

➤ **Commercial Refrigeration Efficiency Product**

A. Description

The Commercial Refrigeration Efficiency Product will offer refrigeration maintenance and upgrades to commercial customers with significant refrigeration loads, notably restaurants, and grocery, convenience, and liquor stores. Refrigeration systems in these targeted facility types typically account for over 50% of the facility's energy use and run 24 hours per day year-round.

This program consists of five major components:

1. **Free On-site Energy Assessment** – Each customer will be offered a free, no-obligation on-site facility energy assessment and walk-through to identify and explain key energy efficiency opportunities. This will be performed by a third-party implementer. A copy of the assessment report will be provided within two weeks of the visit, and will include a prioritization of identified opportunities.
2. **Direct Install for Immediate Savings** – While on-site for the energy assessment, the third-party implementer will perform free direct installations of the following energy savings measures where needed:
 - a. Screw-in LEDs for walk-in coolers/freezers;
 - b. Pre-rinse sprayers for restaurant and commercial kitchens and aerators in public restrooms and kitchen sinks; and
 - c. Coil brush give-away and demonstration of appropriate use on refrigeration coils.
3. **Full Coil Cleaning** – As part of the on-site visit, the third-party implementer will perform a free coil-cleaning service, including materials and training for self-contained equipment. Cleaning condenser coils in self-contained units is estimated to save an average of 6% of the equipment's annual energy consumption, depending on the system and its condition. Since coil cleaning should be performed annually, we will provide customers with a coil cleaning brush, an instructional "How-To" sheet, and an on-site tutorial, to equip them with the tools and knowledge to complete this task on a regular basis using in-house staff. We will claim energy savings for the cleaning performed by the third-party implementer.
4. **New Rebated Refrigeration Measures** – These measures represent the core of the Refrigeration Efficiency product offering. Rebates per unit for each of these prescriptive measures are detailed in a table in the Rebate section. In order to qualify for the rebate, the equipment must be professionally installed. These core measures include:

Enclosed Reach-in Cases

PSCo will rebate reach-in cases with doors when they replace existing open multi-deck cases with equivalent storage (cubic feet or linear feet). The existing case must be either a freezer or cooler multi-deck case. Existing specialty, self-contained, and island cases do not qualify. Replacement cases must have doors, be tied into a central refrigeration system, and be purchased new. New case upgrades that simply enclose and/or add doors to an existing

multi-deck do not qualify for this incentive. New cases must meet DOE 2012 Energy Compliance requirements. For estimating measure savings, we have taken a conservative approach that compares existing cases to case replacements with equivalent linear feet, even though reach-in cases are designed to hold more cubic feet of product per linear foot (side-to-side measure) than multi-deck cases.

Night Curtains

Night curtains may be rebated when they are installed on open refrigerated cases to reduce heat transfer and mixing of air inside and outside the case during times of low store traffic. The prescriptive rebate will be available for permanent low emissivity (reflective) night curtain products only.

Walk-in Electronically Commutated Motors (ECM)

PSCo will rebate the replacement of evaporator fan motors with new, more efficient motors, (typically ECM) in walk-in coolers and freezers where none previously existed.

LED Case Lighting

Rebates are available for the installation of LED case lighting, including horizontal and vertical solutions, to replace existing mixed populations of older lighting technologies (T8/T12).

Anti-Sweat Heater Controls

PSCo will rebate efficient anti-sweat heater controls installed on commercial cooler and freezer doors to prevent the door from fogging or having condensation buildup on the glass. Anti-sweat heater controls are made up of a package sensors and controllers that either cycle the power (reducing on time) or reduce power to the heaters mounted to glass cooler doors. The baseline application of anti-sweat heaters applies heat to the door frames to eliminate condensation. The anti-sweat heater controls utilize external measurements including all or some of the following: photo sensors, environmental measurements (ambient temperature and humidity), or door surface temperature, to only call for heat when environmental conditions require. Anti-sweat heater controls are for low-heat or no-heat doors on cooler cases, and are installed one per door. Anti-sweat heater load contributes to the total case load.

Floating Head Pressure Control

Rebates are available for floating head pressure controls. The typical design target for refrigeration systems for head pressure is the equivalent of 100°F to 105°F saturated condensing temperature. The floating head pressure control will control the compressor pressure based on outside temperature. Specifically, when it is cold outside the compressor can be run at a lower pressure and discharge an equivalent amount of heat; thus saving energy.

Evaporator Fan Motor Controls

Standard evaporator fans run 8,760 hours per year. PSCo will rebate fan controls, which will limit the fan runtime to 100% baseline speed for 5,875 hours per year and at 70% of baseline speed for 2,520 hours per year. This includes mixed baseline motor sizes of 1/20 and 1/15 HP. The compressor energy interactive effect is included in the savings. Savings are highly variable and depend largely on the duty cycle of the compressor, which can range from 10% to 100%.

Screw-In LED (DI)

The third-party implementer will perform direct installation of screw-in LED lightbulbs to replace the existing mixed population of older lighting technologies (incandescent and CFL).

5. Turn-Key Services – The customer will be provided with proactive project management to assist with the implementation of prescriptive projects, including coordination between the customer, Public Service, and the installation contractors/trade allies to complete the improvements and submit rebate applications.

B. Goals, Participants & Budgets

Goals and Participants

The goals for this product were derived from historical data, market data, and equipment deemed savings values. This product expects to reach 156 commercial customers during 2013 and achieve savings of 498 generator kW and 4.6M generator kWh. This product will use a net-to-gross (NTG) ratio of 100% for all measures except screw-base LEDs, for which we will use the NTG of the same measure from the Lighting Efficiency Product.

Budgets

PSCo plans to work with a third-party vendor to provide this product. The forecasted spend in 2013 for this new product is based on projected participation levels, promotion and administration expenses of this product. The majority of the product costs are for administration, vendor marketing/training and customer rebates. The total product spend will be handled within the 2013 approved budget flexibility.

Budget Categories	2013 Forecasted Spend
Admin & Program Delivery	\$414,681
Advertising, Promotion, Consumer Ed	\$51,000
Participant Rebates and Incentives	\$440,428
Measurement & Verification	\$12,062
Total	\$917,671

C. Application Process

The Company plans to promote the Commercial Refrigeration Efficiency product through the outreach efforts of a third-party provider. Secondary outreach is likely to occur through our Account Managers, the Xcel Energy Business Solution Center's Energy Efficiency Specialists,

contracted trade allies, and/or other marketing efforts such as mailings, newsletters, and the Company website.

The Commercial Refrigeration Efficiency Product application process will include:

1. **Customer Intake:** We will work with the third-party provider to establish and follow a set protocol for receiving and qualifying customers who are interested in this product. Interested customers will be contacted to schedule an installation/assessment time.
2. **Identify Opportunities:** After installation of the direct installation measures, the third-party provider will use the assessment results to work with the customer and PSCo to identify deeper prescriptive savings opportunities.
3. **Turn-Key Support:** The third-party provider will offer proactive project management to assist with implementation of the prescriptive-rebate projects, including coordination between the customer, PSCo, and the installation contractors/trade allies to complete improvements and submit rebate applications.

D. Marketing Objectives, Goals, & Strategy

The Commercial Refrigeration Efficiency marketing strategy will build upon the Company and third-party implementer's experiences working in the Colorado market and will incorporate best practices learned from similar refrigeration programs offered across the United States. Core to the marketing strategy will be the development of an annual marketing plan. This plan will consist of market intelligence, strategies, timelines, marketing tactics, quantities of material and budgets. The third-party implementer will work with Public Service to coordinate with the Company's larger marketing efforts and will develop targeted marketing collateral that may include sell-sheets, direct mail, e-mail communications, case studies and leave behinds.

The third-party provider also will use education and training efforts to market the programs while building trade ally and customer knowledge about energy efficient technologies and encouraging better energy decisions to accelerate the product delivery infrastructure development in the region.

Marketing Channels: The third-party provider will use several marketing channels for the Commercial Refrigeration Efficiency product, including:

- **Program Field Staff:** Field staff will be the on-the-ground marketing team, conducting targeted outreach to relevant customer groups and industry associations in addition to working with customers
- **Existing Account Management staff:** The third-party provider will build relationships with Public Service's Account Managers and Business Solutions Center staff to drive customer participation. The product will also be promoted to applicable Small Business Lighting Program participants to offer them more comprehensive savings opportunities.
- **Trade Partners:** The third-party provider will engage trade partners as early as possible through training to increase their ability to reach customers at an appropriate time so that the product can influence a buying decision.
- **Direct Marketing:** PSCo will work with the third-party implementer to incorporate marketing materials into product training sessions, direct mailings to target customer

segments (grocers, restaurants, convenience and liquor stores), and distribute at targeted locations.

- Industry Associations: Public Service will work with the third-party implementer to develop relationships and marketing strategies with food service and sales associations to target the major players on all levels.

E. Product-Specific Policies

Commercial Refrigeration Efficiency has the following product-specific policies:

- All rebated equipment must be new and meet all product rules and requirements. The rebate application must be submitted within twelve months of the invoice date.
- Rebates assume a one-for-one replacement of retrofit fixtures that will result in energy savings.

F. Stakeholder Involvement

There are relatively few trade allies who specialize in refrigeration. Public Service will target this network, and use other marketing outreach to ensure that all organizations have the opportunity to participate.

G. Rebate Levels

Customers may apply for prescriptive rebates of qualifying equipment listed below. Other services and direct installations will be performed at no additional cost to the customer.

Commercial Refrigeration Efficiency Prescriptive Rebates

Description	Rebate Amount
Replace open multi-deck cases w/ enclosed reach-in cases w/ vertical doors	\$70
Install night curtains	\$20
ECM evaporator fan motors-cooler & freezer cases	\$40
ECM evaporator fan motors-walk-in coolers & freezers	\$70
Anti-sweat heater controls	\$60
LED case lighting 5' or 6'	\$100
Low/No-energy case doors	\$113
Floating head pressure controls	\$20
Evaporator fan speed controls	\$35

H. Measurement & Verification

This product will follow the Company's current standard prescriptive product measurement and verification process for deemed savings.