measures into the calculation of electric Maximum Achievable Cost Effective (MACE) savings and to fund the Trust's budgets for delivering these savings through electricity utility "procurement" under Sec. 10110(4-A) of Title 35-A, even if the majority of the cost savings come from reduced fossil fuel costs. The Trust will be soliciting feedback on beneficial electrification through an upcoming rulemaking but also invites comments and suggestions

[8] Maine Governor's Energy Office Solar for All Application information available at https://www.maine.gov/energy/initiatives/infrastructure/solar-for-all.

through this RFI. Which measures, strategies, and program design elements might the Trust consider as part of incorporating beneficial electrification in Triennial Plans V, VI, and beyond?

Pursuant to LD 1724, §3803 section 2, EMT must develop a 3-year plan for Beneficial Electrification (BE), including annual updates. For this work, EMT should use a rigorous and public process for plan development, including abundant outreach and communications across agencies, to public, experts, and other stakeholders, to effectively solicit input to ensure transparency, participatory process, and improved outcomes, including sufficiently ambitious goals, timelines, and initiatives. We encourage the Trust, through this work, to maximize BE investments and incentives to reduce greenhouse gas emissions in Maine and achieve other important health and safety co-benefits. Additionally, we urge Efficiency Maine Trust when implementing LD 1724 to apply the most recent update to the federally recommended Social Cost of Greenhouse Gases.[9] Sec. 6. 35-A MRSA §10110, sub-§4-A, ¶B, directs Efficiency Maine Trust to use findings from a study comparable to the Avoided Energy Supply Costs (AESC) Study for the New England region.[10] For the non-embedded environmental costs, the AESC 2021 report recommends that program administrators "continually review this value" to incorporate the most recent federal findings on the social cost of carbon.[11] The federal government recently updated its estimates of the net social benefit of reducing emissions of carbon dioxide, methane, and nitrous oxide to incorporate recent scientific advances as of November 2023. New estimates are four times higher than the interim values previously recommended and are substantially greater than the AESC 2021 values. AESC 2021 as well as the December 2020 Social Cost of Carbon Guidance published by the State of New York that its analysis draws on both emphasize the importance of incorporating the full scope of impacts of all relevant greenhouse gas emissions, i.e., carbon dioxide, methane, and nitrous oxide, not just carbon dioxide.

[9] Environmental Protection Agency, Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances, November 2023, available at https://www.epa.gov/system/files/documents/2023-12/epa_scghg_2023_report_final.pdf.
[10] AESC 2021, available at https://www.synapse-energy.com/avoided-energy-supply-costs-new-england-aesc.
[11] Ibid, pg. 172.