

Triennial Plan V (FY 2023 – 2025)

Stakeholder Meeting – July 14, 2021

Meeting Agenda and Logistics

Stakeholder Meeting Agenda

8:30 – 10:00 a.m.

Triennial Plan V – Presentation

1. Background
2. Overview of the Plan (Targets, Priorities, Cost-Effectiveness)
3. Program Descriptions & Proposed Budgets
(a) C&I Custom, (b) C&I Prescriptive, (c) Distributor Initiatives, (d) Retail Initiatives, ...

10:00 – 10:10 a.m.

Coffee Break

10:10 a.m. – 12:00 p.m.

Triennial Plan V – Presentation

3. Program Descriptions (cont'd)
... (e) Home Energy Savings Program, (f) Low-Income Initiatives, (g) Renewables, (h) Electric Vehicle Initiatives, (i) Demand Management, (j) Recently Authorized Initiatives
4. Strategic Initiatives
(a) Evaluation, Measurement & Verification, (b) Innovation, (c) Public Information & Outreach, (d) Other Initiatives

12:00 – 1:00 p.m.

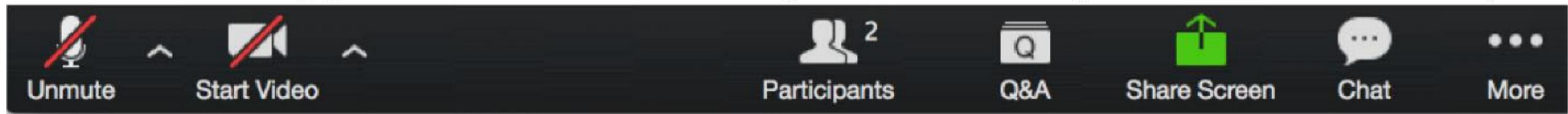
Lunch Break

1:00 – 3:00 p.m.

Period for Public Comment and Questions on Triennial Plan V

Controls and Questions

These are some of the controls available to you during this webinar. They will be located at the bottom of your screen.



If you have registered to present oral comments in the afternoon, you will be “promoted” to a “Panelist” shortly before it is your turn to present your comments. Once you have been promoted to be a panelist, you will have the ability to “Unmute” your microphone and “Start Video.” Please wait until your name is called by the moderator to unmute and start video. You will have 3 timed minutes to present your comment.

Microphone: Mute and unmute your own microphone.

Camera: Start and stop your video camera.

Participants: Clicking on “Participants” will show you the names of all attendees and provide controls for participants to raise and lower a virtual hand.

Questions and Comments

If you need to contact Efficiency Maine staff during the meeting, or submit a question, please use the “Chat” function.

- Please save substantive questions and comments for the afternoon session. The period for public comment and questions will begin at 1:00 p.m.
 - Staff will monitor the chat and batch questions for the Period for Public Comment and Questions. As many questions as possible will be addressed during the afternoon session.
- If time permits, clarifying questions will be addressed during the morning presentations.

Background on the Triennial Plan

Function of the Triennial Plan

- Provides integrated planning, program design and implementation strategies for all energy efficiency, alternative energy and conservation programs administered by EMT
- Authorizes and governs implementation of EMT programs
- For programs that will be implemented pursuant to sections 10110 [Electric Conservation Fund] and 10111 [Natural Gas Conservation Fund], the Plan
 - Identifies maximum achievable cost-effective (“MACE”) energy efficiency savings
 - Identifies programs to achieve these savings
 - Describes the costs and benefits of such programs
 - Provides the basis and support for the costs and benefits

35-A MRS Sec. 10104(4)

The Triennial Plan Process

- Consultation
 - Board
 - Entities and agencies involved in delivering energy efficiency
- Offer to brief and take input from the Legislature's Energy, Utilities and Technology Committee (EUT)
- Adoption by 2/3 vote of EMT Board
- Review and approval by the Maine Public Utilities Commission (PUC) in an adjudicatory process, open to the public
- Annual Updates
 - Significant changes & updates to the Plan during the 3-year period must be approved by the Board and reported to the PUC,
 - certain changes, esp. impacting Electric Fund & Natural Gas Fund collections, also must be approved by PUC

Board and Stakeholder Engagement

- **Request for Information**

- January-February 2021
- Comment Received posted <https://www.energymaine.com/triennial-plan-v/>

- **Informational Workshops**

- 12/9/2020 Board Meeting: Triennial Plan Legal Framework and Process Overview
- 2/24/2021 Board Meeting: Heat Pump Targets and Trajectory. Statewide Avoided Transmission and Distribution Costs for Maine
- 3/24/2021 Board Meeting: Small Business Initiative (SBI) Evaluation
- 4/14/2021 Board Workshop: Regional Greenhouse Gas Initiative (RGGI) Funding Priorities – Near Term
- 4/28/2021 Board Meeting: Small Business Initiative (SBI): Program Evaluation, Avoided Energy Supply Component (AESC) 2021 Study
- 5/12/2021 Board Workshop: Retail Lighting and Distributor Lighting Impact Evaluation, Energy Independence and Security Act (EISA) Status and Potential Impact on Lighting Measures
- 5/26/2021 Board Meeting: Identifying Cost-Effective Opportunity — Methodology and Assumptions, Demand Management Program
- 6/16/2021 Board Workshop: Low-Income Initiatives, Other Initiatives, Statutory Allocations
- 6/23/2021 Board Meeting: Commercial Lighting Baseline Study, Residential New Construction Baseline Study

Overview of the Triennial Plan V Document

1. Efficiency Maine Trust

- Provides general overview of EMT’s mission statement, governance structure, and staffing

2. Regulatory Framework

- Describes elements of the Efficiency Maine Trust Act (Maine statute), including EMT’s statutory purpose, authorization of program funds, long-term targets, principles of administration, and statutory directives

3. The Triennial Plan

- Describes the Plan’s purposes and requirements, process and timeline, program implementation priorities, and some recent results

Statutory Targets – see, 35-A MRS Sec. 10104(4)(F)

1. Reducing **energy costs**;
2. Reduce **greenhouse gas emissions**
 - consistent with the reduction requirements in state statute and the state's climate action plan adopted by the Maine Climate Council;
3. Creating stable private sector **jobs**;
4. **Weatherizing** 35,000 homes and businesses from 2020-2029,
 - Including at least 10,000 in low-income households through the combined efforts of the Trust and the Maine State Housing Authority;
5. **Electricity**
 - Achieving the “maximum achievable cost-effective” (MACE) savings of electricity;
 - Achieving MACE **Peak-load** demand reductions;
6. **Natural gas** – Achieving MACE savings of natural gas
7. High-efficiency **heat pump systems** – by 2030, installing whole-home systems in at least 115,000 homes and partial-home systems in another 130,000 homes; and
8. **Electric Vehicles** -- Promoting the purchase of at least [2]20,000* EVs registered in ME by 2030



* Transcription error in legislation lists this target as 120,000 EVs

Strategic Priorities

- Acquiring Resources
- Transforming the Market
- Reducing the Environmental Impacts of Energy
- Maintaining Fairness and Promoting Equity
- Leveraging the Private Sector

Identifying Cost-Effective Opportunity

- Statute requires triennial plan to identify the “maximum achievable cost-effective” (“MACE”) energy efficiency opportunity for **electricity** and **natural gas** savings
- Plan describes components of cost-effectiveness analysis, including:
 - How EMT estimates **benefits** and **costs** based on difference between two scenarios:
 1. *Baseline Scenario*– what would have happened if not for the program, and
 2. *Efficient Scenario* – where incremental energy resources are saved/delivered due to an intervention
 - High-level overview of considerations and assumptions
 - How to calculate benefits and costs
 - How to monetize benefits and costs
- Associated Appendix = Appendix G: Avoided Energy Costs
- Notable change over Triennial Plan IV: inclusion of the avoided cost of carbon

Cost Effectiveness Calculation Formulas

Primary Benefit Cost Test

Benefit Cost Ratio (BCR) ≥ 1 = Cost Effective

$$BCR = \frac{NPV(\text{Lifetime Benefits})}{NPV(\text{Lifetime Costs})}$$

Program Administrator Cost Test

$$PACT = \frac{NPV(\text{Lifetime Benefits})}{NPV(\text{Lifetime Program Administrator Costs})}$$

NPV = Net Present Value – calculation of today's value of future costs and benefits taking the time value of money into account using a discount rate. A dollar tomorrow is worth less than a dollar today.

Cost Effectiveness Calculation Building Blocks

Electric, Natural Gas, and Unregulated Fuels cost-effectiveness calculated pursuant to EMT Rules.

- **Benefits:** AESC costs due to reduced energy and peak demand usage, water savings, and reduced operations and maintenance costs
- **Costs:** participant costs, incentives, increased operations and maintenance, AESC costs due to increased energy and peak demand usage, and program delivery expenses
- Cost-effectiveness screening is assessed at **gross** savings.
- Cost-effectiveness screening is assessed at the **measure level**, rather than at the program level.
 - *For Low-Income Initiatives only:* screening is assessed at the *project level* (a project is defined as a bundle of related measures installed concurrently).

Cost Effectiveness Calculation Building Blocks (continued)

- The **discount rate** is set at current yield of 10-year U.S. Treasury securities, plus 200 basis points, adjusted for inflation (per Ch. 3 and Ch. 4 of Trust rules).
- **Free-ridership rates** are set at the levels found in a program's most recent evaluation.
 - Default rate of 25% is applied for measures that are unevaluated and have no comparable evaluated measures
- **Operations and Maintenance (O&M)** costs and benefits are included in screening of measures when quantifiable and material.

Revenue Streams

Utility Funds

- From payments made by electric and natural gas utilities to the Trust
- Collected from ratepayers
- Set at level needed to capture MACE energy savings

Regional Greenhouse Gas Initiative (RGGI)

- From sale of “carbon allowances” and quarterly auctions
- Used for programs that reduce electricity consumption or GHG emissions

Forward Capacity Market (FCM)

- From bidding the Trust’s capacity resources into the Independent System Operator for New England (ISO-NE) markets
- Used for heat pumps

Settlements and Grants

- E.g., New England Clean Energy Connect (NECEC) Settlement, American Rescue Plan funds

Renewables Policies

- Voluntary contributions
- Alternative Compliance Payments

Programs

- **Commercial & Industrial Custom Program**
- **Commercial & Industrial Prescriptive Initiatives**
- **Distributor Initiatives**
- **Retail Initiatives**
- **Home Energy Savings Program**
- **Low-Income Initiatives**
- **Renewables**
- **Electric Vehicle Initiatives**
- **Demand Management Program**
- **Recently Authorized Initiatives**

Commercial and Industrial Custom Program

- Incentivizes tailored energy efficiency and distributed generation projects that require unique, site-specific engineering analyses

Measures Considered

- Broad array of potential projects and participation from customers of varying sizes
- Competitive incentives for distributed generation, custom electric, and thermal efficiency projects (e.g., steam turbines, heat recovery, refrigeration upgrades, process steam reduction, controls)

Incentives and Financial Considerations

- *Minimum project size* – ensure project savings exceed investment costs
- *Simple payback* – ensure program incentive is instrumental in moving project forward (avoid free riders)
- *Ceiling on cost of first-year energy savings* – seek maximum dollar-per-unit of savings (avoid overpayment)
- *Customer contribution* – require significant customer contribution to project cost
- *Maximum incentive size* – apply annual incentive caps (avoid overspending program budget)

Commercial and Industrial Custom Program

Opportunity Analysis and Findings

- Informed by Applied Energy Group (AEG) 2021 *Potential Study for the C&I Custom Program and C&I Prescriptive Initiatives Refrigeration and Compressed Air Solutions* (Appendix F)
- Segmented utility data by location, business type, annual usage, and demand
- Characterized marketplace by facility type and business type, and determined the size of each eligible business segment
- Reviewed past program performance (average project size by year, end-use, and customer)
- Linked program database with utility dataset, developing a singular database that served as the basis for participation trends, measure saturations, and incentive levels by market segment
- Calibrated model based on feedback from the program team
- Findings – considerable uptick in cannabis sector lighting and HVAC opportunity, growth in snow gun and back-pressure steam turbine projects due to technology improvements/market activity

Commercial and Industrial Custom Program

Marketing

- Individualized, customer-focused outreach strategy (contact with leadership and facility/energy managers)
- Outreach to major vendors, contractors, and architectural and engineering firms to help identify projects

QA/QC

- Independent verification of energy saving calculations in project proposals
- Upon completion of each project, program staff conduct site visit to verify installation details
- Savings estimates (and incentives) are adjusted for “as-built” conditions (overruns covered by customer)

Approach to Market Barriers

- Design incentive structure to overcome barriers associated with large upfront costs and insufficiently attractive payback periods
- Require significant customer investment
- Review project proposals on rolling basis to ensure that project investments can sync with customers’ internal budgeting processes
- Provide several levels of technical support (e.g., free scoping audits, incentives for technical assistance) to overcome barriers associated with lack of in-house expertise

Commercial and Industrial Custom Program

Budget

	Electric	NG	RGGI	FCM	Settlement	ARP
FY 2023	\$4,976,316	\$635,833	\$2,200,000	\$0	\$0	\$2,500,000
FY 2024	\$4,779,683	\$635,833	\$2,420,000	\$0	\$0	\$2,500,000
FY 2025	\$4,693,990	\$635,833	\$2,662,000	\$0	\$0	\$0
Total	\$14,449,989	\$1,907,499	\$7,282,000	\$0	\$0	\$5,000,000

Commercial and Industrial Prescriptive Initiatives

- Suite of broad market-based initiatives and targeted- or sector-specific initiatives

Measures Considered

- Energy-saving measures that are widely available, uniform performance, broad application across the state, including:
 - Heat Pumps
 - Refrigeration Measures
 - Lighting
 - Agricultural Measures
 - Compressed Air Measures

Incentives and Financial Considerations

- Incentive amounts vary depending on project/decision type, enhanced incentives for certain targeted initiatives, sectors or customer types
- Financing available for eligible small business projects

Commercial and Industrial Prescriptive Initiatives

Opportunity Analysis and Findings

- Draws upon four separate analyses:
 - *Heat pump analysis (Appendix I)*
 - *Custom, Refrigeration and Compressed Air Potential Study (Appendix F)*
 - *Commercial Lighting Baseline Study (Appendix E)*
 - Other measure categories: staff reviewed and relied heavily on past program history (Appendix B).
- Market for agricultural and compressed air will remain consistent
- Heat pumps, including variable refrigerant flow installations, projected to grow
- Expanded opportunity in other HVAC-solutions including heat- and energy-recovery ventilation systems
- Inefficient lighting still found in Maine businesses, but much of it is in Maine's smallest businesses and those not traditionally served by regular contractor channels – modeled acquiring this inefficient lighting opportunity through targeted initiatives

Commercial and Industrial Prescriptive Initiatives

Marketing

- Support installers (i.e., Qualified Partner network) to allow them to identify and motivate customers
- Conduct marketing direct to potential customers
- Targeted initiatives may employ sector- or customer-specific marketing campaigns

QA/QC

- Screen incentive applications for completeness
- Conduct technical review of applications over a certain threshold before granting pre-approval; larger projects are reviewed again before issuing incentive payment
- Conduct on-site inspection of 10% of all projects

Addressing Marketing Barriers

- Pay incentives to customer OR contractor
- Outreach and support to contractors providing services
- Targeted initiatives may provide higher incentives and/or direct installation

Commercial and Industrial Prescriptive Initiatives

Budget

	Electric	NG	RGGI	FCM	Settlement	ARP
FY 2023	\$10,384,393	\$231,555	\$4,334,350	\$0	\$666,667	\$4,000,000
FY 2024	\$10,661,031	\$229,329	\$4,445,450	\$0	\$666,667	\$7,000,000
FY 2025	\$10,589,830	\$229,329	\$4,567,660	\$0	\$666,667	\$7,000,000
Total	\$31,635,254	\$690,212	\$13,347,460	\$0	\$2,000,000	\$18,000,000

Appendix H: Statutory Allocation Requirements, Small Business Electric

- Spending in C&I Prescriptive (CIP) Initiatives
 - Includes **100%** of funds targeted through **Small Business Initiative**
 - Applies portion of funding for **standard CIP Initiatives – 22%** (based on 2021 survey)
- Includes portion of **Retail Initiatives** funding (6.25% of lighting measures are purchased by commercial customers)

Program	FY 2023	FY 2024	FY 2025	Total
Small Business Initiative	\$3,172,532	\$3,459,235	\$3,464,314	\$10,096,081
Portion of CIP Other	\$1,586,610	\$1,584,395	\$1,568,731	\$4,739,736
Portion of Retail Initiatives	\$291,734	\$291,734	\$291,734	\$875,202
Total	\$5,050,876	\$5,335,364	\$5,324,779	\$15,711,019
10%	\$4,915,064	\$4,991,505	\$5,041,624	\$14,948,192
Variance	\$135,812	\$343,859	\$283,155	\$762,827

Distributor Initiatives

- Incentives for efficient products acquired through distributors (supply houses where contractors and larger customers go to purchase plumbing, heating, refrigeration, and electrical supplies)

Measures Considered

- Measures sold in volumes large enough that distributors will stock them
- Focus on replace-on-burnout or emergency replacement measures

Incentives and Financial Considerations

- Incentives delivered as markdown, administered per MOU between EMT and participating distributors
- Discount efficient equipment by amount required to motivate the sale (shrink or eliminate incremental price difference between conventional and high-efficiency models)
- In some cases, EMT may incentivize distributors to collect and report data as that burden shifts from contractors to distributors in this program model
- In some cases, EMT may provide distributors payments to offset administrative and marketing costs to encourage sales.

Opportunity Analysis and Findings

- Opportunity analysis for Triennial Plan V based largely on a review of Triennial Plan IV program performance
- Also informed by Appendix J: *Heat Pump Water Heater Analysis and Considerations* (details heat pump water heater opportunity methodology and assumptions, and provides rationale for portion of activity attributed to Distributor Initiatives)
- Opportunity analysis did not include LED replacement lamps sold through distributors (will be run through CIP Initiatives instead)
- Opportunity analysis also excluded oil- and propane-fired boilers and furnaces.
 - FY22 - Board discontinued use of RGGI funds to support measures that that emit significant GHG
 - Concerns about consistency with Maine's carbon reduction targets and fairness to electricity customers carrying the burden of funding oil and propane conservation measures.
- Findings – electric and natural gas measures offered during Triennial Plan IV remain cost-effective.
 - Electric measures: heat pump water heaters, electronically commutated motor (ECM) circulator pumps
 - Natural gas measures: tankless water heaters and combination boilers

Distributor Initiatives

Marketing

- Capture replace-on-burnout or emergency replacement purchases rather than proactive replacements
- Transactions are largely between distributor staff and installation contractors, so marketing and outreach for the program focuses on the distributor itself

QA/QC

- Visit distributors to ensure that data collection processes are in place
- Review instant discounts processed by distributors to ensure that the products and participants are eligible
- Monitor product pricing and program participation to assess appropriate discount amounts
- Track market share of the various measures by branch for each participating distributor, using this data to promote best practices and target product training where market share is lowest

Approach to Market Barriers

- First costs – buying down the cost of the high-efficiency option to make it cost competitive with the conventional option
- Emergency replacements – efficient options readily available at close to the same price as default replacement model
- Rebate paperwork or processing – installing contractors simply have to present installation information to distributor

Distributor Initiatives

Budget

	Electric	NG	RGGI	FCM	Settlement	ARP
FY 2023	\$12,230,950	\$127,047	\$0	\$0	\$0	\$0
FY 2024	\$12,230,950	\$102,041	\$0	\$0	\$0	\$0
FY 2025	\$12,230,950	\$77,037	\$0	\$0	\$0	\$0
Total	\$36,692,850	\$306,125	\$0	\$0	\$0	\$0

Retail Initiatives

Consumer products through retail channels

- sell in relatively high-volumes
- achieve predictable savings when installed
- Evaluate products based on cost-effectiveness, demand, and availability

Measures Considered

- Appliances
- Heat pump water heaters
- LEDs
- Smart thermostats

Incentives and Financial Considerations

- Markdowns
- Instant discounts
- Mail-in rebates

Opportunity Analysis and Findings

- Considered replace-on-burnout and retrofit measures
- Assessed historical performance of the program and rate of measure adoption
- Lighting savings may be impacted by the U.S. Department of Energy's implementation and enforcement of the Energy Independence and Security Act standards for lighting
- Modeled program opportunity considering uncertainties in the timing of EISA enforcement and consistent with the lighting opportunity from the last Triennial Plan period
- Determined that program should continue to offer many of the same retail consumer products from the last Triennial Plan period
- Market for heat pump water heaters is expected to continue to grow

Retail Initiatives

Marketing

- Focus on point-of-purchase and promotional placements, because purchasing decision is frequently made at the store
- Emergency replacement marketing (e.g., digital ads)

QA/QC

- Send field representatives to stores to ensure that markdown prices and discounted products match agreement terms
- Review rebate claims to ensure that the product and participant are eligible
- Monitor product pricing and incentive amounts

Approach to Market Barriers

- Buys down price of the high-efficiency option to compete with price of standard option
- Market to customers at the point of purchase and targeted online advertising
- Offer mix of mail-in rebates and markdowns

Retail Initiatives

Budget

	Electric	NG	RGGI	FCM	Settlement	ARP
FY 2023	\$12,468,336	\$0	\$0	\$0	\$0	\$0
FY 2024	\$12,468,336	\$0	\$0	\$0	\$0	\$0
FY 2025	\$12,468,336	\$0	\$0	\$0	\$0	\$0
Total	\$37,405,008	\$0	\$0	\$0	\$0	\$0



Coffee Break

We will resume at 10:10 a.m.

Home Energy Savings Program (HESP)

- Market-based program that operates through network of independent trade allies to reach residential customers in single family homes and 2- to 4-unit multifamily buildings, including condominiums.

Measures Considered

- *Building Envelope Improvements* – insulating and air-sealing of thermal envelope or heating distribution system; energy assessments to verify improvement in thermal envelope
- *Heating Systems* –
 - Where customer is decision maker and works with contractor to select an appropriate model/configuration
 - May include ductless heat pumps, geothermal systems, and biomass boilers and furnaces
 - Consider controls that can balance multiple heating systems

Incentives and Financial Considerations

- Rebates to defray cost of efficiency projects and equipment (leverage private investment)
- Financing options, such as Home Energy Loans, which reduce upfront costs and allow customers to spread out cost of energy improvements over time

Opportunity Analysis and Findings

- *Weatherization*
 - Significant efforts needed to increase activity from past levels, over the three-year plan
 - Used fuel mix of past program participants to determine what would be funded with RGGI, natural gas, or electric funds
- *Heat Pumps*
 - Relied on assessment of contractor network and historical project totals
 - Further considered state's 100,000 heat pump goal and expanded funding available to support the required ramp-up.
 - Appendix I: *Heat Pump Analysis and Considerations* details some of EMT's methodology and assumptions for this measure in Triennial Plan V

Home Energy Savings Program (HESP)

Marketing

- Digital marketing (web ads, social media, video ad spots, search engine optimization)
- Print ads and materials
- Event-based outreach
- Brochures in property tax bill mailings
- Residential Registered Vendor (RRV) network support

QA/QC

- Vendor code of conduct
- Vendor requirements (licensing, training, insurance)
- Project inspections (in-home and virtual)
- Rebate claim forms

Approach to Market Barriers

- Lack of familiarity with technologies – educational print and web materials
- Lack of upfront capital – rebates and loans to overcome the initial cost barrier and allow customers to spread out the cost of energy improvements
- No contractor relationship – RRV vendor locator tool and code of conduct
- Split incentive in rental situations – outreach to landlords of buildings with 2 to 4 units

Home Energy Savings Program (HESP)

Budget

	Electric	NG	RGGI	FCM	Settlement	ARP
FY 2023	\$6,515,928	\$518,131	\$5,694,150	\$6,729,533	\$0	\$0
FY 2024	\$7,043,245	\$576,340	\$6,617,550	\$3,654,433	\$0	\$0
FY 2025	\$7,570,561	\$576,340	\$7,700,840	\$4,494,833	\$0	\$0
Total	\$21,129,734	\$1,670,812	\$20,012,540	\$14,878,800	\$0	\$0

Low-Income Initiatives

- Portfolio of programs that reach low-income (LI) customers through direct installation, direct-mail campaigns, market-based programs and targeted initiatives.

Measures Considered

- Building envelope improvements
- DIY (Do It Yourself) Kits
- Heat Pumps
- Heat Pump Water Heaters

Incentives and Financial Considerations

- “Direct installation” projects -- cover up to 100% of installation cost and oversee contractor support
- Enhanced rebates to defray cost of efficiency projects and equipment (leverage private investment)
- Financing options available
- Direct mail campaigns promoting measures that are free for qualifying households

Opportunity Analysis and Findings

- Several measures offered during the last Triennial Plan period continue to be cost-effective
 - HPWH, heat pumps, air sealing and insulation measures, suite of small DIY energy-saving measures (including LEDs, low-flow devices)
- Continue direct installation of select retrofit measures, including HPWH and heat pumps
- DIY energy-saving bundles deliver modest energy savings, have universal applicability and low costs (price point and delivery)
- Heat pumps remain a good fit for market-based program delivery
 - achieves wide reach, leverages network of contractors marketing to the residential sector
- Natural gas measures are opportunity constrained – best opportunity is in multifamily dwellings

Low-Income Initiatives

Marketing

- Direct mail and outreach through partner organizations (DHHS, MaineHousing, Community Action Agencies, etc.)
- Contractor-initiated customer acquisition
- Targeted social media and web advertising
- Statewide marketing of other Trust programs

QA/QC

- 15-25% of all direct-install and market-based projects
- Vendor requirements (RRV list, licensing, training, insurance)

Approach to Market Barriers

- Employing a variety of channels helps overcome obstacles to low-income program participation
- Direct install initiatives pay up to 100% of project cost and Trust coordinates with contractors
- Market-based initiatives – provide enhanced incentives to lower initial costs and financing

Low-Income Initiatives

Budget

	Electric	NG	RGGI	FCM	Settlement	ARP
FY 2023	\$2,604,553	\$15,278	\$0	\$1,330,667	\$1,333,333	\$5,000,000
FY 2024	\$2,680,994	\$15,591	\$0	\$1,330,667	\$1,333,333	\$7,000,000
FY 2025	\$2,731,113	\$15,339	\$0	\$1,330,667	\$1,333,333	\$10,000,000
Total	\$8,016,660	\$46,209	\$0	\$3,992,000	\$4,000,000	\$22,000,000

Appendix H: Statutory Allocation Requirements, Low Income Electric

- Includes **100%** of the electric procurement budget allocated to **Low-Income Initiatives**
 - Includes direct installation, direct mail, Affordable Heat Initiative, pilot initiatives
- Trust attributes a portion of program spending in **Distributor Initiatives** and **Retail Initiatives** to this target
 - A 2020 survey found that **~14%** of the heat pump water heaters sold through these programs are installed in low-income homes

Program	FY 2023	FY 2024	FY 2025	Total
Low-Income Initiatives	\$2,604,553	\$2,680,994	\$2,731,113	\$8,016,660
Portion of Distributor Initiatives	\$1,261,652	\$1,261,652	\$1,261,652	\$3,784,956
Portion of Retail Initiatives	\$1,048,859	\$1,048,859	\$1,048,859	\$3,146,577
Total	\$4,915,064	\$4,991,505	\$5,041,624	\$14,948,192
10% Target	\$4,915,064	\$4,991,505	\$5,041,624	\$14,948,192
Variance	\$0	\$0	\$0	\$0

Renewables

- Statute authorizes Energy Efficiency and Renewable Resource Fund to support:
 - Renewable resource research and development (R&D)
 - Community demonstration projects of renewable energy technologies
 - Rebates for cost-effective renewable energy technologies
- Comprised of voluntary ratepayer contributions and alternative compliance payments through Renewable Portfolio Standard (RPS); can also seek and accept funding from other sources

Measures Considered

- If funding constrained, continued focus on demonstration projects
 - Renewable energy equipment where the project demonstrates simple payback
 - Customer-sited, renewable energy measures (e.g., solar electric PV, solar hot water, solar hot air, biomass)
- If increased funding, potential expansion to R&D projects

Incentives and Financial Considerations

- Grant awards through a competitive solicitation process
- Size, number, and frequency of grant awards contingent upon available funding

Opportunity Analysis and Findings

- Funding is primary constraint; EMT did not model opportunity for program
- Absent new legislation or bonding to generate a new revenue stream, forecast revenues of approximately \$60,000 annually (based on historical activity)
- With limited revenue, target projects that have greatest impact on demonstrating low-cost renewable energy options with greatest end-user payback in community facilities
- Renewable projects could be cost-effective if PUC determines that specific area of grid faces potential reliability issues and that “non-wires alternatives” present a viable, less-costly alternative to transmission and/or distribution upgrades
 - Trust could use its authority to rapidly and efficiently acquire suitable renewable non-wires alternatives through a targeted rebate initiative

Renewables

Marketing

- Notify interested parties list of new RFPs and circulate information to any relevant trade associations, community groups, and media outlets

QA/QC

- As part of bid selection, evaluate project documentation prior to award (RFP Review Team)
- Monitor progress during construction phase by reviewing invoices and conducting site visits (EMT)
- Upon completion, conduct a site inspection to verify project installation details (EMT)

Addressing Marketing Barriers

- Help demonstrate potential value of renewable energy technology or application
- Offset large upfront cost often associated with renewable energy projects
- Focus on community demonstration projects to help raise public awareness
- Spur activity in renewable energy marketplace, helping to build technical experience among local contractors/installers

Electric Vehicle Initiatives

- Expand availability of EV charging infrastructure and encourage adoption of EVs in Maine

Measures Considered

- DC fast chargers
- Level 2 chargers
- Battery electric vehicles
- Plug-in hybrid EVs

Incentives and Financial Considerations

- Grants to cover portion of the costs of installing fast-charging and community-charging infrastructure
- Instant rebates and mail-in rebates for qualifying EVs
 - Enhanced rebates for low-income Mainers
 - Promotional rebates for targeted customer segments such as local and tribal governments

Opportunity Analysis and Findings

- Mainers are on track to purchase 1,000-2,000 new EVs (roughly 3-5% of new vehicle sales)
- Maine Climate Council's Climate Action Plan recommends the target of 220,000 light-duty EVs in Maine by 2030
 - To reach target, need to double the rate of EV sales every year for the next five years and then account for more than half of all new car sales
- Funding constraints represent primary factor shaping the opportunity for the Trust to administer EV initiatives
- Scope of the opportunity will depend on funding availability

Electric Vehicle Initiatives

Marketing

- Building general awareness about EVs and EV chargers
- Advertising, educational videos, test drive events
- Work with dealers to provide materials to sales personnel and potential customers
- Develop and maintain repository of information / website

QA/QC

- Internal review of each application
- Service level agreements with charger operators

Addressing Marketing Barriers

- Instant discount
- Enhanced incentives for whom price differential at time of purchase is a particular barrier
- Education of car sales staff
- Overcome concerns about charging availability and range anxiety
- Continue to grow charger network

Electric Vehicle Initiatives

Budget

	Electric	NG	RGGI	FCM	Settlement	ARP
FY 2023	\$0	\$0	\$0	\$0	\$3,724,000	\$3,000,000
FY 2024	\$0	\$0	\$0	\$0	\$2,538,000	\$4,000,000
FY 2025	\$0	\$0	\$0	\$0	\$1,724,000	\$0
Total	\$0	\$0	\$0	\$0	\$7,986,000	\$7,000,000

Demand Management Program

- Deploys measures and strategies that mitigate the impacts of peak demand and balance the increased penetration of intermittent renewables on the grid.
 - *Demand Response Initiative*: participants are compensated for reducing electricity use when called upon to do so (typically during periods of peak demand that drive system costs)
 - *Load Shifting Initiative*: initiative will focus on using both passive and active load-shifting strategies across fleets of devices. These measures are programmable and, in some cases, networked, operating in response to internal or remote signals.

Measures Considered

- Demand Response and load shifting measures

Incentives and Financial Considerations

- *Demand Response Initiative*: participants are compensated based on evaluated curtailed peak kW
- *Load Shifting Initiative*: participants may receive upfront rebate on equipment and/or be compensated for verified operation/performance

Demand Management Program

Opportunity Analysis and Findings

- *Demand Response Initiative*
 - Assessment informed by existing initiatives found in other New England States (National Grid's Connected Solutions Program)
 - Evaluation of the 2018 Connected Solutions Program showed program exceeding curtailment targets
- *Load Shifting Initiative*
 - Innovation Program pilot projects informed EMT's understanding of cost-effectiveness, marketability, dispatchability, and relevance in the Maine context
 - Found that EV chargers and small behind-the-meter battery storage systems demonstrated cost-effective potential
 - EV chargers have relatively high peak design capacity and customers are accepting of delaying charging to off-peak hours
 - Batteries are highly responsive; primary purchasing driver is desire for back-up power, therefore EMT can focus on incremental cost of adding controls/managing demand vs. incenting battery itself, making measure cost-effective

Demand Management Program

Marketing

- *Demand Response Initiative*: Curtailment Service Providers (CSPs) will manage all elements of customer relationships, including acquisition.
- *Load Shifting Initiative*: work with vendors, equipment suppliers, and installers on promotion, equipping these entities with collateral necessary to inform potential customers of incentive opportunities; leverage existing EMT programs (i.e., EV rebate program), its webpage, and online advertising strategies

QA/QC

- *Demand Response Initiative*: incentive based on verified performance (using utility data)
- *Load Shifting Initiative*: all measures will require network functionality; annual evaluation will determine performance-based incentives

Approach to Market Barriers

- *Demand Response Initiative*: program provides participants financial benefit and staff expertise
- *Load Shifting Initiative*: reduces upfront cost of equipment and installation; reflects more accurate value of off-peak usage for some customers who otherwise pay flat rate for electricity

Demand Management Program

Budget

	Electric	NG	RGGI	FCM	Settlement	ARP
FY 2023	\$289,007	\$0	\$0	\$0	\$0	\$0
FY 2024	\$342,694	\$0	\$0	\$0	\$0	\$0
FY 2025	\$396,381	\$0	\$0	\$0	\$0	\$0
Total	\$1,028,083	\$0	\$0	\$0	\$0	\$0

Recently Authorized Initiatives

Financing

- C-PACE – The Trust or a municipality may develop and implement a Property Assessed Clean Energy (PACE) program for energy improvements at commercial properties
- Maine Clean Energy and Sustainability Accelerator – The Trust shall administer a “Green Bank” as a dedicated, specialized finance program designed to drive private capital into market gaps for goods and services producing low or zero greenhouse gas emissions and use finance tools to mitigate climate change

Energy Storage

- The Trust shall explore and evaluate options to expand existing opportunities and develop new opportunities to support energy storage measures that cost-effectively reduce or shift demand or balance load, and initiate a pilot program for “critical care facilities”

School Decarbonization Program

- The Trust shall, as funds allow, facilitate K-12 schools efforts to decarbonize their operations, including by providing technical and financial support for professional services (engineering, legal, PPAs, etc.) and cost-effective energy measures

Recently Authorized Initiatives

Thermal Energy Investment Program

- The Trust shall provide incentives and low-interest or no-interest loans to businesses, municipalities, educational institutions and nonprofit entities in the State for the installation of new thermal energy-derived projects from the Thermal Energy Investment Fund.

Agricultural Fair Assistance Program

- Created by legislation in 2019 to help agricultural fairs reduce electricity demand charges.

Strategic Initiatives

- **Evaluation, Measurement and Verification**
- **Innovation**
- **Public Information and Outreach**
- **Other Initiatives**

Evaluation, Measurement & Verification (EM&V)

- Includes systematic data collection and analysis activities regarding EMT programs
- Produce key data to inform short- and long-term program planning and delivery decisions, and to meet reporting requirements
- Allocate **2.5%** of program budgets (same as Triennial Plan IV)
- Types of activities:
 - Technical Reference Manuals
 - Tracking and reporting database that documents the Trust's energy savings (effRT 2.0)
 - Independent Third-Party Evaluations
 - Research
 - Forward Capacity Market compliance certification
 - Data reporting to stakeholders such as legislature, PUC, municipalities, and NGOs
 - Quality assurance, quality control, and process improvement across programs

Background

- Support pilot projects that demonstrate new types of energy efficiency, demand management, beneficial electrification, or alternative energy measures, or new strategies for promoting such measures
- Target measures with significant potential to be cost-effective and to provide energy savings or greenhouse gas savings, but not well understood or established in marketplace
- Use smaller pilot projects to generate findings about cost effectiveness and market demand before making larger investments on incentives and program delivery

Triennial Plan V Details

- Allocate **1%** of program budgets (vs. 0.5% in Triennial Plan IV)
- Conduct in-house research and issue one or more competitive solicitations annually to target specific opportunities for demonstrating new program measures or designs

Public Information and Outreach

- Efforts complement program outreach and marketing
- General energy information and education to all parties involved in selling, servicing, purchasing, or using devices that consume energy
- Help boost energy savings through increased general awareness of:
 - benefits of cost-effective, customer-sited energy resources
 - operating practices and behaviors
 - basic guidance in how to access Efficiency Maine programs
- Training opportunities and scholarships to reduce market barriers to workforce development

Track and Participate in State Energy Initiatives (1)

- **Legislature** – engage at public hearings and work sessions of the Maine Legislature
- **Governor’s Energy Office** – collaborate to provide data and activity reports to DOE, Maine’s federal delegation, ISO New England, non-profit, and academic initiatives
- **MaineHousing** – coordinate activities, particularly on delivering heat pumps and weatherization to benefit low-income Mainers
- **Maine Public Utilities Commission** – engage in proceedings that have direct or indirect impact on EMT
- **Department of Environmental Protection** – coordination where environmental objectives overlap (e.g., RGGI Inc. participation)
- **Maine Department of Transportation** – assist with planning and delivery of state’s EV initiatives

Track and Participate in State Energy Initiatives (2)

- **Non-Wires Alternatives** – analyze and develop cost-effective NWA resources as part of new transmission and distribution planning process (2019 legislation incorporating formal, independent process for consideration of NWAs)
- **Lead by Example** – work with Bureau of General Services to create an initiative to promote installation of clean, cost-effective energy measures at state properties; leverage \$3.7 million in VW settlement funds
- **Maine Climate Council** – ex-officio member of Council and co-chair of Buildings, Infrastructure, and Housing Working Group; promote Climate Action Plan strategies through Efficiency Maine programs (including beneficial electrification, weatherization, EVs, Industrial Task Force)
- **Workforce Development** – support targeted training needed in designing, installing and maintaining high-efficiency equipment
- **Code and Standards** – support training in new codes, serve ex officio on MUBEC Technical Board

Track and Participate in Regional and National Initiatives

- **ISO-New England** – participant in Forward Capacity Market
- **Energy Forums** – periodically engage in regional and national forums related to energy
- **Grid Modernization** – continue to engage in policy discussions and PUC proceedings on the topic

Triennial Plan Forecasted Revenues

Funding Source	FY2023	FY2024	FY2025
Electric Efficiency Procurement	\$49,150,636	\$49,915,048	\$50,416,241
Natural Gas Efficiency Procurement	\$1,527,844	\$1,559,134	\$1,533,878
Regional Greenhouse Gas Initiative (RGGI)	\$13,900,000	\$15,200,000	\$16,700,000
Forward Capacity Market (FCM)	\$8,440,000	\$5,220,000	\$6,100,000
New England Clean Energy Connect (NECEC) Settlement	\$5,724,000	\$4,538,000	\$3,724,000
American Rescue Plan Funds	\$14,500,000	\$20,500,000	\$17,000,000
Energy Efficiency and Renewable Resource Fund	\$60,000	\$60,000	\$60,000
TOTAL Forecasted Revenues	\$93,302,480	\$99,992,182	\$95,534,119

Appendix C: Regional Greenhouse Gas Initiative (RGGI) Funding Forecast

Testimony that reviews EMT’s methodology, sources, and results with respect to RGGI revenue forecasts for Triennial Plan V period

- Based on RGGI “floor price” from RGGI, Inc.
- Applies allowance figures from the Maine Department of Environmental Protection

Triennial Plan V Fiscal Year	Forecasted RGGI Revenues
FY 2023	\$13.9 million
FY 2024	\$15.2 million
FY 2025	\$16.7 million

Heat Pump Budgets

Total Heat Pump Budgets with Delivery								
Program	CIP	CIP	CIP	SBI	HESP	HESP	LMI	LMI
Sector	Commercial	Commercial	Commercial	Commercial	Residential	Residential	Low Income	Low Income
Funding Source	Procurement	RGGI	NECEC	RGGI	Procurement	FCM	FCM	NECEC
FY2023	\$3,082,474	\$530,000	\$666,667	\$2,223,350	\$6,415,928	\$6,729,533	\$1,330,667	\$1,333,333
FY2024	\$3,445,376	\$530,000	\$666,667	\$2,223,350	\$6,943,245	\$3,654,433	\$1,330,667	\$1,333,333
FY2025	\$3,808,610	\$530,000	\$666,667	\$2,223,350	\$7,470,561	\$4,494,833	\$1,330,667	\$1,333,333
TPV Total	\$10,336,460	\$1,590,000	\$2,000,000	\$6,670,050	\$19,954,080	\$15,768,000	\$3,992,000	\$4,000,000
								\$64,297,044



Lunch Break

We will resume at 1:00 p.m. for the Period for Public Comment and Questions

Commenters will be promoted from “Attendee” status to “Panelist” in order to address the meeting. Efficiency Maine staff will queue up two speakers at a time. After your turn, you will be returned to your original status.

Staff will provide periodic reminders of where we are on the list so you can be prepared for your turn. Staff will call on each presenter. Please remain on mute until you are introduced.

Please find the complete list of presenters in the order in which they will be taken here:

<https://www.energymaine.com/triennial-plan-v/>.

Each commenter will be given a three (3)-minute speaking slot. Staff will consider extensions as time allows and in consideration of the number of commenters.

Next Steps

- **July 28**
 - Final Board Workshop – RGGI and Recently Authorized Initiatives
 - Deadline for written comments – Submit online at <https://www.energymaine.com/triennial-plan-v/>
- **July/August:**
 - Staff incorporates public feedback
 - Staff finalizes Appendices and other outstanding items
- **Early September:** Board votes on Triennial Plan V
- **Early October:** EMT submits Triennial Plan V to Public Utilities Commission
- **Fall 2021/Winter 2022:** Adjudicatory Proceeding at Public Utilities Commission (hearings open to the public)