

5.8 Renewables

5.8.1 Overview

Maine statute establishes that the Trust shall administer the Renewable Resource Fund.¹ The statute authorizes the Trust to use this fund for the purpose of funding renewable resource research and development (R&D), community demonstration projects of renewable energy technologies, and rebates for cost-effective renewable energy technologies.² This fund receives annual revenues from voluntary ratepayer contributions and alternative compliance payments made through the Renewable Portfolio System (RPS). The Trust is also authorized to “seek and accept funding for the [Renewables] program ... from other sources, public or private.”³ This section of the Triennial Plan describes how the Trust will deploy funds that are received into the Renewable Resources Fund.⁴

Customer Segments

Following are the eligible customer segments by potential Renewable Resource Fund project type:⁵

- *R&D Projects*: customers in the University of Maine System, the Maine Maritime Academy, or the Maine Community College System.
- *Community Demonstration Projects*: Maine-based nonprofit organizations, consumer-owned transmission and distribution utilities, community-based nonprofit organizations, community action programs, municipalities, quasi-municipal corporations or districts, community-based renewable energy projects, and school administrative units.
- *Rebates*: There is no statutory limitation or prescription as to what customer segments are eligible for rebates through the Renewable Resource Fund.

Channel

When available funds in the Renewable Resource Fund are too low to support a broadly available, prescriptive rebate initiative, the Trust focuses on supporting a smaller number of custom projects to

¹ 35-A MRS §10121(1).

² Section 10121(1) of the statute authorizes the Trust to use these voluntary contributions to promote research and development (R&D), demonstration projects, and rebates for “energy efficiency” measures. The Trust finds that funding from other sources that is used for promotion of energy efficiency is reasonably likely to be adequate for the duration of this Triennial Plan. By contrast, initiatives to help increase the market penetration and use of renewable energy lack significant funding in Maine. For this reason, the Trust intends to reserve funds received into the Energy Efficiency and Renewable Resource Fund for use researching, demonstrating, and deploying renewable energy technologies.

³ *Id.*, §10121(2).

⁴ This section of the Triennial Plan does not address ways that the Trust might help promote customer-sited renewables using other funding streams or in conjunction with other programs. For example, the Trust supports installation of certain renewable energy resources with its suite of home energy loans and the Home Energy Savings Program (HESP). Details of how that program supports renewable energy resources are addressed in those sections.

⁵ 95-648 C.M.R. ch. 103. § 3, 4.

advance the R&D or demonstration goals of the fund. The R&D and demonstration initiatives, when offered, are delivered primarily through competitive procurements. When applicable, rebates are delivered through the Trust's contractor-based programs for residential and commercial customers.

5.8.2 Objectives

- Simplify and enhance consumer access to technical assistance and financial incentives relating to the use of alternative energy resources
- Promote community demonstration projects and support the development and commercialization of renewable energy technologies
- Increase public information and awareness of alternative energy technologies and their benefits

5.8.3 Market Barriers

Market barriers for renewable energy technologies include the upfront cost of the improvement, access to financing, lack of information, and lack of technical expertise in broader trades.

5.8.4 Opportunity Analysis

Funding constraints represent the primary factor shaping opportunity for the Renewables Program. Absent new legislation or bonding to generate a new revenue stream, the Trust forecasts that the revenues in the Renewable Resource Fund will be approximately \$50,000 annually. This level of funding is consistent with revenues received during each year of Triennial Plan III. Thirty-five percent of the revenues are directed by statute to the Maine Technology Institute (MTI) to help promote R&D of renewables. The forecasted level of funding that will remain for the Trust after remitting the R&D funds to MTI is insufficient to support a rebate program. With the limited revenue, the Trust will target projects that have the greatest impact on demonstrating low-cost renewable energy options with the greatest end-user payback in community facilities.

The market for demonstration grants consists of Maine-based projects submitted by eligible applicants. The projects must produce energy or heat from renewable sources, including, but not limited to, photovoltaic (PV) systems, solar thermal systems, biomass systems, landfill gas-to-energy systems, geothermal systems, wind systems, and wood pellet systems. Homes and businesses with rooflines or other areas that have an unobstructed, good orientation to the sun and the opportunity to displace expensive heating fuels for water or space heating are good candidates for PV, and also solar hot water or hot air. Per the Trust's rules, these projects must also be cost-effective, provide value to a community, and demonstrate broad community support.⁶ Additionally, the Trust will focus on distributed resources on the customer side of the meter, as it does with its other programs. The Trust did not model this market potential for Triennial Plan IV, as opportunity will depend entirely on funding availability.

⁶ Ibid, Section 3(2).

In the event that a utility or the Commission determines that a specific area of the electricity grid is facing a potential reliability issue, and further that the high cost of solving that reliability issue through upgrades to the transmission and/or distribution system is more costly than “non-wires alternatives,” there may be an initiative to procure alternatives such as distributed generation, demand response, energy storage, and incremental energy efficiency. In this situation, the value of new renewables could grow to the point that it is among the most cost-effective resources to serve the reliability needs of the targeted area. Should this occur, the Trust would have the ability to use its authority in the Renewable Resource Fund to rapidly and efficiently acquire suitable renewable non-wires alternatives through a targeted rebate initiative.

5.8.5 Program Design

Given forecasted funding levels, the program will focus on community demonstration grants during the Triennial Plan IV period. As discussed above, these projects are most likely to have the strongest demonstration impact and greatest direct end-user payback for public facilities.

Addressing Market Barriers

The primary purpose of the demonstration grant initiative is to illustrate the potential value of a renewable energy technology or application. The grants help offset the large upfront cost often associated with renewable energy projects. By focusing on community demonstration projects, the program also works to increase public awareness and overcome barriers associated with lack of information. Additionally, by spurring additional activity in the renewable energy marketplace, the grants help build technical experience among Maine’s local contractors and installers.

Measures Promoted

Eligible projects will include installations of renewable energy equipment where the project demonstrates a simple payback determined by comparing the net installation costs with the value of energy generated over the life of the equipment. This program area focuses on customer-sited, renewable energy measures. Recipients of past grants have included solar electric PV, solar hot water, solar hot air panels, and biomass resources.

Incentives and Financial Considerations

Contingent upon available funding, the Trust will continue to offer grants to stimulate best practices and projects that demonstrate novel or niche applications. As it did during the Triennial Plan III period, the Trust may defer grant offerings in a given fiscal year to allow revenues in the fund to accumulate. Once the pool of available funds reaches a sufficient level, the Trust will issue a request for proposals (RFP).

An increase in revenues to this fund would allow the Trust to offer more frequent rounds of competitive solicitations and to include demonstration of a broader array of technologies or applications. If the increase were significant, it also could enable the Trust to promote R&D of technologies or processes shown to fill a particular need or opportunity in the Maine economy and having good potential to be incorporated into the Trust’s regular incentive programs.

Marketing and Outreach

Again, the Trust delivers demonstration project incentives through a competitive procurement process. The Trust notifies its interested parties list of any new RFPs, and circulates information to any relevant trade associations, community groups, and media outlets.

The Efficiency Maine Renewable Energy Solutions webpage will also provide relevant information and links pertaining to renewable energy technology. Program information may also be distributed through the Home Energy Savings Program (HESP) marketing initiatives (see HESP description), which may include TV and radio campaigns, print advertising, local informational forums, and brochure insertion into property tax bill mailings in participating municipalities.

Finally, statute requires that, to the extent that resources allow, the Trust establish training programs for solar equipment installers.⁷ Absent a significant change in the funding constraints of the Renewable Resource Fund, the Trust currently does not expect to offer such training during the period of Triennial Plan IV. There are several reasons. First, it is not clear that there is a need for subsidized training for solar installers in Maine. Second, providing training would not be cost-effective on its own. Third, since the Trust's prior funding stream for solar rebates "sunset" and was not reauthorized by the Legislature, it would not serve any program currently offered by the Trust to train solar installers.

Quality Assurance/Quality Control

The program will continue to apply its established QA/QC process. As part of the bid selection process, the RFP Review Team will evaluate all project documentation prior to accepting an application. Trust staff will monitor progress during the construction phase by reviewing invoices and conducting site visits to ensure that each project is completed according to initial design specifications. Upon project completion, staff will conduct an inspection to verify project installation details.

The Trust will continue to analyze situations in which renewable energy technology is able to meet the same cost-benefit screening test that the Trust uses to gauge cost-effectiveness for traditional energy efficiency measures. In cases where renewables can meet that test, they can be eligible for promotion through the Trust's other programs. This has been the case with biomass boilers and stoves, as well as geothermal heat pumps in HESP. In particular, as the prices of PV continue to drop, the Trust will closely track the potential cost-effectiveness of PV and other solar energy resources to determine if they can be promoted through more traditional resource acquisition programs.

⁷ 35-A MRS §10113.