



Via electronic submission: anne.stephenson@efficiencymaine.com

September 10, 2018

Anne Stephenson
Efficiency Maine
168 Capitol St
Augusta, ME 04330

Re: Draft Triennial Plan IV (Fiscal Years 2020-2022)

Dear Anne,

On behalf of Northeast Energy Efficiency Partnerships (NEEP)¹, I am pleased to submit comments relative to the Triennial Plan IV (Fiscal Years 2020-2022) for the State of Maine. NEEP is a non-profit with a mission to accelerate regional collaboration to promote advanced energy efficiency and related solutions in homes, buildings, industry, and communities. With the goal to assist the region's leaders to reduce building sector energy consumption three percent per year and carbon emissions 40 percent by 2030, our vision is that the region's homes, buildings, and communities will be transformed into efficient affordable, low-carbon, resilient places to live, work, and play.

We thank Efficiency Maine for the opportunity to provide input on the draft Triennial Plan. Ranked number 13 in ACEEE's state scorecard, Maine has much to be proud of in terms of policies and programs offered that have helped the state achieve continued energy savings through electric and natural gas energy efficiency programs. NEEP applauds Maine's commitment to regional collaboration to advance policies and programs to lower the cost of reliable energy while meeting environmental and resiliency goals in an expedient and equitable manner.

Introduction

Under Maine law², the state has committed to achieving aggressive greenhouse gas (GHG) emissions reduction targets, including 75 to 80 percent below 2003 levels by 2050. In an election year and with anticipated leadership change in 2019, there is uncertainty in what is to come. While some uncertainty may exist, this change also presents an opportunity to expand upon the energy efficiency work currently being done in the state and prioritize the use of energy efficiency as a carbon reduction resource. Efficiency Maine can work towards this long-term carbon reduction goal through initiatives such as reinvigorating plans to update building energy codes and pursuing new policies that improve efficiency in the buildings sector – offering energy savings as well as increased home and building resilience in the face of more frequent extreme weather.

Maine has also set statutory targets³ to weatherize all homes by 2030, but according to Appendix K in the draft plan, the number of weatherization participants needs to increase significantly to get on track towards meeting this goal. In finalizing the Triennial Plan, Efficiency Maine has an important opportunity to increase the number

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.

² 38 MRSA §576, Chapter 3-A: Climate Change, Available at: <http://www.mainelegislature.org/legis/statutes/38/title38sec576.html>

³ 35-A MRS §10104, Energy Efficiency, Chapter 97L Efficiency Maine Trust Act, Available at: <http://www.mainelegislature.org/legis/statutes/35-a/title35-Asec10104.html>



of weatherized homes in the three-year period 2020-2022. This “risk mitigation” investment to improve thermal efficiency (i.e., improved energy performance in building and home envelopes through insulation and air sealing) supports energy affordability, increased resilience, and reduced annual GHG emissions. This is particularly important as Maine is the most heating oil dependent state in the country, with approximately 70 percent of Maine homeowners relying on oil for their heating needs.⁴ The ten-day extreme cold snap last winter stressed many households and businesses in Maine when the lack of adequate insulation resulted in rapid thermal losses that outpaced the ability of many fuel oil suppliers to keep-up with heating oil demand.⁵

Innovation Program

NEEP is excited to see the inclusion of an innovation program in the Triennial Plan that will enable Efficiency Maine to focus on measures that have not established themselves in the market place yet, but have the potential to be cost-effective and provide energy and/or GHG savings. This may provide an opportunity to pilot fuel-switching programs, such as converting oil/propane heating systems to air source heat pumps (ASHPs) or natural gas to ASHP. Innovation programs funded with RGGI funds may need to demonstrate that the measure can achieve GHG reductions. The innovation program could be an avenue to integrate strategic electrification into the Trust’s triennial plan by evaluating the grid impacts of heat pumps to show the importance of controls and efficiency that allow buildings to function as grid assets.

Participating in NEEP’s regional market transformation projects, such as our cold climate Air Source Heat Pump Project⁶ and Smart Home Controls⁷, can help Maine build market momentum to increase the competitive pricing and availability of high performing, energy efficient products in Maine while also contributing to and learning from similar efforts in New England and New York.

In addition, given that Maine has some large and energy intensive industries, Efficiency Maine should consider Strategic Energy Management (SEM)⁸ as an innovation program design for commercial and industrial (C&I) customers. SEM is an emerging opportunity for programs to achieve savings in the C&I sector by managing energy use in industrial facilities by combining behavioral and operational changes with other measures. This enables SEM to continuously improve energy performance and achieve energy, cost and carbon savings over the long term.⁹ Through our regional initiative, the Northeast SEM collaborative, NEEP is working to accelerate adoption of SEM by C&I companies through the region.

Home Energy Savings Program

Maine state law requires that energy data be disclosed to prospective renters upon request, but has no corresponding requirement for prospective home-buyers.¹⁰ NEEP recommends home energy checklists for both

⁴ https://www.maine.gov/energy/fuel_prices/fuel-info.html

⁵ <https://www.pressherald.com/2018/01/02/bitterly-cold-temperatures-to-return-on-friday/>

⁶ <https://neep.org/initiatives/high-efficiency-products/emerging-technologies/ashp>

⁷ <https://neep.org/initiatives/integrated-advanced-efficiency-solutions/home-energy-management-systems>

⁸ NEEP, EM&V Best Practices & Recommendations for Industrial SEM Programs, Available at: <https://neep.org/emv-best-practices-recommendations-industrial-sem-programs>

⁹ <https://neep.org/sites/default/files/SEM-%20Program%20Opportunity%20Pager.pdf>

¹⁰ Maine, An Act Regarding Energy Efficiency Standards for Residential Rental Properties, H.P. 1468- L.D. 2074, Available at: https://www.maine.gov/mpuc/online/forms/Chap534finalaw_001.pdf



renters and real estate professionals to enable all parties to effectively assess the energy cost and performance of specific properties. For example, NEEP offers a model renters checklist and guide¹¹ with steps renters can take to save and manage energy. In addition, we offer a Real Estate Professionals Checklist¹² that enables real estate professionals to quickly assess a home's energy efficiency. By making available to renters as well as to real estate professionals such energy checklists, all parties can make better informed decisions regarding home and building energy costs as well as options to improve energy efficiency and related energy bill affordability – a result important to both tenants and landlords.

In addition to making energy data available to renters, Efficiency Maine can also make this data available to potential home owners by integrating HELIX¹³ into its home energy savings program. Maine is a part of the pilot region (New England and New York) where HELIX is currently being tested to automate the transfer of home energy information into the Multiple Listing Service in five states (VT, RI, CT, MA, and NH), providing access to verified, and independent home energy data. The following datasets are being incorporated into HELIX: HERS ratings, U.S. DOE Home Energy Scores, ENERGY STAR™ Certified Homes, U.S. DOE Zero Energy Ready, NGBS, LEED, and VT certifications, with discussions ongoing with other programs and sources of solar PV data.

HELIX is a key strategy in making home energy information widely used in real estate listings, sales and leases, supporting effective building code implementation, and accelerating residential efficiency retrofits to achieve state and local climate and energy goals. We encourage Efficiency Maine to include this in its Triennial Plan.

Workforce Development

Maine statutes include the goal of creating stable private sector jobs providing alternative energy and energy efficiency products and services in the state.¹⁴ Including workforce development in the Triennial Plan moves the state closer towards this goal and provides a means for market transformation in all program sectors. Workforce development is mentioned in the draft of “other initiatives”. NEEP has developed resources that may help in building the capacity of the workforce as it pertains to upgrading building envelopes and installing high efficiency equipment. This includes a guide to installing ASHPs in cold climates, and a guide to sizing and selecting ASHPs in cold climates.¹⁵

Cost Effectiveness

¹¹ NEEP, A Guide for Renting and Creating Lower Cost Energy Efficient Apartments and Homes, Available at: <https://neep.org/sites/default/files/resources/A%20Guide%20for%20Renting%20and%20Creating%20Lower%20Cost%20Energy%20Efficient%20Apartments%20and%20Homes%20-%202018%20Update.pdf>

¹² NEEP, Real Estate Professionals Checklist, Available at: <http://www.neep.org/sites/default/files/resources/Guidance%20for%20Real%20Estate%20Professionals%20on%20Home%20Energy%20Efficient%20Attributes.pdf>

¹³ <https://neep.org/initiatives/energy-efficient-buildings/green-real-estate-resources/helix>

¹⁴ Supra note 3

¹⁵ Both resources available at: <https://neep.org/initiatives/high-efficiency-products/air-source-heat-pumps/air-source-heat-pump-installer-resources>



The Efficiency Maine Trust Act includes a mandate for the Trust to 1) capture all cost-effective energy efficiency opportunity that is reliable and achievable, and 2) set forth the costs and benefits of energy efficiency programs that advance the following goals, and funding necessary to meet those goals:¹⁶

- Reducing energy costs, including residential heating costs;
- Weatherizing substantially all homes whose owners or occupants are willing to participate in and share the costs of cost-effective home weatherization to a minimum standard of weatherization, as defined by the trust, by 2030;
- Reducing peak-load demand for electricity through trust programs by 300 megawatts by 2020;
- By 2020, achieving electricity and natural gas program savings of at least 20 percent and heating fuel savings of at least 20 percent, as defined in and determined pursuant to the measures of performance approved by the commission under section 10120;
- Creating stable private sector jobs providing alternative energy and energy efficiency products and services in the State by 2020; and
- Reducing greenhouse gas emissions from the heating and cooling of buildings in the State by amounts consistent with the State's goals established in Title 38, section 576.

To ensure that each of these goals is accounted for in the state's cost-effectiveness test it may be in Efficiency Maine's interest to apply the principles of the National Standard Practice Manual (NSPM)¹⁷ to the Total Resource Cost (TRC) test. The NSPM cores principles including:

Table 1 NSPM Core Principles¹⁸

Efficiency as a Resource	EE is one of many resources that can be deployed to meet customers' needs, and therefore should be compared with other energy resources (both supply-side and demand-side) in a consistent and comprehensive manner
Policy Goals	A jurisdiction's primary cost-effectiveness test should account for its energy and other applicable policy goals and objectives. These goals and objectives may be articulated in legislation, commission orders, regulations, advisory board decisions, guidelines, etc., and are often dynamic and evolving
Hard-to-Quantify Impacts	Cost-effectiveness practices should account for all relevant, substantive impacts (as identified based on policy goals,) even those that are difficult to quantify and monetize. Using best-available information, proxies, alternative thresholds, or qualitative considerations to approximate hard-to-monetize impacts is preferable to assuming those costs and benefits do not exist or have no value.
Symmetry	Cost-effectiveness practices should be symmetrical, where both costs and benefits are included for each relevant type of impact.

¹⁶ Supra note 3

¹⁷ National Standard Practice Manual, Edition 1, Spring 2017, Available at: https://nationalefficiencyscreening.org/wp-content/uploads/2017/05/NSPM_May-2017_final.pdf

¹⁸ *Id.*, at Table ES-1. Universal Principles, Pg. viii



Forward-looking Analysis	Analysis of the impacts of resource investments should be forward-looking, capturing the difference between costs and benefits that would occur over the life of the subject resources as compared to the costs and benefits that would occur absent the resource investments.
Transparency	Cost-effectiveness practices should be completely transparent, and should fully document all relevant inputs, assumptions, methodologies, and results.

When considering the cost-effectiveness of the Triennial Plan, we encourage Efficiency Maine to revisit what the application of the TRC means for Maine by considering the above mentioned State public policy goals for energy efficiency programs provided by the Efficiency Maine Trust. The approach the NSPM takes is to help states critically review the cost-effectiveness test currently being used to ensure it is policy neutral and considers all costs and benefits applicable to its programs. The NSPM does not advocate for the inclusion of certain non-energy impacts, but instead helps the state identify if there are any non-energy impacts that should be included based on its public policy goals. NEEP is available to provide technical assistance in applying the NSPM. New Hampshire¹⁹ is currently going through a similar process after adopting its energy efficiency resource standard by convening a benefit-cost working group.

Building Energy Codes and Appliance Standards

Building energy codes dictate the minimum energy efficiency for new building construction and existing building alteration. In this way, energy codes represent the “floor”—the least efficient buildings that can be built by law. Today’s model building codes are about 30 percent more efficient than Maine’s current 2009 IECC. By adopting and complying with more efficient energy codes, Maine will progress steadily towards a future where all new buildings can be zero energy buildings. Currently, Maine is only one of three states in the thirteen-state NEEP region still utilizing the 2009 IECC.²⁰ Pennsylvania, a state similar to Maine in its rural population, recently adopted the 2015 IECC. Training, electronic permitting and inspections, and marketing can be used to fill existing gaps in energy code compliance, and newer energy codes can be implemented to capture lasting energy savings.

The money saved by implementing a current energy code stays within Maine, strengthening local communities. Energy efficiency creates jobs which in return stabilizes and increases the state’s population. Building codes are also the only codes with a return on investment. That is, they are the only codes that can actually save occupants of buildings money and energy. They can also increase indoor air quality, increase resistance to mold and moisture, and decrease the risk of fire spread. Since small communities are not required to comply with the state’s building codes, the codes cover only about 60 percent of the population. To realize these savings, leading states enforce building energy codes uniformly across the state for all construction. Below are the cost and carbon savings Maine could see from 2018-2022 with code updates.

¹⁹ <https://www.puc.nh.gov/Regulatory/Docketbk/2017/17-136.html>

²⁰ <https://neep.org/initiatives/energy-efficient-buildings/codes-tracker>



Savings with Code Update 2018-2022:²¹

Commercial:

Cost: \$22,051,252.56

Carbon: 393,094 Metric Tons CO₂

Residential:

Cost: \$21,158,137

Carbon: 263,150 Metric Tons CO₂

Appliance standards also present an opportunity to drive Maine towards its carbon reduction goals. In reaction to federal deprioritization of appliance and equipment efficient standards, several states in the region have made enacting and promulgating new state-level appliance standards an energy policy priority.²² This includes:

- Vermont which passed two standards bills, H410²³ and H411²⁴,
- Massachusetts and Rhode Island – each of which considered legislation in 2018, and
- New York, Connecticut, New Jersey, and the District of Columbia are also considering standards.

In most cases, energy efficiency programs assist analyses of appliance standard options to meet specific state needs. Maine with the assistance of Efficiency Maine Trust, likewise, has the opportunity to work with stakeholders throughout the region to advance efficiency standards.

Conclusion

The Triennial Plan IV (2020-2022) provides the opportunity for Maine to align its energy efficiency programs with its GHG reduction target, as well as various other targets that will transform Maine into a resilient, clean, and sustainable economic environment. NEEP is pleased to assist Efficiency Maine to realize the full value of energy efficiency to meet the State’s efficiency, clean energy, and GHG emissions reductions goals. In particular, we offer the opportunity to increase the impact of efficiency programs and policies through our regional market transformation initiatives, technical assistance, public policy tracking, best practice guidance, tools and resources, workshops and participation in our advanced efficiency leadership network.

We hope that you find these comments helpful. Please let us know if we can be of further assistance.

Sincerely,

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²¹ NEEP, Construction Codes in the Northeast: Myths and Realities of Energy Code Adoption and the Economic Effects, 2018 Update, Available at: <https://neep.org/construction-codes-northeast-myths-and-realities-energy-code-adoption-and-economic-effects-2018>

²² <https://neep.org/blog/state-states-why-appliance-standards-matter-more-now-ever>

²³ VT Legislature, An act relating to appliance efficiency, energy planning, and electric vehicle parking, 2017-2018 session, Available at: <https://legislature.vermont.gov/assets/Documents/2018/Docs/ACTS/ACT139/ACT139%20As%20Enacted.pdf>

²⁴ VT legislature, Appliance Efficiency, 2017-2018 session, Available at: <https://legislature.vermont.gov/assets/Documents/2018/Docs/ACTS/ACT042/ACT042%20As%20Enacted.pdf>