5.2 Commercial and Industrial Prescriptive Program

5.2.1 Overview

- The C&I Prescriptive Program provides C&I customers access to financial incentives and technical support for the installation of energy-efficient equipment. The program prioritizes equipment that has predictable operating characteristics and practical applications across the commercial and industrial sector. This program complements the offerings of the Distributor Initiatives program and solutions offered through the C&I *Custom* Program.

Customer Segments

This program serves all non-residential customers, including businesses, industrial customers, manufacturers, municipalities, non-profit building owners, and multifamily buildings of five or more units.

Channels

The C&I Prescriptive Program is delivered through a network of trade allies, or Qualified Partners (QPs). Qualified Partners are familiar with efficient technologies, product installations, available Efficiency Maine incentives, and the incentive application process. Most QPs are installation contractors, such as electricians, plumbers, and heating technicians. However, equipment distributors also serve as QPs and participate in this program.

5.2.2 Objectives

- Reduce energy costs for electricity consumers in the State by increasing the efficiency with which electricity is consumed;
- Reduce energy costs for electricity consumers in the State by increasing the efficiency with which natural gas and unregulated heating fuels (including oil and propane) is consumed;
- Motivate C&I customers to improve energy consumption through early retirement of inefficient equipment;
- Promote highest-efficiency equipment options when customers are replacing existing equipment or adding new equipment; and,
- Create more favorable market conditions for the increased use of energy-efficient products and services, including training trade allies on efficiency measures and incentives.

5.2.3 Market Barriers

- *Upfront costs*: The increased price of energy-efficient options is a barrier for many customers. This program offers incentives to reduce the initial price difference between conventional and high-efficiency options.
- *Competing priorities:* Businesses have many competing demands for capital. It can be difficult for them to prioritize replacing inefficient, but functional, equipment with an efficient model. Efficiency incentives help move retrofit projects higher on the list of capital investments.

- *Lack of information*: Many customers are not familiar with high-efficiency choices: incentives help guide both customers and installation contractors to the efficient option.
- *Lack of in-house capacity:* Few Maine businesses have full-time facility managers or other staff who identify, manage, and install efficiency projects. A prescriptive list of incentivized measures removes uncertainty about incentive amounts and program criteria: this list enables contractors to confidently sell efficient projects to potential customers and enables customers to budget for an equipment upgrade.

5.2.4 Opportunity Analysis

Due to the diversity of measures offered through the C&I Prescriptive Program the opportunity assessment draws upon four separate analyses:

- The opportunity assessment for lighting measures was based on the *State of Commercial and Industrial Lighting in Maine Study* found in Appendix D.
- For compressed air and refrigeration measures, the Trust relied on the *Custom, Refrigeration and Compressed Air Potential Study* found in Appendix C.
- For ductless heat pumps, the Trust compiled its own assessment of the market for high-efficiency supplemental heating. This assessment may be found in Appendix G.
- The energy-saving opportunities for other measure categories were determined by a staff review and relied principally on past program history.

These efforts looked to answer key questions:

- Are measures that are currently incentivized by the program still cost effective?
- Should other measures be added to the program?
- What size is the retrofit lighting opportunity in the State?

Methodology

Lighting

There has been a significant shift in the lighting market during the Triennial Plan III period; light-emitting diode (LED) lamps and fixtures are becoming the top choice of many potential customers, contractors and distributors, where high-efficiency fluorescent fixtures had been the default choice at the beginning of the period. With this market shift, the program has increasingly focused on retrofit installations of existing buildings: in general, the program seeks to incentivize LEDs where they are replacing inefficient fixtures. A new construction project is unlikely to need an incentive to install high-efficiency LEDs, whereas a business with functional fluorescent lighting still needs an incentive to proactively upgrade to LEDs.

Efficiency Maine commissioned a lighting study to assess the retrofit opportunity to improve lighting efficiency in Maine's C&I sector. The authors of the *State of Commercial and Industrial Lighting in Maine Study* began by developing a statistically significant sample of commercial and industrial lighting in the State of Maine. They then conducted on-site surveys noting fixture type, wattage, and square footage to determine the current baseline characteristics of C&I lighting in the State. This opportunity assessment also took into account price trends, technology updates, and changes in the market.

The study's authors defined two types of hypothetical retrofit projects for each location, looking at lamp replacements for one project and fixture replacements for the other. Each replacement was screened for cost-effectiveness creating a list of eligible measures for each project scope. The results of the site-specific findings were extrapolated by facility type and square footage to a statewide opportunity. The final step was to assess contractor capacity, and other program adoption limitations to forecast expected program participation during the Triennial Plan IV period upon which program budgets were based.

The assessment also found that for certain halogen and tubular replacement products, there continues to be a lost-opportunity market. This lost-opportunity lighting market is reflected in the Retail Initiatives and Distributor Initiatives sections.

Compressed Air and Refrigeration

The opportunity assessment also included a targeted study of refrigeration and compressed air measures (see Appendix C). This study is summarized in the C&I Custom Program description. However, the Trust attributed a portion of the opportunity identified through this study to the C&I Prescriptive Program: that opportunity includes low-cost measures and measures for which the savings and cost could be quantified without site-specific analysis.

Ductless Heat Pumps

The Trust's assessment of the commercial opportunity for ductless heat pumps relied on the *Efficiency Maine Trust's Assessment of the Ductless Heat Pump Market* (Appendix G) This report synthesizes the collected experience of program managers and delivery staff, recent and ongoing evaluations, and experiences from other program managers around New England. This report captures the complex and evolving market for heat pumps in Maine; it also describes how the Trust works to ensure that the most efficient and effective equipment is installed and used to the maximum benefit. The report estimates future program activity by analyzing contractor availability, customer interest, payback requirements, and past program activity.

All Other Measures

For the remaining measures the Trust reviewed the level of past program activity and used that activity to extrapolate budgets and goals for the next program period.

Findings

Based on its opportunity analysis, the Trust determined that it should continue to offer many of the same Triennial Plan III measures for Triennial Plan IV, as many remain cost effective. These measures include ductless heat pumps, compressed air systems, ventilation systems, and retrofit lighting projects. The assessment found that the market for agricultural, compressed air, ventilation, and large heating systems will remain consistent with the previous period. Ductless heat pump installations are projected to grow a modest amount as the technology becomes more familiar to potential customers.

The significant opportunity for retrofit lighting savings is reflected in the C&I Prescriptive Program and Small Business Initiative budgets. The C&I Prescriptive Program budget reflects the opportunity that can be captured through a market program driven mainly by contractors and end users (lost-opportunity lighting is reflected in the Distributor Initiative and Retail Initiative budgets). For ductless heat pumps the report found that the Trust's programs can significantly influence both the number and quality of heat pumps installed in the State.

The study found that inefficient lighting makes up a majority of the lighting systems in Maine businesses and that only 28% of lighting fixtures in the businesses surveyed were LEDs. A significant portion of the remaining lighting reflects cost-effective retrofit projects.

For the C&I Prescriptive Program's Triennial Plan IV budget, see Appendix A.

5.2.5 Program Design

Addressing Market Barriers

The program's market-based approach addresses the upfront-cost barrier by providing incentives that encourage customers to take action and retrofit to the high-efficiency option. These incentives may be paid to the customer or to the contractor, making it possible for contractors to sell efficiency projects with lower up-front costs paid by the customer. In addition to the incentives, the Qualified Partners have an important role in persuading customers to invest in upgrading equipment. Marketing campaigns focus on ways that efficiency projects improve a business's bottom line and the strategic advantages of proactive replacement of inefficient equipment.

In addition, the established network of efficiency contractors helps overcome a lack of customer knowledge about efficiency options and lack of in-house capacity by ensuring that contractors are familiar with efficient technologies and available incentives. The program provides a search tool on the Efficiency Maine website (https://www.efficiencymaine.com/at-work/qualified-partners/) to connect prospective customers with Qualified Partners in their area; this is coupled with online information about efficiency solutions by energy use and sector.

Measures Promoted

The program will incentivize proven energy-saving measures that are widely available and represent a significant opportunity for Maine's C&I sector. It will prioritize measures that have practical applications

across the State. Whenever possible, the program will take advantage of third party systems for verifying and vetting the performance of eligible measures. For example, measures incentivized through the program may be listed and verified by the Consortium for Energy Efficiency (CEE); the Air-Conditioning, Heating & Refrigeration Institute (AHRI); or the DesignLights Consortium (DLC).

The program invests funds from multiple sources to incentivize a diverse group of measures to reduce consumption of electricity, natural gas, and unregulated heating fuels. Measures in the program range from lighting retrofits to ductless heat pumps to compressed air systems to ventilation equipment. What these measures have in common is that they represent a significant efficiency opportunity across the State and are readily available, but are not an ideal fit for instant discounts at distributors. These measures may require site-specific information or installer expertise, or are planned retrofit projects, making them a better fit for this program than for Distributor Initiatives.[1]

Incentivized measures will be continuously monitored and adjusted. The program will remove incentives for measures that become "industry standard" and may add new, proven technologies and strategies as they become commercially available and demonstrate cost-effectiveness.

Incentives and Financial Considerations

For retrofit projects that replace existing, operational equipment, incentives are established based on the full installed costs of the efficiency measures. For upgrades made at the time of planned investment in equipment and systems (also referred to as lost-opportunity projects), incentives are set to reflect the incremental cost of efficient measures relative to standard measures. Incentives are monitored quarterly and may be adjusted to reflect market activity and market prices.

In addition to basing incentives on costs, the program sometimes implements alternative ways to calculate incentives beyond per-unit fixed values that can drive higher savings for lower costs. For example, high-efficiency lighting and lighting control projects do not always need one-for-one replacements. By incentivizing a project based on savings rather than number of fixtures, fewer LED fixtures may be installed in a space. This approach will result in more energy savings at a lower total project cost.

Marketing and Outreach

The program frequently relies on the Qualified Partner network to reach potential customers. The QP network comprises over 1,000 contractors, vendors, suppliers, and energy professionals that provide support to businesses interested in saving energy. These independent businesses are the primary marketers of the program -- working with their existing customers and identifying new customers for energy-efficient equipment. The Trust has found that all but the smallest businesses in Maine work with contractors for electrical, heating, and mechanical solutions. For businesses that do not currently work

[1] The exception to this are certain screw-in and tubular replacement LEDs that are offered through instant discounts at distributors.

with a contractor or a Qualified Partner, the Efficiency Maine website features a Qualified Partner locator tool to easily put potential customers in touch with a Qualified Partner in their area.

The Trust communicates with Qualified Partners through a dedicated website as well as a monthly electronic newsletter. The Trust also convenes a Lighting Advisory Group, comprised of lighting installers, distributors and manufacturers, quarterly; this group consults with program staff on program opportunities, changes to the marketplace, and customer outreach. In addition, the program participates in supplier open houses and meets with professional associations and groups including the American Society of Heating, Refrigerating and Air-Conditioning Engineers; Illuminating Engineering Society; and International Brotherhood of Electrical Workers to share information about energy efficiency opportunities and encourage more industry professionals to become Qualified Partners.

The Trust also markets directly to potential customers. This activity may include advertisements in trade or business publications, participation in targeted trade shows, presentations to relevant business groups, direct mail, social media advertising, and more. The Trust also collaborates with industry and professional associations to reach customers in key sectors. During the last Triennial Plan period, this included working with and exhibiting at conferences hosted by Maine Public School Facility Managers, Maine Real Estate and Development Association, Maine Municipal Association, Maine Health Care Association, Maine Rural Water Association, Maine Restaurant Association, Rotary groups, economic development groups, local chambers of commerce, and more.

The program provides information to potential customers through the Trust's website and sector-based resources (e.g., a brochure on energy solutions and incentives for restaurants), as well as over the phone. On the website, the Trust provides information about product eligibility, shares case studies of Maine businesses and the efficiency solutions they implemented, and provides a starting point for Maine businesses organized by sector. Most importantly, the Trust connects potential customers with Qualified Partners working in their area through an online contractor locator tool.

Quality Assurance/Quality Control

The program staff screens incentive applications for completeness, including a review of equipment cut sheets and contractor invoices. In addition, all applications are signed by the customer to ensure that both the customer and the contractor have reviewed and agree to applicable terms and conditions.

Applications above a certain cost threshold receive a technical review before project pre-approval is granted. At project completion, the program staff reviews these larger projects again before issuing incentive payment. In addition, the program staff inspects a random sample of projects on-site; currently, 10% of all projects are inspected on-site. Any significant issues identified while on-site are addressed with the installation contractor.

In addition to these random inspections, the program provides technical assistance to participating contractors. The program makes program information and equipment information available on the Qualified Partner website. The Trust also sends Qualified Partners general information on the industry, the program, and incentivized measures via the newsletter. Technology-specific information may also

be addressed through training on new technologies or advanced installation techniques. All Qualified Partners must go through an annual recertification process to ensure that they have the most up-to-date information about incentivized measures and that they are compliant with program eligibility criteria.