



PECO Smart Ideas for Your Business

Commercial and Industrial Solutions Application Manual

Effective May 1, 2019

See **What's New? Update Summary** for recent changes.

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WHAT'S NEW? Update summary May 1, 2019

PECO has made data entry for lighting projects simpler and quicker!

Data entry for retrofit lighting projects is now streamlined with the **EZ Lighting Worksheet**, available on the Resources page of the Online Application:
<http://pecoci.programprocessing.com/content/Resources>.

The **EZ Lighting Worksheet** will permit quicker data entry, and can be used for both the Standard and Express application processes. The use of the **EZ Lighting Worksheet** is optional. Applicants can still use the existing **TRM Lighting Worksheet**. All retrofit lighting projects must complete either the existing **TRM Lighting Worksheet** or **EZ Lighting Worksheet** to receive incentives.

Lighting Incentive changes, effective May 1, 2019

The following incentive levels will be in effect for applications received on or after May 1, 2019:

TLED2	DLC LED Replacement Lamps (Tubes), 4' Linear and U-Tubes	\$3
LED8a	DLC LED Troffer Fixtures and Retrofit Kits, 2'	\$10
LED8b	DLC LED Troffer Fixtures and Retrofit Kits, 4'	\$12.50

Incentives for CFL products will no longer be offered for applications received on or after May 1, 2019. Incentives for these measures will no longer be available;

CFL1A ENERGY STAR Hard-Wired CFL fixture: Indoor Accent/Track
CFL1B ENERGY STAR Hard-Wired CFL fixture: Indoor Directional Wall/Ceiling Mount
CFL1C ENERGY STAR Hard-Wired CFL fixture: Indoor Omni-Directional Wall/Ceiling Mount
CFL2A ENERGY STAR Hard-Wired CFL fixture: Indoor Portable Lamp/Torchiere
CFL2B ENERGY STAR Hard-Wired CFL fixture: Indoor Recessed Downlight
CFL2C ENERGY STAR Hard-Wired CFL fixture: Indoor Recessed Downlight Retrofit Module
CFL2D ENERGY STAR Hard-Wired CFL fixture: Indoor Under Cabinet/Strip
CFL3A ENERGY STAR Hard-Wired CFL fixture: Outdoor Directional Wall/Ceiling/Ground/Pole Mount
CFL3B ENERGY STAR Hard-Wired CFL fixture: Outdoor Omni-Directional Wall/Ceiling/Ground/Pole Mount
CFL3C ENERGY STAR Hard-Wired CFL fixture: Outdoor Recessed Downlight
CFL3D ENERGY STAR Hard-Wired CFL fixture: Outdoor Recessed Downlight Retrofit Module

PECO Instant Lighting Discounts

Definition of the ineligible New Construction building type has been added.

PECO SMART IDEAS FOR YOUR BUSINESS

Application Process Overview

The PECO Smart Ideas for Your Business Program is offered, and incentive values and measures contained in the Application Manual are valid, from May 1, 2019, to May 31, 2021, or until funds are exhausted.

Incentive values and measures may be modified or terminated at any time without prior notice.

Follow These Easy Steps

Step 1: Verify your eligibility

- Applicants must verify that they are business customers of PECO (commercial, industrial, governmental, institutional or nonprofit).
- The project must be a new facility improvement that results in an improvement in electric energy efficiency (kWh) or a permanent reduction in electric energy usage.
- All equipment must be installed in facilities served by PECO. The facility must have a valid PECO account number on an eligible PECO nonresidential rate.
- Application documents can be found at:
<http://pecoci.programprocessing.com/content/Resources>.

Step 2: Submit your application to reserve funds

- Depending on the size and scope of your project, you can use either the Express or the Standard application process.
- If you are eligible for the **Express** process, you are not required to submit any technical documentation with your initial application. When your application is complete, your reservation letter can be generated within days. All technical documentation is required at submission of the final application.
- You can submit your application in one of several ways.
 - Online:
<http://pecoci.programprocessing.com/programapplication/?ft=E7A0A702FFD04730A27AE47FCF512FBF>
 - Email: pecosmartideas@dnvgl.com
 - Mail: PECO Smart Ideas for Your Business, 4377 County Line Road, Chalfont, PA 18914
 - Fax: 1-215-996-3982

- **Incentive funds will be reserved when either your Standard or Express application is approved.**
- **A project scope must be completed for each measure you plan to install.**
- For some projects, a pre-installation inspection is required. Most projects require documentation of the equipment being replaced.
- Incentive funds are reserved for 90 days. Contact the PECO Smart Ideas team for specific questions regarding funding reservations and extensions.

Step 3: Install equipment or perform project work

- The equipment installed must meet or exceed the specifications and requirements found in the measures tables and detailed in this Application Manual. Equipment must be installed within the program period.

Step 4: Submit final application

- Submit a final application within 180 days of project completion but no later than May 15, 2021. Include the following documentation with your final application: customer/contractor information, a signed final application, itemized invoices, specifications and an updated scope of work. All projects that include lighting require either a completed EZ Lighting Worksheet or a completed TRM Lighting Worksheet, which can be found at: <http://pecoci.programprocessing.com/content/Resources>.
- The program team will review your final application. For some projects, a final inspection is part of the final review.
- The program team will send incentive checks four to six weeks after your final application is approved.
- If you need assistance, please contact our program hotline at 1-866-371-9343.

Quick Guide to Express Application Process (Updated May 1, 2019)

1 Identify Energy Efficiency Project

2 Review Program Guidelines

Is your project...

<ul style="list-style-type: none"> • Retrofit lighting with greater than 750,000 kWh savings? • Non-lighting with greater than 250,000 kWh savings? • Custom? • New construction? 	<ul style="list-style-type: none"> • Retrofit lighting with less than 750,000 kWh savings? • Non-lighting with less than 250,000 kWh savings?
Yes	Yes

3 Determine How You'll Apply

<p>Standard: Ensures equipment qualifies for the program prior to installation. Reserves incentives.</p> <ul style="list-style-type: none"> • Apply online or use the Excel application. 	<p>Express: Gets you started faster but doesn't guarantee you program incentives. We'll reserve funds pending receipt and review of your final application.*</p> <ul style="list-style-type: none"> • Use our Excel application to apply.
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4 Complete Incentive Application with PECO Account Number

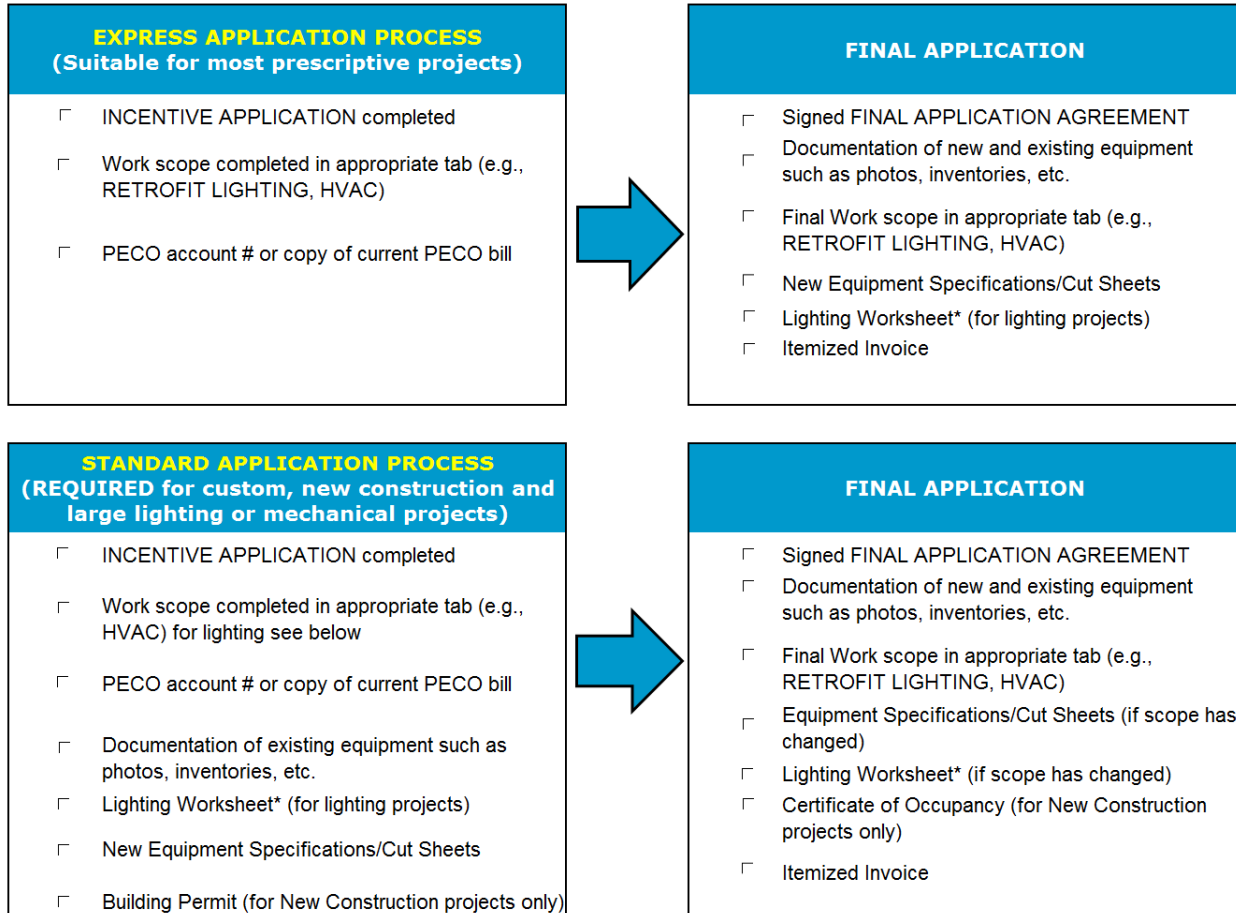
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Required Documents</p> <ul style="list-style-type: none"> • Document Existing Equipment • Fill Out Lighting Worksheet if your project includes lighting • Provide New Equipment Specs • Acquire Building Permit** 	<p>Advance to Step #5</p> <p style="text-align: center;">▼</p> <p style="text-align: center;">▼</p> <p style="text-align: center;">▼</p>
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5 Submit and Sign Final Application

<ul style="list-style-type: none"> • Submit Updates to Required Documents • Submit Final Invoices 	<ul style="list-style-type: none"> • Document Existing Equipment • Fill Out Lighting Worksheet if your project includes lighting • Provide New Equipment Specs • Submit Final Invoices <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Required Documents</p>
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Enjoy Incentives and Savings

Document Checklist



Supporting Documentation Guidelines

Lighting: Please submit photos of existing lighting. Projects of more than 750,000 kWh require lighting logging data. A Design Lights Consortium or ENERGY STAR listing is required for LED incentives. Please mark up LED cut sheets to indicate the exact products being incentivized to facilitate review. Plans or engineering submittals are required for large projects. Square footage for centrally controlled lighting systems may be required.

The currently used lighting worksheet has been renamed to the **TRM Lighting Worksheet**. The applicant will need to complete either the existing **TRM Lighting Worksheet** or the new streamlined **EZ Lighting Worksheet** as part of a final application.

Variable frequency drives (VFDs): Provide nameplate photos and/or engineering schedules of existing motors.

Custom, retrocommissioning, energy management system, demand controlled ventilation and large (more than 250,000 kWh savings) mechanical projects: A measurement and verification plan is required for larger projects. Program engineers will contact participants to establish measurement and verification protocols.

Application SCOPE worksheets (NEW! May 1, 2019)

You can now obtain early incentive estimates within the application with no technical data input.

This example shows Retrofit Lighting SCOPE estimate for upgrading 100 high bays to LEDs.

PECO Smart Ideas For Your Business, CI Application March, 5, 2019

Retrofit Lighting Scope

A completed **Lighting Worksheet*** is still required for **Final Application** for payment. The Energy Savings Estimates below represent average savings across many installations, a Lighting Worksheet calculation is recommended to provide the most accurate kWh for payback calculations.
*available at <http://pecoci.programprocessing.com/content/Resources>
Installed products must be at least 20% lower in Wattage than previous products.

Category	Measure Code	Measure Name	Incentive per unit	Quantity	Incentive Total	Incentive Unit	Technical Specifications	Energy Savings Estimate (kWh)
Hi/Low-bay LED	LED10B	DLC LED High-Bay Fixtures, > 20,000 LED lumens	\$75		\$ -	fixture	For Retrofit Kits, see installation requirements on Mogul LED Applications Page Manual	
Hi/Low-bay LED	LED11A	DLC LED High-Bay Retrofit Kits, ≤ 20,000 LED lumens	\$75	100	\$ 7,500.00	fixture		125,000
Hi/Low-bay LED	LED11B	DLC LED High-Bay Retrofit Kits, >20,000 LED lumens	\$75		\$ -	fixture		
Screw-in LED Lamps	ESLED1	ENERGY STAR Screw-in LED Bulb (Decorative: Globe)	\$5		\$ -	lamp	Lamp with globe shape such as type G	
Screw-in LED Lamps	ESLED2	ENERGY STAR Screw-in LED Bulb (Decorative: non-globe)	\$5		\$ -	lamp	Lamps with non-globe or candle-like shape such as type B, C, CA, F	

WHAT'S NEW March 5, 2019 | INTRO | INCENTIVE APPLICATION | CHECKLIST | FINAL APPLICATION AGREEMENT | RETROFIT LIGHTING scope | LED TRAFFIC SIGNALS scope | Sheet1

A completed **Incentive Application** worksheet is still required for all projects, but this sheet now has a PROJECT SUMMARY table to summarize estimates across all measures.

This example shows PROJECT SUMMARY for a project with 100 LED high bays and 5 five ton HVAC units,

PROJECT SUMMARY (from work scope tabs in this document)		
	TOTAL INCENTIVE REQUESTED**	ESTIMATED SAVINGS (kWh)
RETROFIT LIGHTING	\$7,500.00	125,000
LED TRAFFIC SIGNALS		
HVAC	\$550.00	9,167
ELECTRIC CHILLERS		-
MOTORS-VFDs		-
REFRIG and FOOD SERVICE		
DATA CENTERS		-
DOMESTIC HOT WATER		-
COMPRESSED AIR		
MISCELLANEOUS		-
CUSTOM		
Project Total	\$8,050.00	134,167

* PECO account number where measure is installed.

** Incentive cannot exceed 100 % of the total project cost and must meet all program terms and conditions.

CONGRATULATIONS! THIS PROJECT MAY BE ELIGIBLE FOR EXPRESS APPLICATION PROCESS

If you wish to use the **Express Application** process you must complete the appropriate Scope worksheets. Scope sheets are only required for Express Application process.

Standard Application process projects requires Submission of either EZ or TRM lighting worksheets at time of application.

Confirmation of incentives will still require engineering review to demonstrate compliance with program eligibility requirements.

EZ Lighting Worksheet (NEW! May 1, 2019)

Data entry for retrofit lighting projects is now streamlined with the **EZ Lighting Worksheet**, available May 1, 2019 on the Resources page of the Online Application <http://pecoci.programprocessing.com/content/Resources>.

The **EZ Lighting Worksheet** will permit quicker data entry, and can be used for both Standard and Express application processes. The use of the **EZ Lighting Worksheet** is optional. Applicants can still use the existing **TRM Lighting Worksheet**.

All retrofit lighting projects must complete either the existing **TRM Lighting Worksheet** or **EZ Lighting Worksheet** to receive incentives.

TERMS AND CONDITIONS

PECO Energy Company (PECO) is offering prescriptive and custom incentives under the PECO Smart Ideas for Your Business to facilitate the implementation of cost-effective energy efficiency measures for commercial and industrial customers. Any and all energy savings or environmental credits generated by the project described in this application will be retained by PECO. Funds are limited and subject to availability. The program may be modified or terminated without prior notice.

Program Effective Dates

The program is available until May 31, 2021. Incentives are offered until approved funds are exhausted or until May 15, 2021, whichever comes first. All projects must be completed and the final applications received no later than May 15, 2021, to be eligible for incentives.

Program and Project Eligibility

PECO Smart Ideas for Your Business incentives are available for the common energy efficiency measures listed in this Application Manual. Program incentives are available under PECO Smart Ideas for Your Business to non-residential customers within PECO's service territory. These incentives are available to all customers who pay into the Energy Efficiency Charge and receive their electricity over PECO's distribution network, regardless of the retail electric supplier.

Most commercial projects involving energy savings are eligible. Incentives are available for both prescriptive and custom measures. Prescriptive measures are energy efficiency measures with pre-determined savings and incentive levels, and are paid on a per unit basis. These measures are available for specific Lighting, HVAC, Refrigeration and Food Service, Variable Speed/Frequency Drives, Compressed Air and Domestic Water Heater measures. Custom measures include energy efficiency measures not listed on the prescriptive application forms. Custom incentives must be approved by PECO in advance, are determined on a case-by-case basis and are paid per unit of energy (kWh) saved. Examples of projects that are NOT eligible for incentives under this program include on-site electricity generation, projects focused primarily on power factor improvement and renewable energy projects.

Installation must be at the customer's facility and provide 100% of the energy benefits as stated in the application for a period of five years or for the life of the product, whichever is less. PECO has the right to claim a pro-rated amount of any incentive paid if the customer ceases to be a distribution customer of PECO, or removes the equipment or systems at any time during the five-year period or the life of the measure.

Incentive Payment Limits

Prescriptive and custom incentives cannot exceed 100% of the customer's total costs. Contractor labor costs can be considered in the total project cost, while customer internal labor costs cannot.

Application Review Process

A new Express Application process is now available for most prescriptive projects. No pre-approval is required. Use the appropriate worksheets to estimate your project's savings and incentive. Final savings and incentives will be determined at Final Application. No engineering review will be conducted until the Final Application is submitted, along with all of the required documentation. All New Construction projects, Custom projects or projects that require site specific M&V are not eligible for the Express Application process. You can still follow the Standard Application process as an alternative, which will require pre-approval. Pre-approval is required for all Standard Application process projects. Pre-approval is not a guarantee of program acceptance. Completed applications will be reviewed in the order received. The location or business name on the invoice must be the same as the application information. The incentive is reserved for the project when PECO receives a complete pre-approval application and determines that the project meets the program eligibility requirements. Applicants who submit incomplete applications will be notified of deficiencies upon review of the application, and could lose their place in line in the review process until all requested information is received. Applicants are encouraged to call the program hotline at 1-866-371-9343 if they have any questions about documentation requirements.

PECO will review final applications for eligibility and completeness. The final application and all required supporting documentation must be received within 90 days for projects submitted through the Standard or Express application process, and within 180 days of project completion for projects that were previously completed. Final documents must be received no later than May 31, 2021 to be eligible for incentives. Project documentation, including original dated invoices for the purchase and installation of the measures and/or product specification sheets, is required.

The project invoice must provide sufficient detail to separate the project cost from the cost of other services such as repairs and building code compliance. PECO reserves the right to request additional supporting documentation necessary to ensure measure eligibility and verify that the expected energy savings will occur. Requested information may include, but is not limited to equipment purchase dates, installation dates, proof that the equipment is operational, manufacturer specifications, warranty information and proof of customer co-payment. PECO will make every effort to maintain the confidentiality of customer information except that such information must be provided to the PA PUC and its contractor, as well as PECO's contractor for measurement and evaluation.

The installed measures are not eligible for incentives from other PA Act 129 Phase 3 Energy Efficiency Programs.

Inspections and/or PUC's Statewide Program Evaluation

PECO, its agents, measurement and verification contractor and/or the PUC statewide program evaluator have the right to audit or inspect all projects to verify compliance with the program rules and verify the accuracy of project documentation. This may include pre-installation and/or post-installation inspections, detailed lighting layout descriptions, metering, data collection, interviews and utility bill data analyses. The customer must allow

access to project documents and the facility where the measures were installed for a period of five years after receipt of incentive payment by PECO.

Requirements for Custom Project Electricity Savings Calculation

The annual electricity savings must be calculated for custom projects using industry accepted engineering algorithms or simulation models. The applicant must estimate the annual electricity usage of both the existing and proposed equipment based on the current operation of the facility. If the existing equipment is at the end of its rated useful life, the applicant must substitute equipment that would meet the applicable federal and local energy codes as the baseline when calculating the annual energy savings. The applicant must be able to clearly describe the method used to calculate the savings. The applicant must provide all assumptions used in the calculations and document the source for these assumptions. Further information on custom measures can be found in the Application Manual, which can be downloaded from www.peco.com/smartideas. The method and assumptions used by the applicant to calculate the annual savings will be reviewed by PECO. PECO has sole and final determination of the annual energy savings to be used in calculating the incentive amount. PECO also reserves the right to require specific measurement and verification activities including monitoring both before and after the retrofit and to base the incentive payment on the results of these activities.

PECO may need to conduct inspections both before and after the retrofit projects to verify equipment and operation conditions. Pre-approval application must be submitted while the existing equipment is still in operation in order to allow PECO the opportunity to view the existing equipment.

No Endorsement

PECO does not endorse, support or recommend any particular manufacturer, product or system design in promoting this program and PECO does not guarantee any specific level of energy savings with respect to any product, system design or energy efficiency measure.

Warranties

PECO DOES NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability

By virtue of participating in this program, customers agree to waive any and all claims or damages against PECO, except the receipt of the program incentive, if eligible. Participating Customers agree that PECO's liability, in connection with this program, is limited to paying the program incentive specified. Under no circumstances shall PECO, its representatives, agents or subcontractors, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this program.

Assignment

Customers may assign a portion or all of their program incentive payment to a specified vendor.

Customer's Certification

Customer certifies that he/she purchased and installed the equipment listed in the application. Customer agrees that all information is true and that he/she has conformed to all of the program and equipment requirements listed in the application.

Termination

PECO reserves the right to extend, modify (this includes modification of program incentive levels) or terminate this program without prior or further notice.

Acknowledgment

PECO customers must read, understand and be in compliance with all rules and regulations concerning this incentive program. You must certify via signature on the Final Application that all information provided is correct to the best of your knowledge, and give PECO permission to share your records with the Pennsylvania PUC, and agents, representatives and contractors it selects to manage, coordinate or evaluate the program. Additionally, you must authorize PECO to have reasonable access to your property to inspect the installation and performance of the equipment and installations that are eligible for incentives under the guidelines of the program.

Retrofit Lighting Solutions

EZ Lighting Worksheet (NEW! May 1, 2019)

Data entry for retrofit lighting projects is now streamlined with the **EZ Lighting Worksheet**, available on the Resources page of the Online Application <http://pecoci.programprocessing.com/content/Resources>.

The **EZ Lighting Worksheet** will permit quicker data entry, and can be used for Standard and Express application processes. The use of the **EZ Lighting Worksheet** is optional. Applicants can still use the existing **TRM Lighting Worksheet**. All retrofit lighting applicants must complete either the **TRM Lighting Worksheet** or **EZ Lighting Worksheet** to receive incentives.

Instructions for **EZ Lighting Worksheet**
Step 1) Fill out Section 1

SECTION 1	
Applicant Name	John Doe
Facility Name	John Doe Co.

Facility Type	Warehouse
Heating Type	Unknown
Do you have facility hours?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Usage Groups (Maximum of 3)	2
Usage Group #1 Name	Warehouse(s)
Usage Group #2 Name	Office(s)
Usage Group #3 Name	

If selecting "No", Deemed TRM hours of use will be used

SECTION 1	
Applicant Name	John Doe
Facility Name	John Doe Co.

Facility Type	Warehouse
Heating Type	Unknown
Do you have facility hours?	<input checked="" type="checkbox"/> Yes
Usage Groups (Maximum of 3)	2
Usage Group #1 Name	Warehouse(s)
Usage Group #2 Name	Office(s)

If selecting "Yes", general usage groups will suffice.

Warehouse(s) Hours			
Monday	6 a.m.	to	12 p.m.
Tuesday	6 a.m.	to	12 p.m.
Wednesday	6 a.m.	to	12 p.m.
Thursday	6 a.m.	to	12 p.m.
Friday	6 a.m.	to	12 p.m.
Saturday	N/A	a.m.	to N/A p.m.
Sunday	N/A	a.m.	to N/A p.m.
Space cooling type?	Unconditioned		

After selecting "Yes" above, you will then be prompted to fill in the facilities' hours and cooling type. Note: The following usage groups will not ask for hours and cooling type:

- Exterior
- Guest Room(s)
- 24/7

Office(s) Hours			
Monday	9 a.m.	to	5 p.m.
Tuesday	9 a.m.	to	5 p.m.
Wednesday	9 a.m.	to	5 p.m.
Thursday	9 a.m.	to	5 p.m.
Friday	9 a.m.	to	5 p.m.
Saturday	N/A	a.m.	to N/A p.m.
Sunday	N/A	a.m.	to N/A p.m.
Space cooling type?	Comfort Cooled		

Step 2: Fill out Section 2

From left to right, fill out the “Pre-Retrofit Details” for each line item with info that best describes your project using the dropdowns and filling in manually.

SECTION 2							Total Estimated Energy Savings (kWh)	0.00
PRE-RETROFIT DETAILS								
	Space Type	Existing Fixture Type	Lamps per Fixture	Tube Length (in.)	Watts per Lamp	Existing Fixture Quantity	Type of Controls	
1	Warehouse(s)	Metal_Halide	1		400	100	Light Switch	
2	Office(s)	T12_Linear_Fluorescent	4	48	32	20		
3							Light Switch	
4							Occupancy Sensors	
5							Time Clocks	
6							Energy Management System	
7							Daylight Photosensors	
8							Dimmers	
							Computer Based Controls	
							Multiple Types	

From left to right, fill out the “Post-Retrofit Details” for each line item with info that best describes your project using the dropdowns and filling in manually.

POST-INSTALLATION DETAILS						
Proposed EXACT Model Number	Fixture(s) or Tube(s)?	Proposed Fixture/Tube Quantity	Screw-in? (Y/N)	Per Unit Wattage(W)	Type of Control	Quantity of Controls
LED-123-ABC-5000K	Fixture(s)	100	N	150	Light Switch	
LED-456-DEF-4000K	Tube(s)	80	N	15	Occupancy Sensors	20

EXACT model numbers are required.

When applying for tube incentives, include the number of tubes, not fixtures.

Once each line item for the project is filled out, you are ready to submit **EZ Lighting Worksheet** along with the other project documents.

LED Lamps and Fixture Eligibility

To be eligible, lamps and fixtures must appear on the ENERGY STAR certified products list or the Design Lights Consortium qualified products list.

- ENERGY STAR certified fixtures: <https://www.energystar.gov/productfinder/product/certified-light-fixtures>
- ENERGY STAR certified integral LED lamps: <https://www.energystar.gov/productfinder/product/certified-light-bulbs>
- Design Lights Consortium qualified products: <https://www.designlights.org>

Minimum Watts Reduced Requirement

The two previous tiers of retrofit lighting incentives, which depended on the minimum watts reduced, have been replaced with one tier and the requirement that new product watts must be reduced by 20% from the previous level. The **TRM and EZ Lighting Worksheets** also contain this simplification.

Linear LED Installation Requirements

Linear LED lamps must be listed on the Design Lights Consortium qualified products list. Currently, 2-foot, 3-foot, 4-foot and 8-foot linear tubes and 4-foot U-tubes are eligible.

Type A

- Type A linear LED lamps must be powered by fluorescent ballasts.
- If present, existing magnetic ballasts must be removed and replaced with compatible energy-efficient electronic ballasts.
- Equipment must meet the Design Lights Consortium primary use requirement and be classified as “plug and play” replacement lamps (UL Type A).
- A label must be affixed in a prominent location to the interior of each fixture. The label should indicate that the fixture has been retrofitted with a tubular LED, and that a fluorescent lamp should not be installed as a replacement.

Type B

- Type B LED tubes must be powered by internal drivers.
- Existing fluorescent ballasts must be removed, and each fixture’s incoming power wires must be connected directly to the lamp socket. Strict adherence to installation instructions is critical when rewiring existing fixtures.
- Each linear LED lamp must be installed with a UL 1598C classified luminaire retrofit kit.
- The linear LED lamps must be installed on luminaires that are already UL listed.
- A retrofitted luminaire must be clearly identified with the label included in the retrofit kit, indicating that the luminaire has been modified and can no longer operate with a fluorescent lamp.

Type C

- Type C linear LED lamps must be powered external drivers.
- Existing fluorescent ballasts must be removed and replaced with compatible external drivers.
- Equipment must meet the Design Lights Consortium primary use requirement and be classified as one of the following:
 - 2-lamp external driver lamp-style retrofit kit (UL Type C)
 - 3-lamp external driver style retrofit kit (UL Type C)
 - 4-lamp external driver lamp-style retrofit kit (UL Type C)
- Technical specifications (manufacturer’s cut sheet) for the drivers must be submitted with the application.

Mogul Screw-Base “Corn Cob” LED Replacement Lamps

Type A mogul screw-base replacement lamps are not allowed by the Design Lights Consortium and are ineligible under the Pennsylvania Public Utility Commission (PUC) Technical Reference Manual.

The eligibility requirements for Type B and Type C mogul screw-base replacement LED lamps are:

- The LED lamps must be listed by the Design Lights Consortium.
- The LED lamps must be installed as a UL 1598C classified luminaire retrofit kit.
- The LED lamps must be installed on luminaires that are already UL listed.
- A retrofitted luminaire must be clearly identified with the label included in the retrofit kit, indicating that the luminaire has been modified and can no longer operate with a high-intensity discharge (HID) lamp.
- Manufacturer installation instructions and warranty recommendations must be followed.

Additional safety measures are recommended for Type B mogul screw-base LED replacement lamps.

- Bypassing or removing HID ballasts should be performed by a licensed electrician.
- For protection, a fast-acting fuse must be installed at the fixture in the event a conventional HID lamp is later mistakenly installed without the HID ballast. The fuse must be marked and installed per the requirements in UL 1598 clause 6.6, provided it does not contradict the retrofit kit manufacturer's instructions. The purpose of the fuse is to prevent shattering if an HID lamp is inappropriately installed in a modified HID fixture.
- If a fast-acting fuse is not provided by the manufacturer as part of the luminaire retrofit kit, the amperage rating of the fuse must be sized according to the National Electric Code, using the manufacturer's rated amperage of the mogul screw-base LED replacement lamp at maximum-rated brightness as a continuous load for the fuse. The fuse should not be sized larger than the maximum allowed amperage of the branch circuit breaker.

For Type C mogul screw-base LED replacement lamps, removal of the HID ballast and installation of the LED driver should be performed by a licensed electrician.

Permanent Fixture Removal

This measure can be used only in conjunction with lighting retrofits and is intended for spaces that are currently over lit. Incentives are \$0.10 per watt reduced, **only** on fixtures removed, not on total watts reduced for entire projects. Overall net lumen reduction must be achieved to qualify for a permanent fixture removal incentive. For example:

- 20 existing fixtures at 10,000 lumens each = 200,000 lumens
- 14 proposed fixtures at 15,000 lumens each = 210,000 lumens

Because there is no net reduction in lumens, the six fixtures removed are not eligible for a permanent fixture removal incentive. Recommended foot-candle levels can be found in the IESNA Lighting Design Guide. A program engineer will evaluate lumen reduction based on the type of fixtures removed and the Design Lights Consortium lumens rating of the fixtures installed.

Retrofit Lighting Incentives (Updated May 1, 2019)

Retrofit Lighting Scope					
A completed Lighting Worksheet * is still required for Final Application for payment. The Energy Savings Estimates below represent average savings across many installations, a Lighting Worksheet calculation is recommended to provide the most accurate kWh for payback calculations.					
*available at http://pecoci.programprocessing.com/content/Resources Installed products must be at least 20% lower in Wattage than previous products.					
Category	Measure Code	Measure Name	Incentive per unit	Incentive Unit	Technical Specifications
Linear Fluorescent	FL1	Interior T5 New Fluorescent Fixture w/ Electronic Ballast	\$5	fixture	• Any T5 is eligible
Linear Fluorescent	FL2	T5HO High-Bay Fixture	\$25	fixture	• Fixture efficiency must be > 90% • High bay fixtures must be .15ft above floor;
Linear Fluorescent	FL3	HPT8 High-Bay Fixture	\$20	fixture	
Linear Fluorescent	FL4	HPT8 Fixture	\$5	fixture	• Must use Low Ballast Factor (<.80)
Linear Fluorescent	FL5	RW T8 Lamp - Lamp only	\$3	lamp	• Existing T8 fixture re-ballasting to a higher ballast factor are not eligible.
HID	HID1	Ceramic HID - 25 -39 Watt	\$10	fixture	• Replacing higher wattage HID or High Pressure Sodium or Mercury Vapor • Interior replacements only
HID	HID2	Ceramic HID - 70 Watt	\$13	fixture	
HID	HID3	Ceramic HID - 100 Watt	\$15	fixture	
HID	HID4	Pulse Start HID - 150 nominal Watts	\$10	fixture	
HID	HID5	Pulse Start HID - 350 nominal Watts	\$13	fixture	
HID	HID6	Pulse Start HID - 1,000 nominal Watts	\$15	fixture	
Interior LED	LED1	ENERGY STAR Integral LED fixture: Indoor Recessed Downlight Retrofit Module	\$10	fixture	
Interior LED	LED2	ENERGY STAR Integral LED fixture: Indoor Recessed Downlight	\$10	fixture	
Interior LED	LED3	ENERGY STAR Integral LED fixture: Indoor Portable Lamp/Torchiere	\$7	fixture	
Interior LED	LED4	ENERGY STARLED Accent/Track Lighting Fixtures	\$6	head	
Interior LED	LED9	DLC LED Surface and Suspended Linear Fixtures	\$20	fixture	e.g., wrap, vapor tight, and strip fixtures.
Interior LED	LED8a	DLC LED Troffer Fixtures and Retrofit Kits, 2'	\$10	fixture	Troffers typically installed in lay-in ceilings, 2x2 configuration
Interior LED	LED8b	DLC LED Troffer Fixtures and Retrofit Kits, 4'	\$12.50	fixture	Troffers typically installed in lay-in ceilings, 1x4, 2x4 configuration
Hi/Low-bay LED	LED5a	DLC LED Low-Bay Fixtures, 4,000-10,000 lumens	\$25	fixture	For replacement of HID fixtures mounted ≤ 15' above finished floor. For Retrofit Kits, see installation requirements on Mogul LED requirements page.
Hi/Low-bay LED	LED5b	DLC LED Low-Bay Fixtures, 10,001-20,000 lumens	\$50	fixture	
Hi/Low-bay LED	LED5c	DLC LED Low-Bay Fixtures, >20,000 lumens	\$70	fixture	
Hi/Low-bay LED	LED6a	DLC LED Low-Bay Retrofit Kits, 4,000-10,000 lumens	\$25	fixture	
Hi/Low-bay LED	LED6b	DLC LED Low-Bay Retrofit Kits, 10,001-20,000 lumens	\$50	fixture	
Hi/Low-bay LED	LED6c	DLC LED Low-Bay Retrofit Kits, >20,000 lumens	\$70	fixture	
Hi/Low-bay LED	LED10A	DLC LED High-Bay Fixtures, ≤20,000 LED lumens	\$75	fixture	High bay fixtures must be installed at least 15ft above floor.
Hi/Low-bay LED	LED10B	DLC LED High-Bay Fixtures, > 20,000 LED lumens	\$75	fixture	For Retrofit Kits, see installation requirements on Mogul LED requirements in Project Manual
Hi/Low-bay LED	LED11A	DLC LED High-Bay Retrofit Kits, ≤ 20,000 LED lumens	\$75	fixture	
Hi/Low-bay LED	LED11B	DLC LED High-Bay Retrofit Kits, >20,000 LED lumens	\$75	fixture	

Screw-in LED Lamps	ESLED1	ENERGY STAR Screw-in LED Bulb (Decorative: Globe)	\$5	lamp	Lamp with globe shape such as type G
Screw-in LED Lamps	ESLED2	ENERGY STAR Screw-in LED Bulb (Decorative: non-globe)	\$5	lamp	Lamps with non-globe or candle-like shape such as type B, C, CA, F
Screw-in LED Lamps	ESLED3	ENERGY STAR Screw-in LED Bulb and Low Voltage Mini-Reflector Bulbs (Directional/Reflector)	\$5	lamp	ANSI standard PAR type lamps
Screw-in LED Lamps	ESLED4	ENERGY STAR Screw-in LED Bulb (Standard)	\$5	lamp	Lamp such as A series
Screw-in LED Lamps	ESLED5	ENERGY STAR Screw-in LED Bulb (Standard: 3-Way)	\$5	lamp	Lamp such as A series with three light levels
pin LED lamps	PLED1	ENERGY STAR GU24 pin-based lamps	\$0.50	lamp	GU24 base lamps
pin LED lamps	PLED2	ENERGY STAR MR16 pin-based lamps	\$5	lamp	GU5.3, GX5.3, GU10 base lamps
pin LED lamps	PLED3a	DLC pin LED lamps <1,600 lumens	\$0.50	lamp	G24q/GX2 (Horizontal and Vertical Lamps), 2G11 base lamps
pin LED lamps	PLED3b	DLC pin LED lamps ≥1,600 lumens	\$1.00	lamp	
LED tubes	TLED1	DLC LED Replacement Lamps (Tubes), 2'	\$2.50	lamp	<p>Refer to Lighting Project Manual for requirements. Type B linear (Interior driver) LEDs have the following installation requirements:</p> <ul style="list-style-type: none"> Existing fluorescent ballast must be removed and fixture's incoming power wires are connected directly to the lamp sockets. Strict adherence to installation instructions is critical when rewiring existing fixtures. The LED linear lamps must be delivered as part of a UL 1598C Classified Luminaire Retrofit Kit with instructions explaining the LED linear lamps must be installed on a luminaire that is already UL Listed. The retrofitted luminaire must be clearly identified using the label included with the Retrofit Kit, indicating that the luminaire has been modified and can no longer operate the originally intended fluorescent lamp(s).
LED tubes	TLED1a	DLC LED Replacement Lamps (Tubes), 3'	\$3.00	lamp	
LED tubes	TLED2	DLC LED Replacement Lamps (Tubes), 4' Linear and U-Tubes	\$3	lamp	
LED tubes	TLED3	DLC LED Replacement Lamps (Tubes), 8'	\$6	lamp	
Refrigerated Case LEDs	R27	LED Open Case Lighting*	\$0.05	kWh	*25 kWh per linear foot LED to be used for estimating purposes only. Exact rebate level will depend on installation details.
Refrigerated Case LEDs	R28	LED Enclosed Case Lighting, Refrigerated	\$30	Door	
Refrigerated Case LEDs	R28	LED Enclosed Case Lighting Freezer	\$30	Door	
Exterior LED	LED12	LED Parking Garage and Canopy Fixtures and Retrofit Kits, Outdoor ≤5,000 LED lumens	\$30	fixture	<p>Fixtures must be physically installed in a parking garage (area where vehicles are physically parked) or fuel pump canopy.</p> <ul style="list-style-type: none"> LED12 typically represents replacement of ≤175 W Metal Halide or equivalent. LED13 typically represents replacement of Metal Halide or equivalent greater than 175W and less than 400W. LED14 typically represents replacement of ≥400 W Metal Halide or equivalent.
Exterior LED	LED13	LED Parking Garage and Canopy Fixtures and Retrofit Kits, Outdoor 5,000-10,000 LED lumens	\$45	fixture	
Exterior LED	LED14	LED Parking Garage and Canopy Fixtures and Retrofit Kits, Outdoor >10,000 LED lumens	\$60	fixture	
Exterior LED	ELED1	ENERGY STAR Integral LED fixture: Outdoor Recessed Downlight Retrofit Module	\$10	module	ENERGY STAR or DLC Qualified fixtures
Exterior LED	ELED2	ENERGY STAR Integral LED fixture: Outdoor Recessed Downlight	\$10	fixture	
Exterior LED	ELED3	DLC LED Outdoor Flood Light Fixtures ≤5,000 LED lumens	\$15	fixture	Typically represents replacement of ≤175 W Metal Halide or equivalent.
Exterior LED	ELED4	DLC LED Outdoor Flood Light Fixtures >5,000 LED lumens	\$25	fixture	Typically represents replacement of Metal Halide or equivalent greater than 175W.
Exterior LED	ELED5	DLC LED Pole/Arm Mounted Parking and Roadway Fixtures and Retrofit Kits, ≤5,000 LED lumens	\$25	fixture	<ul style="list-style-type: none"> ELED5 typically represents replacement of ≤175 W Metal Halide or equivalent. ELED6 typically represents replacement of Metal Halide or equivalent greater than 400W. ELED7 typically represents replacement of Metal Halide or equivalent greater than 175W and less than 400W.
Exterior LED	ELED6	DLC LED Pole/Arm Mounted Parking and Roadway Fixtures and Retrofit Kits, Outdoor >10,000 LED lumens	\$75	fixture	
Exterior LED	ELED7	DLC LED Pole/Arm Mounted Parking and Roadway Fixtures and Retrofit Kits, Outdoor 5,001 - 10,000 LED lumens	\$50	fixture	
Exterior LED	ELED8	DLC LED Wall Mount Fixtures and Retrofit Kits, Outdoor ≤5,000 LED lumens	\$30	fixture	ELED8 typically represents replacement of ≤175 W Metal Halide or equivalent.
Exterior LED	ELED9	DLC LED Wall Mount Fixtures and Retrofit Kits, Outdoor >5,000 LED lumens	\$60	fixture	ELED9 typically represents replacement of Metal Halide or equivalent greater than 175W
Permanent Fixture Remo	PFRA	Indoor Permanent Fixture Removal combined with lighting retrofit.	\$0.10	watt removed	Incentive only valid when units = "fixture" in this table. Incentive is only offered when net lumens are reduced.
Permanent Fixture Remo	PFRB	Outdoor Permanent Fixture Removal combined with lighting retrofit.	\$0.10	watt removed	

LED EXIT	LEDEXIT	LED Exit Sign	\$8	sign	Replacing Incandescent or Fluorescent
LED Signage	SIGN1A	Indoor LED Channel Signage	\$8	letter	Replacing Neon
LED Signage	SIGN1B	Outdoor LED Channel Signage	\$8	letter	
Controls	CTL	Unitary Sensor Controls	\$15.00	sensor	<ul style="list-style-type: none"> ▪ Passive infrared, ultrasonic detectors are eligible. ▪ Includes daylighting controls and all occupancy controls ▪ Controls can be on/off, stepped or continuous (dimming). ▪ Daylight sensor controls are required to be commissioned in order to ensure proper sensor calibration and energy savings. ▪ Minimum of 30 watts controlled per control
Controls	CLC	Interior Central Lighting Controls	\$0.0175	square foot of area under control	<ul style="list-style-type: none"> ▪ Automated central lighting control systems with override capabilities. ▪ includes centrally-controlled time clocks, wireless on off switches, bi level switches , computer based controls, pre-set scene selection, dimmable ballasts and on-off dimmer switches for non-personal tuning. Floor plan must be submitted verifying square footage.
Controls	DAYOCC	Controls Combination - Daylighting and Occupancy Fixture Mounted	\$15.00	sensor	<ul style="list-style-type: none"> ▪ Minimum of 30 watts controlled per control

LED Traffic Signals

This measure applies to early LED replacement of existing incandescent traffic lights and pedestrian signals. New LED traffic signals must comply with ENERGY STAR requirements, which can be found at:

https://www.energystar.gov/ia/partners/product_specs/eligibility/traffic_elig.pdf?98bf-1786.

LED Traffic Signal Incentives Table

Round Traffic Signals	Incentive per Signal
8-inch red	\$15
8-inch yellow	
8-inch green	
12-inch red	
12-inch yellow	
12-inch green	
Turn Arrow Signals	
8-inch red	\$13
8-inch yellow	
8-inch green	
Thx!	
12-inch red	
12-inch yellow	
12-inch green	
Pedestrian Signals	
9-inch pedestrian only	\$13
12-inch hand only	
12-inch pedestrian only	
12-inch countdown only	
12-inch pedestrian and hand overlay	
16-inch pedestrian and hand side by side	
16-inch pedestrian and hand overlay	
16-inch hand and countdown side by side	

New Construction Lighting

For the lighting power density (LPD) approach, the lighting power installed will be compared with the lighting power allowed by code. Incentives are available for systems in which the installed lighting power is at least 10% less than the power allowed by code. Savings are based on the LPD calculated as watts per square foot. **Incentives are available only for areas of a building where lighting installation has been completed and the building is ready for occupancy.** Areas that are not complete or ready for occupancy are not eligible for an incentive. The LPD baseline is determined by the ASHRAE 90.1-2007 standard. To calculate the LPD for the purposes of the incentive, either the space-by-space or the building area method may be used.

Required Documentation

- The Lighting Worksheet
- The COMcheck Interior Lighting Report or equivalent analysis demonstrating space-by-space or building area calculations
- Reflected ceiling plans and electrical plan sheets showing the lighting fixture layout
- A lighting fixture schedule sheet that includes fixture counts
- Fixture submittal or specification sheets showing model numbers and rated fixture wattages
- Architectural floor plans displaying the floor area affected by proposed lighting installation

For new construction prescriptive projects, final incentives require that 100% of the building systems, as described in the Lighting Worksheet, are operating.

Eligibility will be verified during an inspection, at which time one of two conditions must be confirmed:

1. The equipment listed in the Lighting Worksheet is installed and operating in a manner consistent with an occupied space.
2. The equipment listed in the Lighting Worksheet is installed and operating in a manner consistent with an unoccupied space.

Equipment will not be eligible for the incentive if it is installed but not operating (e.g., lights are off because there is no occupancy). For projects where a subset of equipment is ineligible, the customer has the option to delay project finalization and energy savings calculation until an agreed-upon future date (when more equipment may be operating and eligible). At that time, a follow-up inspection will determine final equipment eligibility and the incentive amount. If the decision is made to finalize the project as is, final incentives will be based on an updated Lighting Worksheet or the reduced quantity of eligible equipment.

New Construction Lighting Incentives Table

Lighting Watts/sq. ft. % Improvement over of Code	Incentive
≥ 10% and < 20%	\$0.035/sq. ft.
≥ 20% and < 30%	\$0.07/sq. ft.
≥ 30% and < 40%	\$0.105/sq. ft.
≥ 40%	\$0.21/ sq. ft.

LIGHTING CONTROLS THAT EXCEED CODE REQUIREMENTS

Incentives for lighting controls have a custom rate of \$0.05 per kWh. Please contact program staff for eligibility of lighting controls for new construction projects.

Interior Occupancy Sensors

Incentives are offered for occupancy-based controls in areas where they are not required by code. Passive infrared, ultrasonic detectors and fixture-integrated sensors or combination sensors are eligible. All sensors must be hard-wired and control interior lighting fixtures. The incentive is per watt controlled. In the final application, an inventory of the controlled fixtures and their wattage must be provided for each sensor

Daylight Dimming Systems

Incentives are offered for daylight sensor controls in spaces with suitable available ambient light for at least part of the day. Light may be through skylights, clerestories, windows or “light tubes.” The controls can be on/off, stepped or continuous dimming. The on/off controller should turn off artificial lighting when the interior illuminance meets the desired indoor lighting level. The stepped controller dims the artificial lighting 50% when interior illuminance levels reach 50% of the desired lighting levels. Continuous or dimming controllers dim artificial lighting in proportion to the available ambient light. All types of daylight sensor controls are required to be commissioned to ensure proper sensor calibration and energy savings.

Required Documentation

- Cut sheets or submittals of lighting control systems, reflected ceiling plans or a schedule showing which fixtures have lighting controls

NEW CONSTRUCTION LIGHTING POWER DENSITY CODE REQUIREMENTS – SPACE-BY-SPACE METHOD

Building Specific Space Types	LPD (W/ft2)
Gymnasium/Exercise Center	
Playing Area	1.4
Exercise Area	0.9
Courthouse/Police Station/Penitentiary	
Courtroom	1.9
Confinement Cells	0.9
Judge's Chambers	1.3
Fire Stations	
Fire Station Engine Room	0.8
Sleeping Quarters	0.3
Post Office-Sorting Area	1.2
Convention Center-Exhibit Space	1.3
Library	
Card File and Cataloging	1.1
Stacks	1.7
Reading Area	1.2
Hospital	
Emergency	2.7
Recovery	0.8
Nurse Station	1.0
Exam/Treatment	1.5
Pharmacy	1.2
Patient Room	0.7
Operating Room	2.2
Nursery	0.6
Medical Supply	1.4
Physical Therapy	0.9
Radiology	0.4
Laundry—Washing	0.6

Building Specific Space Types	LPD (W/ft2)
Automotive—Service/Repair	0.7
Manufacturing	
Low (<25 ft Floor to Ceiling Height)	1.2
High (>25 ft Floor to Ceiling Height)	1.7
Detailed Manufacturing	2.1
Equipment Room	1.2
Control Room	0.5
Hotel/Motel Guest Rooms	1.1
Dormitory—Living Quarters	1.1
Museum	
General Exhibition	1.0
Restoration	1.7
Bank/Office—Banking Activity Area	1.5
Religious Buildings	
Worship Pulpit, Choir	2.4
Fellowship Hall	0.9
Retail	
Sales Area [For accent lighting, see 9.3.1.2.1(c)]	
Mall Concourse	1.7
Sports Arena	
Ring Sports Area	2.7
Court Sports Area	2.3
Indoor Playing Field Area	1.4
Warehouse	
Fine Material Storage	1.4
Medium/Bulky Material Storage	0.9
Parking Garage—Garage Area	0.2
Transportation	
Airport—Concourse	0.6
Air/Train/Bus—Baggage Area	1.0
Terminal—Ticket Counter	1.5

NEW CONSTRUCTION LIGHTING POWER DENSITY CODE REQUIREMENTS – BUILDING AREA METHOD

Building Area Type*	LPD (W/ft ²)
Automotive facility	0.9
Convention center	1.2
Courthouse	1.2
Dining: bar lounge/leisure	1.3
Dining: cafeteria/fast food	1.4
Dining: family	1.6
Dormitory	1
Exercise center	1
Gymnasium	1.1
Health-care clinic	1
Hospital	1.2
Hotel	1
Library	1.3
Manufacturing facility	1.3
Motel	1
Motion picture theater	1.2

*In cases where both a common-space type and a building-specific type are listed, the building-specific type shall apply.

Exterior New Construction Lighting

Incentives for exterior new construction savings over code LPD have a custom lighting rate of \$0.05 per kWh. Savings are calculated from the LPD (watts per square foot). Additional information may be required based on the building exterior type and space description. To be eligible for the incentive, LEDs must satisfy program requirements from the Design Lights Consortium, ENERGY STAR or an equivalent listing.

Required Documentation

- The COMcheck Interior Lighting Report or equivalent analysis demonstrating space-by-space or building area calculations
- Drawings showing the lighting fixture layout
- A lighting fixture schedule sheet that includes fixture counts
- Fixture submittal or specification sheets showing model numbers and rated fixture wattages

Building Exterior	Space Description	LPD
Uncovered Parking Area	Parking Lots and Drives	0.15 W/ft ²
Building Grounds	Walkways less than 10 ft. wide	1.0 W/linear foot
	Walkways 10 ft. wide or greater	0.2 W/ft ²
	Plaza areas	
	Special feature areas	
	Stairways	1.0 W/ft ²
Building Entrances and Exits	Main entries	30 W/linear foot of door width
	Other doors	20 W/linear foot of door width
Canopies and Overhangs	Free standing and attached and overhangs	1.25 W/ft ²
Outdoor sales	Open areas (including vehicle sales lots)	0.5 W/ft ²
	Street frontage for vehicle sales lots in addition to "open area" allowance	20 W/linear foot
Building facades		0.2 W/ft ² for each illuminated wall or surface or 5.0 W/linear foot for each illuminated wall or surface length
Automated teller machines and night depositories		270 W per location plus 90 W per additional ATM per location
Entrances and gatehouse inspection stations at guarded facilities		1.25 W/ft ² of uncovered area
Loading areas for law enforcement, fire, ambulance, and other emergency service vehicles		0.5 W/ft ² of uncovered area
Drive-through windows at fast food restaurants		400 W per drive-through
Parking near 24-hour retail entrances		800 W per main entry

HVAC Equipment

Air-Source Air Conditioners and Air-Source Heat Pumps

New unitary air conditioning units or air-source heat pumps that meet or exceed the qualifying cooling efficiency shown in the HVAC Incentives Table are eligible for an incentive. They can be either split systems or single package units. The efficiency of split systems is based on an Air Conditioning and Refrigeration Institute (ARI) reference number. All packaged and split system cooling equipment must meet ARI standards (210/240, 320 or 340/360), be UL listed and use a minimum ozone-depleting refrigerant (e.g., HCFC or HFC). All required efficiencies are based on the Consortium for Energy Efficiency (CEE) high-efficiency commercial air conditioning and heat pump specifications (<https://www.cee1.org>). A manufacturer's specification sheet indicating the system's efficiency must accompany the application. Disposal of the existing unit must comply with local codes and ordinances.

Package Terminal Systems (Replacements)

Incentives are available for through-the-wall, self-contained, package terminal air conditioner and packaged terminal heat pump units that are 2 tons (24,000 Btu per hour) or less. All energy efficiency ratio values must be rated at an outdoor dry-bulb temperature of 95°F.

Ductless Mini-Split Heat Pumps of Less Than 5.4 Tons

Incentives are offered for ductless mini-split heat pumps of less than 5.4 tons with a seasonal energy efficiency ratio greater than or equal to 12.0, an energy efficiency ratio greater than or equal to 14.5 and a heating seasonal performance factor greater than or equal to 8.2.

Geothermal Heat Pumps

Incentives are offered for geothermal equipment with a high-efficiency groundwater source, a water source or a ground source heat pump system that meets or exceeds the energy efficiency requirements shown in the HVAC Incentives Table. All HVAC installations other than comfort cooling and heating, such as process cooling, must be applied for as custom measures.

New Construction HVAC Equipment

For new construction prescriptive projects, including measures such as HVAC, final incentives require that 100% of the building systems, as described in the mechanical project scope documents, are operating. New construction HVAC equipment must meet the efficiency requirements shown in the HVAC Incentives Table.

Eligibility will be verified during an inspection, at which time one of two conditions must be confirmed:

1. The equipment listed in the mechanical project scope documents is installed and operating in a manner consistent with an occupied space.
3. The equipment listed in the mechanical project scope documents is installed and operating in a manner consistent with an unoccupied space (i.e., HVAC equipment is energized and responding to heating and cooling loads).

Equipment will not be eligible if it is installed but not operating (e.g., heat pumps are installed but turned off). For projects where a subset of equipment is ineligible, the customer has the option to delay project finalization and energy savings calculation until an agreed-upon future date (when more equipment may be operating and eligible). At that time, a follow-up inspection will determine final equipment eligibility and the incentive amount. If the decision is made to finalize the project as is, final incentives will be based on a reduced quantity of eligible equipment.

HVAC Incentives Table

HVAC Measure Code	Equipment Type and Cooling Capacity	Cooling Qualifying Efficiency (full load, part load)	Heating Qualifying Efficiency	Incentive (\$ per cooling ton)
Air Cooled Air Conditioner				
H01	< 5.4 tons (< 65,000 Btu/hr)	11.3 EER, 15 SEER	N/A	\$22
H02	≥ 5.4 and < 11.25 tons (≥ 65,000 Btu/h and < 135,000 Btu/hr)	11.2 EER, 12.5 IEER	N/A	\$22
H03	≥ 11.25 and < 20 tons (≥ 135,000 Btu/h and < 240,000 Btu/hr)	11.0 EER, 12.3 IEER	N/A	\$22
H04	≥ 20 and < 63.33 tons (≥ 240,000 Btu/h and < 760,000 Btu/hr)	10.0 EER, 11.1 IEER	N/A	\$22
H05	≥ 63.33 tons (≥ 760,000 Btu/hr)	9.7 EER, 10.3 IEER	N/A	\$22
Air Cooled Heat Pumps				
H06	< 5.4 tons (< 65,000 Btu/hr)	11.3 EER, 14.3 SEER	8.7 HSPF	\$30
H07	≥ 5.4 and < 11.25 tons (≥ 65,000 Btu/h and < 135,000 Btu/hr)	11.0 EER, 12.3 IEER	3.3 COP	\$30
H08	≥ 11.25 and < 20 tons (≥ 135,000 Btu/h and < 240,000 Btu/hr)	10.6 EER, 11.7 IEER	3.2 COP	\$30
H09	≥ 20.00 tons (240,000 Btu/hr)	9.5 EER, 10.5 IEER	3.2 COP	\$30
Packaged Terminal Systems (PTAC and PTHP)				
H10	< 8000 Btu/hr (<0.66 tons)	11.8 EER	3.3 COP	\$17
H11	≥ 8,000 and <10,500 Btu/hr (≥ 0.66 and < 0.875 tons)	11.4 EER	3.2 COP	\$17
H12	≥ 10,500 Btu/hr (≥ 0.875 tons)	10.7 EER	3.1 COP	\$17
Ductless Mini-Split Heat Pump				
H13	< 65,000 Btu/hr (< 5.4 tons)	14.5 SEER/12.0 EER	8.2 HSPF	\$30
Ground Source Heat Pump				
H14	<135,000 Btu/hr (<11.25 tons)	13.4 EER	3.1 COP	\$30
Water Cooled Heat Pump				
H15	<17,000 Btu/hr (<1.4 tons)	11.2 EER	4.2 COP	\$30
H16	17,000-65,000 Btu/hr (1.4 - 5.4 tons)	12.0 EER	4.2 COP	\$30
Groundwater Source Heat Pump				
H17	<135,000 Btu/hr (11.25 tons)	16.2 EER	3.6 COP	\$30
Water Cooled Air Conditioner				
H22	< 5.4 tons (< 65,000 Btu/hr)	12.1 EER, 12.3 IEER	N/A	\$22
H23	≥ 5.4 and < 11.25 tons (≥ 65,000 Btu/h and < 135,000 Btu/hr)	12.1 EER, 12.3 IEER	N/A	\$22
H24	≥ 11.25 and < 20 tons (≥ 135,000 Btu/h and < 240,000 Btu/hr)	12.5 EER, 12.7 IEER	N/A	\$22
H25	≥ 20 and < 63.3 tons (≥ 240,000 Btu/h and < 760,000 Btu/hr)	12.4 EER, 12.6 IEER	N/A	\$22
H26	≥ 63.3 tons (≥ 760,000 Btu/hr)	11.0 EER, 11.1 IEER	N/A	\$22

HVAC Accessory Equipment

Hotel Guest Room Occupancy Sensors

Incentives are offered for occupancy-based controls that regulate electric air conditioning, air-source heat pumps and electric heating units for individual hotel rooms. Systems with nonelectric heat are not eligible. Sensors must be controlled by automatic occupancy detectors or a keycard system, and the default setting for controlled units must differ from the operating set point by at least 5°F (or completely shut off the unit fan, heating and cooling) during unoccupied periods. The control system may be tied into other electric loads, such as lighting and plug loads, and shut them off when occupancy is not sensed. The incentive is per room, and replacement or upgrades of existing occupancy-based controls are not eligible. Available incentives are shown in the HVAC Accessory Equipment Incentives Table.

Integrated Dual Enthalpy Economizer Controls

An incentive is available for integrated dual enthalpy economizer controls installed in nonresidential establishments where HVAC equipment has not been equipped with a functional economizer.

High-Volume, Low-Speed Circulating Fans

This measure incentivizes installation of high-volume, low-speed (HVLS) circulating fans to replace conventional circulating fans. HVLS fans generally range from 8–24 feet in diameter and move more cubic feet of air per watt than conventional circulating fans.

Electronically Commutated Motor Circulating Fans

An incentive for an electronically commutated motor (ECM) circulating fan is available for nonresidential customers replacing air handling equipment that uses a shaded pole or permanent split capacitor motor. This measure applies only to circulating fan motors of 1 HP or less. Motors of more than 1 hp are governed by National Electrical Manufacturers Association standards and would not benefit from an ECM. The targeted fan may supply heating only, cooling only, or both heating and cooling.

Electronically Commutated Motor Circulation Pumps

An incentive is available for ECM circulation pumps or motors that replace shaded pole or permanent split capacitor pumps and motors. This measure applies to motors of 7.5 hp or less.

HVAC Accessory Incentives Table

Measure Code	Measure	Incentive Unit	Incentive per Unit
H18	Hotel Guest Room Occupancy Sensor	Room	\$20
H19	Economizer, Integrated Dual Enthalpy Economizer Controls	Ton	\$15
H20	Circulation Fan: High-Volume Low-Speed	Unit	\$30
H21	ECM Circulation Fan	Fan	\$15
H27	ECM Circulation Pump	Pump	\$50

Retrocommissioning, Cooling Systems

This measure involves retrocommissioning of cooling systems. The incentive is based on peak tons and does not include backup or other capacity used in lead/lag situations. Projects are eligible if site-specific data of sufficient quality is provided to calculate savings.

Incentive tiers are shown in the Retrocommissioning Cooling Systems Incentives Table. Incentives are higher for projects that produce more savings. Projects are not eligible for incentive if site-specific measurement and verification data does not show savings that meet or exceed 15 kWh per ton.

Retrocommissioning Cooling Systems Incentives Table

Measure Code	Measure	Notes	Incentive Unit	Incentive per Unit
H28	Retrocommissioning, Cooling Systems	> 150 kWh per ton saved	Ton	\$10.00
		85 - 150 kWh per ton saved	Ton	\$5.50
		48-84 kWh per ton saved	Ton	\$3.00
		28 - 47 kWh per ton saved	Ton	\$1.75
		15-27 kWh per ton saved	Ton	\$1.00

Required Documentation

- To reserve an incentive, the application must contain a proposal with a defined scope that demonstrates energy savings at the equipment level. Peak tons must be clearly identified.
- For final approval, a final commissioning report is required. The report must include raw data (test and balancing reports) that demonstrate actual scope.
- Site-specific data (equipment-level trend data or utility meter data) is required to quantify savings.

Retrocommissioning, Whole Building

This measure involves retrocommissioning of whole building systems. The whole building incentive only applies to areas affected by the retrocommissioning measures. Projects are eligible if site-specific data of sufficient quality is provided to calculate savings. This incentive covers all relevant major mechanical systems, such as chiller plant, air-side, compressed air and process systems.

Incentive tiers are shown in the Retrocommissioning Whole Building Incentives Table. Incentives are higher for projects that produce more savings. Projects are not eligible for incentives if site-specific measurement and verification data does not show savings that meet or exceed the levels of kWh per square foot shown in the table.

Customers that own their own transformer are eligible for the Large Commercial incentives below.

Retrocommissioning Whole Building Incentives Table

Measure Code	Measure	Notes	Incentive Unit	Incentive per Unit
H29	Retrocommissioning, Whole Building for Large Commercial & Industrial Accounts	> 3.00 kWh per SF saved	Square Foot	\$0.20
		1.70 - 3.00 kWh per SF saved	Square Foot	\$0.11
		0.95 - 1.69 kWh per SF saved	Square Foot	\$0.06
	Retrocommissioning, Whole Building for Small Commercial & Industrial Accounts	> 2.25 kWh per SF saved	Square Foot	\$0.15
		1.28 - 2.25 kWh per SF saved	Square Foot	\$0.08
		0.71 - 1.27 kWh per SF saved	Square Foot	\$0.05

Required Documentation

- To reserve an incentive, the application must contain a proposal with a defined scope that demonstrates energy savings at the equipment level.
- For final approval, a final commissioning report is required. This report must include raw data (e.g., test and balancing reports) that demonstrate actual scope. The amount of retrocommissioned square feet must be clearly documented.
- Site-specific data (equipment-level trend data or utility meter data) is required to quantify savings.

Energy Management Systems

This measure involves the addition of a new energy management system. The incentive is based on peak tons and does not include backup or other capacity used in lead/lag situations. Incentives are available only if site-specific data of sufficient quality is provided to calculate savings.

Incentive tiers are shown in the Energy Management Systems Incentives Table. Incentives are higher for projects that produce more savings. Projects are not eligible for incentives if site-specific measurement and verification data does not show savings that meet or exceed 34 kWh per ton.

Energy Management Systems Incentives Table

Measure Code	Measure	Notes	Incentive Unit	Incentive per Unit
H30	Energy Management System	> 600 kWh per ton saved	Ton	\$40.00
		339 - 600 kWh per ton saved	Ton	\$22.50
		191 - 338 kWh per ton saved	Ton	\$12.50
		108 - 190 kWh per ton saved	Ton	\$7.00
		61 - 107 kWh per ton saved	Ton	\$4.00
		34 - 60 kWh per ton saved	Ton	\$2.25

The incentive is available only for installation of web-based building automation systems in existing buildings that currently have no digital automated HVAC controls or have outdated pneumatic control systems with inoperable time control functions. Existing HVAC control systems must not have time-of-day scheduling. Upgrades of obsolete energy management HVAC systems with inoperable time clock functions will be reviewed on a case-by-case basis for incentive eligibility. This incentive cannot be combined with incentives for programmable thermostats or setback-setup controls. The application must include the controls strategy and a scaled floor plan with the controlled areas highlighted.

HVAC energy management systems must be new and include:

- Central time clock control
- A web-based interface with PC-based controls and graphics
- Building performance tracking
- An open-protocol architecture controls system that consists of either a LonTalk (ANSI/CEA 709.1) or BACNet (ASHRAE/ANSI 135) protocol being used for all controlled and controlling devices and for every node on the network
- A minimum setback period that exceeds 2,200 hours per year
- A minimum setback space temperature of at least 10°F when heating and 5°F when cooling
- The ability to use the internet to remotely adjust schedules and settings
- The ability to generate reports that describe energy and operating trends

Required Documentation

- Site-specific data (equipment-level trend data or utility meter data) is required to quantify savings.

Demand Controlled Ventilation

This measure involves the installation of a demand controlled ventilation system. The incentive is based on peak tons and does not include backup or other capacity used in lead/lag situations. Incentives for demand controlled ventilation are available only if site-specific data of sufficient quality is provided to calculate savings.

Incentive tiers are shown in the Demand Controlled Ventilation Incentives Table. Incentives are higher for projects that produce more savings. Projects are not eligible for incentives if site-specific measurement and verification data does not show savings that meet or exceed 475 kWh per ton.

Demand Controlled Ventilation Incentives Table

Measure Code	Measure	Notes	Incentive Unit	Incentive per Unit
H31	Demand Controlled Ventilation	> 1500 kWh per ton saved	Ton	\$100.00
		845 - 1500 kWh per ton saved	Ton	\$50.00
		475 - 844 kWh per ton saved	Ton	\$30.00

To be eligible for the incentive, new ventilation controls must use carbon dioxide levels to measure occupancy and they must modify the percentage of outside air based on occupancy levels. Only buildings with space heating and cooling requirements are eligible. Conditioned spaces must be kept between 65°F and 75°F during occupied operating hours. Carbon dioxide sensors must be installed in conjunction with fully functioning motors that control outside air dampers. Dual temperature air-side economizers with zone-level carbon dioxide sensors for rooftop units are eligible.

Required Documentation

- Site-specific data (equipment-level trend data or utility meter data) is required to quantify savings.

Electric HVAC Chillers

Air-Cooled Chillers, Water Cooled Positive Displacement Reciprocating Chillers and Water Cooled Centrifugal Chillers

Incentives for chillers, including existing multiple chiller configurations (redundant or standby chillers), existing chillers serving multiple load groups and chillers in industrial applications, require site-specific data (equipment trend data or utility meter data) to quantify savings. The incentive is based on peak tons and does not include backup or other capacity used in lead/lag situations.

Incentives are offered for chillers with an integrated part load value (IPLV) value (expressed in kW per ton) that is less than or equal to the qualifying efficiency shown in the Electric Chiller Incentives Table. The chiller efficiency rating must be based on ARI standard 550/590-2003 for IPLV conditions. The chillers must meet ARI standard 550/590-2003, be UL listed and use a minimum ozone-depleting refrigerant (e.g., HCFC or HFC). The ARI net capacity value should be used to determine chiller tons. A manufacturer’s specification sheet with the rated kW per ton IPLV or coefficient of performance IPLV must accompany the application, along with the four-point performance data that is the basis for the IPLV. The application must include a certification that the chiller is appropriately sized for site design load conditions.

Chillers must satisfy efficiency requirements for both full load and IPLV for either path A or path B. The Electric Chiller Incentives Table shows the minimum efficiency ratings required to qualify for the prescriptive incentive. The expected operating conditions of the efficient chiller must be consistent with these ratings. For example, if the efficient chiller satisfies path A and generally performs at part load, the appropriate baseline chiller efficiency is the IPLV value under path A. If the efficient chiller satisfies path B and generally performs at full load, the appropriate baseline chiller efficiency is the full load value under path B. Generally, chillers operating above 70% load for a majority (50% or more) of operating hours should use path A, and chillers below 70% load for the majority of operating hours should use path B.

Electric Chiller Incentives Table

Equipment Type and Capacity		Path A		Path B		Incentive (\$/ton)
		Qualifying Full Load Efficiency	Qualifying IPLV Efficiency	Qualifying Full Load Efficiency	Qualifying IPLV Efficiency	
Air Cooled Chillers						
C1	< 150 tons	9.562 EER	13.75 EER	N/A	N/A	\$22
C2	≥ 150 tons	9.562 EER	14.03 EER	N/A	N/A	
Water Cooled Positive Displacement or Reciprocating Chillers						
C3	< 75 tons	0.780 kW/ton	0.567 kW/ton	0.800 kW/ton	0.540 kW/ton	\$17
C4	≥ 75 tons and < 150 tons	0.775 kW/ton	0.554 kW/ton	0.790 kW/ton	0.527 kW/ton	
C5	≥ 150 tons and < 300 tons	0.680 kW/ton	0.522 kW/ton	0.718 kW/ton	0.486 kW/ton	
C6	≥ 300 tons	0.620 kW/ton	0.486 kW/ton	0.639 kW/ton	0.441 kW/ton	
Water Cooled Centrifugal Chillers						
C7	< 300 tons	0.634 kW/ton	0.536 kW/ton	0.639 kW/ton	0.405 kW/ton	\$17
C8	≥ 300 tons and < 600 tons	0.576 kW/ton	0.494 kW/ton	0.600 kW/ton	0.360 kW/ton	
C9	≥ 600 tons	0.570 kW/ton	0.494 kW/ton	0.590 kW/ton	0.360 kW/ton	
Air Cooled Chiller without Condenser. Must be rated with matching condenser.						
C10	< 150 tons	9.562 EER	13.75 EER	N/A	N/A	\$22
	≥ 150 tons	9.562 EER	14.03 EER	N/A	N/A	

Refrigeration

Anti-Sweat Heater Controls

Incentives are offered for devices that sense the relative humidity in the air outside of the display case and that cycle or turn off the glass door (if applicable) and frame anti-sweat heaters when the ambient dew point is below a preset set point. Technologies that turn off anti-sweat heaters based on sensed condensation (on the inner glass pane) also qualify. The incentive is based on the number of doors.

Evaporator Fan Controls

This incentive is for the installation of controls in medium-temperature walk-in coolers. The controller must reduce airflow of the evaporator fans when there is no refrigerant flow. To receive the incentive, a measure must control a minimum of 1/20 HP when fans operate continuously at full speed. The measure also must reduce fan motor power by at least 75% during the off cycle. This incentive is not applicable if any of the following conditions apply:

- The compressor runs all the time with high-duty cycle.
- The evaporator fan does not run at full speed at all times.
- The evaporator fan motor runs on poly-phase power.
- The evaporator fan does not have a shaded pole or permanent split capacitor motor.
- The evaporator fan does not use off-cycle or time-off defrost.

Floating Head Pressure Controls

To qualify for this incentive, floating head pressure controls must vary head pressure to adjust condensing temperatures in relation to outdoor air temperature. The installation must replace existing constant pressure or manually controlled systems to achieve reduced head pressure and maintain a minimum saturated condensing temperature of 70°F or maintain a 20°F variance below design heat pressure during mild weather conditions. The compressor size must be at least 5 hp.

Automatic Door Closers for Walk-In Coolers and Freezers

To be eligible for this incentive, the automatic door closer should be applied to the main insulated opaque doors of a walk-in cooler or freezer. The automatic closer must firmly close the door when it is within one inch of full closure. The incentive applies only to newly installed automatic door closers; replacements on previously installed door closers are not eligible.

Electronically Commutated Motors for Walk-In/Reach-In Refrigerated Cases or Freezer Cases

Incentives are offered for replacement of existing standard efficiency, shaded pole or permanent split capacitor evaporator fan motors in refrigerated display cases or fan coil walk-ins. The replacement unit must have an ECM. This incentive cannot be used in conjunction with the evaporator fan control incentive.

ENERGY STAR Solid Door Freezers and Glass Door Freezers and Refrigerators

Incentives are offered for ENERGY STAR solid door freezers and glass door freezers and refrigerators that replace existing self-contained refrigerators and freezers. Only units with built-in refrigeration systems are eligible. Units with remote refrigeration systems or units do not qualify. Customers must provide proof that the appliance meets the CEE or ENERGY STAR efficiency specifications using ASHRAE standard 72-2005 (38°F ±2°F). The incentive is offered per unit.

Refrigeration Suction Pipe Insulation

For this incentive, the pipe insulation must insulate bare refrigeration suction lines with a diameter of 1 5/8 inches or less. The incentive is for insulating existing equipment only. Cooler lines require 3/4-inch flexible, closed-cell, nitrile rubber or an equivalent insulation. Freezer lines require 1-inch flexible, closed-cell, nitrile rubber or an equivalent insulation. Insulation exposed to the outdoors must be protected from the weather (e.g., jacketed with medium-gauge aluminum).

Night Covers

For this incentive, the night cover must be installed on an existing open refrigerated display case to decrease its cooling load during off hours. The equipment manufacturer must not object to the use of night covers for the existing display case model. This incentive is based on the linear footage installed. The cover must be applied for a period of at least six hours.

Strip Curtains for Walk-In Coolers and Freezers

To be eligible for this incentive, new strip curtains or plastic swinging doors must be installed on doorways of refrigerated spaces (conditioned to less than 50°F). The incentive is based on the linear footage of the doorway. The opening between the strip curtain and the bottom of the doorway must be no larger than one inch. The strips must have an overlay of more than one inch.

Evaporator Coil Defrost Controls

The current system must include an operating electric defrost system with a functional electromechanical time clock. Evaporator coil temperature and pressure must be monitored by a controller to determine optimal defrost cycles. New intelligent control systems to control the defrost systems will typically replace timed-defrost controls.

Variable Speed Refrigeration Compressors

An incentives is available for a variable speed drive (VSD) compressor that controls and reduces the speed of the compressor when a refrigeration system does not require the motor to run at full capacity. The incentive is for a VSD control system that replaces a slide-valve control system.

Doors Added to Open Refrigerated Cases

Retrofit equipment eligible for this incentive include no sweat doors and doors with anti-sweat heaters. If a lighting retrofit is included with the new doors, it must consume the same

amount of energy or less energy than the old lighting. Upgrades to lighting or other system components should be processed separately. Horizontal refrigerated cases are not eligible for this incentive.

Door Gaskets

The door gasket incentive is for commercial refrigeration and applies to replacement of worn-out gaskets with new, better-fitting gaskets. Eligible gaskets include those located on the doors of walk-in and reach-in coolers and freezers. This protocol applies to the main doors of both low-temperature (freezers below 32°F) and medium-temperature (coolers above 32°F) walk-ins.

Zero Energy Doors

For this incentive, a no-heat or low-heat clear glass door must be installed on an upright display case. The incentive is limited to doors that are 57 inches high or more. The doors must have heat-reflective treated glass or be gas-filled or both. This measure applies to low-temperature (below 0°F) cases only. The doors must have three or more panes. The total door rail, glass and frame heater amperage (about 120 volts) cannot exceed 0.39 amps per door. The incentive is based on door width, not including the case frame.

Air-Cooled Refrigeration Condensers

The incentive for air-cooled refrigeration condensers requires new equipment with an approach temperature of 13°F or less on low-temperature applications and an approach temperature of 8°F or less on medium-temperature applications. The specific fan power must be greater than or equal to 85 Btu per hour of heat rejection capacity per watt of fan power.

Oversized Condensers with Variable Speed Drives

For this incentive, a new stand-alone condenser must be no more than 150% more than load.

Case Light Occupancy Controls

For the case light control incentive, freezer and refrigerated cases are eligible, as are open cases and cases with doors.

LED Open Case Lighting

This incentive is for replacing open case T8 or T12 fluorescent fixtures with LEDs on refrigerators, coolers and freezers. The LEDs must be included in the Design Lights Consortium qualified list. Incentives for open case LEDs are based on energy savings at a rate of \$0.05 per kWh. For estimating purposes, most applications will produce incentives of about \$1.25 per linear foot of LED strip or tube.

Refrigerated Case Vertical Door LEDs

An incentive is available for LED case lighting with or without motion sensors on enclosed refrigerated vertical displays. The baseline equipment must be cases with uncontrolled T8 or T12 linear fluorescent lamps.

Freezer Case Vertical Door LEDs

An incentive is available for LED case lighting with or without motion sensors on enclosed freezer vertical displays. The baseline equipment must be cases with uncontrolled T8 or T12 linear fluorescent lamps.

Refrigeration Incentives Table

Ref Measure Code	Measure	Incentive Unit	Incentive/Unit
R01	Anti-Sweat Heater Controls	Door	\$30
R02	Evaporator Fan Controls	Controller	\$50
R03	Floating-head Pressure Controls	HP	\$20
R04	Automatic Door Closers for Walk-in Coolers	Door	\$75
R05	Automatic Door Closers for Walk-in Freezers	Door	\$75
R06	Evaporator Fan EC Motor for Reach-in Cases	Motor	\$35
R07	Evaporator Fan EC Motor for Walk-in Cases	Motor	\$50
R08	ENERGY STAR® Glass Door Freezer <15 Cu. Ft.	Unit	\$100
R09	ENERGY STAR® Glass Door Freezer 15- 49 Cu. Ft.	Unit	\$125
R10	ENERGY STAR® Glass Door Freezer ≥ 50 Cu. Ft.	Unit	\$145
R11	ENERGY STAR® Solid Door Freezer	Unit	\$75
R12	ENERGY STAR® Glass Door Refrigerator <50 Cu. Ft.	Unit	\$30
R13	ENERGY STAR® Glass Door Refrigerator ≥ 50 Cu. Ft.	Unit	\$50
R14	ENERGY STAR® Solid Door Refrigerator ≤ 50 Cu. Ft.	Unit	\$30
R15	Suction Pipe Insulation: Walk-in Coolers	Linear Foot	\$0.50
R16	Suction Pipe Insulation: Walk in Freezers	Linear Foot	\$0.75
R17	Night Cover	Linear Foot	\$8
R18	Strip Curtains on Walk-in Cooler	Linear Foot	\$2.50
R19	Evaporator Coil Defrost Control	Controller	\$75
R20	Variable Speed Refrigeration Compressor	Compressor	\$85
R21	Add Doors to Open Refrigerated Cases	Door	\$55
R22	Door Gaskets	Door	\$2.50
R23	Zero Energy Doors	Door	\$50
R24	Air Cooled Refrigeration Condenser	Ton	\$30
R25	Oversized Condenser with VFD	Ton	\$10
R26	Case Light Occupancy Controls	Door	\$8
R27	LED Open Case Lighting	Linear Foot	\$1.25 (actual value to depend on installation conditions)
R28	Refrigerated Case Vertical Door LED	Door	\$30
R29	Freezer Case Vertical Door LED	Door	\$30
F01	Beverage Machine Controls	Unit	\$25
F02	Snack Machine Controls	Unit	\$20
F03	ENERGY STAR® Refrigerated Beverage Vending Machine	Unit	\$125
F04	ENERGY STAR® Commercial Steam Cooker	Unit	\$200
F05	ENERGY STAR® Electric Combination Oven	Unit	\$200
F06	ENERGY STAR® Commercial Electric Convection Oven	Unit	\$150
F07	ENERGY STAR® Commercial Fryers	Unit	\$100
F08	ENERGY STAR® Commercial Hot Holding Cabinet	Unit	\$200

Food Service

Beverage and Snack Machine Controls

Incentives are offered for refrigerated vending machines that contain nonperishable bottled and canned beverages. Controllers for both types of systems must include a passive infrared occupancy sensor to turn off fluorescent lights and other energized machine systems when the surrounding area is unoccupied for 15 minutes or longer. For refrigerated machines, the control logic may power up periodically at two-hour intervals or longer to maintain product temperature and provide compressor protection

ENERGY STAR Refrigerated Beverage Vending Machines

Incentives are offered for ENERGY STAR beverage vending machines. Qualifying machines can be found at: https://www.energystar.gov/products/other/vending_machines.

ENERGY STAR Electric Steam Cookers

This incentive applies to the installation of an electric ENERGY STAR steam cooker as either a new item or a replacement for an existing unit. Gas steam cookers are not eligible. The steam cooker must meet minimum ENERGY STAR efficiency requirements. A qualifying steam cooker must meet a minimum cooking efficiency of 50% and meet idle energy rates specified by pan capacity.

ENERGY STAR Electric Combination Ovens

A combination oven is a convection oven that includes the added capability to inject steam into the oven cavity. These ovens typically offer at least three distinct cooking modes. Efficient combination ovens can reduce water consumption by 50% or more. To qualify for the incentive, the installed equipment must be a new electric combination oven that meets ENERGY STAR criteria.

ENERGY STAR Commercial Convection Ovens

This incentive is for commercial convection ovens that meet ENERGY STAR requirements. These units use improved gaskets for faster cook times. They are more efficient at heavy-load cooking and have lower idle energy rates. These ovens, on average, are about 20% more efficient than standard models.

ENERGY STAR Commercial Fryers

Commercial fryers that meet ENERGY STAR specifications offer shorter cook times and higher production rates through burner and heat exchanger design. Fry pot insulation reduces standby losses, which lowers the idle energy rate. ENERGY STAR fryers are up to 30% more efficient than standard models. To qualify for this incentive, the installed equipment must be a new electric fryer that meets ENERGY STAR criteria.

ENERGY STAR Commercial Hot Holding Cabinets

Commercial electric hot food holding cabinet models that meet ENERGY STAR requirements incorporate better insulation to reduce heat loss. They may offer energy-saving devices such as more precise controls, full-perimeter door gaskets, magnetic door handles and Dutch doors. The cabinet insulation improves temperature uniformity. Hot food holding cabinets that qualify for this incentive use less energy to maintain food temperature.

To qualify for this incentive, the installed equipment must be a new, electric, hot food holding cabinet that meets ENERGY STAR criteria. Both glass and solid-door cabinets (a fully closed compartment with one or more doors) are eligible.

Food Service Incentives Table

Food Service & Other Measures			
Food/Other Measure Code	Measure	Incentive Unit	Incentive/ Unit
F01	Beverage Machine Controls	Unit	\$25
F02	Snack Machine Controls	Unit	\$20
F03	ENERGY STAR® Refrigerated Beverage Vending Machines	Unit	\$125
F04	ENERGY STAR® Commercial Steam Cooker	Unit	\$200
F05	ENERGY STAR® Electric Combination Oven	Unit	\$200
F06	ENERGY STAR® Commercial Electric Convection Oven	Unit	\$150
F07	ENERGY STAR® Commercial Fryers	Unit	\$100
F08	ENERGY STAR® Commercial Hot Holding Cabinet	Unit	\$200

Motors and Variable Frequency Drives

Early Replacement Motors

For constant speed and uniformly loaded motors, this incentive applies to the replacement of old motors with new, energy-efficient motors that have the same rated horsepower. The motors being replaced must be less than 15 years old. Replacement of an old motor with a new motor that has a different horsepower rating is considered a custom measure. Motors with variable speeds, variable loading or industrial-specific applications also are considered custom measures.

VFDs applied to nonunitary (i.e., lead/lag) systems require additional data (operating parameters or power trend data) to justify savings. The incentives only apply to systems that produce savings. Backup VFDs and VFDs for soft-start applications are not eligible.

Motors Incentives Table

Motors Measure Code	HP	Incentive per motor
M01	1.5 - 10	\$40
M02	11 - 50	\$100
M03	51-100	\$150
M04	>100	\$300

Variable Frequency Drives on HVAC Fan Applications

Incentives are offered for installing VFDs on existing HVAC fans that do not have pre-existing VFDs. This measure only applies to HVAC cooling tower supply and return fans. Manually fixed speed settings on HVAC fans require a custom application. The VFD must automatically control motor speed in response to pressure, flow, temperature or other variable signals. The installation of a VFD must accompany the permanent removal or disabling of any throttling devices such as inlet vanes, bypass dampers and throttling valves. The incentive is based on the horsepower controlled.

Variable Frequency Drives on Pump Applications

Incentives are offered for installing VFDs on existing chilled water pumps and on heating hot water pumps that do not have existing VFDs. This measure only applies to chilled water pumps and heating hot water pumps. All other pumps require a custom application. Manually fixed speed settings on pumps also require a custom application. The VFD must automatically control motor speed in response to pressure, flow, temperature or other variable signals. The installation of a VFD must accompany the permanent removal or disabling of any throttling devices such as throttling valves. The incentive is based on the horsepower controlled.

Variable Speed Control for Kitchen Exhaust Hoods

This incentive is for installation of a new VFD in conjunction with a sensor control system that varies the exhaust rate of kitchen ventilation (exhaust or makeup air fans) based on the heat and effluent output from the cooking appliances (i.e., the more heat, smoke or vapors generated, the more ventilation needed). This installation requires a temperature sensor in the hood exhaust collar or an optic sensor on the end of the hood that senses cooking conditions and automatically adjusts the fan speed, which adjusts the exhaust rate to match requirements.

Variable Speed Drives for Process Motors or Other Equipment

VFDs must be used in conjunction with process (non-HVAC) equipment. To qualify for this incentive, the driven equipment must operate at least 2,000 hours per year. Redundant and backup units do not qualify. VFDs replacing existing VFDs do not qualify. The VFD must automatically control motor speed in response to pressure, flow, temperature or other variable signals. VFDs installed as a soft start without automatic, closed-loop speed control do not qualify. The installation of a VFD must accompany the permanent removal or disabling of any throttling devices such as throttling valves. The incentive is based on horsepower

controlled and only applies to motors that have less than 50 hp.

VSD/VFD Incentives Table

VFD Measure Code	Measure	Unit	Incentive per Unit	Specification	
Fan Application					
V01	VFD on HVAC Fan	HP	\$50	VFDs applied to non-unitary (i.e. lead-lag) systems will require additional data (operating parameters and or power trend data) to justify savings. Incentives will only be paid for systems producing savings. Backup VFDs or VFDs for 'soft start' applications are not eligible.	
Pump Application					
V02	VFD on Chilled Water Pumps	HP	\$50		
V03	VFD on Heating Hot Water Pumps	HP	\$50		
Variable Speed Control for Kitchen Exhaust Hoods					
V04	Kitchen Exhaust Fan: Retrofit Hood	HP	\$500		
Variable Speed Drives for Process or Other Equipment					
V05	Process Motor < 50 HP	HP	\$75		
V06	Dust Collection System Motor	HP	\$50		

Plug Load Control

Advanced Power Strips

This incentive is for multiplug power strips that monitor standby and active power consumption. Qualifying power strips must shut off all items plugged into the controlled outlets after a period of user absence or inactivity.

Plug Load Control Incentives Table

Measure Code	Equipment Type	Units	Incentive/Unit
M1	Advanced Power Strips	Strip	\$10

Domestic Hot Water

Fuel Switch: Electric Water Heaters to ENERGY STAR Commercial Gas Water Heaters

This incentive is for conversions from a standard electric water heater to an ENERGY STAR natural gas-fired or propane-fired water heater. Standard oil-fired water heaters that have an energy factor of 0.585 also qualify as replacements.

Heat Pump Water Heaters

This incentive is for heat pump water heaters with energy factors that meet ENERGY STAR criteria. A direct retrofit of a resistive electric water heater with a heat pump water heater is required to receive the incentive. Systems in which the heat pump is a preheater or is combined with other water heating sources do not qualify. More complicated installations can be treated as custom projects.

Low-Flow, Pre-Rinse Spray Valves

This incentive is for efficient low-flow, pre-rinse sprayers in grocery and food service applications, such as in restaurant and hotel kitchens. Only locations with electric water

heating may qualify for this incentive. The replacement pre-rinse spray nozzle must use less than 1.6 gallons per minute and have a cleanability performance of 26 seconds or less per plate. Low-flow, pre-rinse sprayers reduce hot water usage and save energy associated with water heating.

Domestic Hot Water Incentives Table

Measure Code	Equipment Type	Units	Incentive per Unit
W01	Fuel Switch: Electric Water Heater to ENERGY STAR Commercial Gas Water Heater	Unit	\$100
W02	Heat Pump Water Heater	Unit	\$100
W03	Low-Flow Pre-Rinse Spray Valve	Valve	\$17

Compressed Air Systems

No-Loss Condensate Drains

No-loss condensate drains are controlled by sensors that monitor condensate levels. These drains open only when condensate needs to be drained and close before compressed air can escape. This incentive is for nonresidential customers replacing timed drains that operate on a preset schedule. Compressed air systems with standard condensate drains operated by a solenoid and timer qualify for this incentive.

Air-Entraining Air Nozzles

This incentive is for nonresidential customers replacing compressed air equipment that uses stationary air nozzles that have open copper tubes with a 1/8-inch or 1/4-inch orifice diameter. To receive the incentive, the inefficient air nozzles must be replaced with energy-efficient, air-entraining air nozzles that use less than 15 cubic feet per minute (cfm) at 100 pounds per square inch (psi).

Storage Tanks for Load/No Load Screw Compressors

This incentive applies to the installation of air receivers that have pressure or flow controls to load/no load compressors. Load/no load compressors unload when there is low demand. The process of unloading occurs over time to avoid foaming lubrication oil. A storage tank that controls pressure/flow buffers air demands on the compressor. Reducing the number of cycles reduces the number of transition times from load to no load and saves energy. The incentive is for replacing load/no load compressors that have about 1 gallon of storage per cfm or for modulating compressors with blowdown. High efficiency equipment has load/no load compressors with a minimum storage ratio of 4 gallons of storage per cfm.

Cycling Refrigerated Thermal Mass Dryers

When air is compressed, water vapor in the air condenses and collects in liquid form. Some of this condensate collects in the air distribution system and can contaminate downstream

components, such as air tools, with rust, oil and pipe debris. Refrigerated air dryers remove the water vapor by cooling the air to its dew point and separating the condensate. Changes in production and seasonal variations in ambient air temperature lead to partial loading conditions on the dryer. Standard air dryers use a hot-gas bypass system that is inefficient at partial loads. A cycling thermal mass dryer uses a thermal storage medium to store cooling capacity when the system operates at partial loads, which allows the dryer refrigerant compressor to cycle.

This incentive is for nonresidential customers replacing noncycling refrigerated air dryers that have a capacity of 600 cfm or less. Desiccant, deliquescent, heat-of-compression, membrane and other types of dryers do not qualify for this incentive.

Variable Speed Air Compressors

These air compressors have a VSD on the motor to match motor output to the load, resulting in greater efficiency than fixed-speed air compressors. Less efficient compressors choke off inlet air to modulate compressor output, resulting in increased energy consumption and peak demand.

To qualify for this incentive, a nonresidential establishment must install a new air compressor with variable speed capability or retrofit an existing compressor that has less than or equal to 40 hp. Projects involving compressors with more than 40 hp require documentation of site-specific data (operating conditions or power or output trend data) to qualify for savings.

Compressed Air System Optimization

To be eligible for this incentive, optimization measures must be identified in an air-system audit or equivalent study. Incentives are shown in the Compressed Air Systems Incentives Table. The measures must demonstrate energy savings as evaluated by a program engineer. Measures must address one or more of the following energy efficiency categories:

- Storage receiver installation (new receivers only, replacement of existing storage receivers is ineligible)
- Compressor control (must demonstrate improvement in partial load efficiency of a compressed air system, including reducing or eliminating partially loaded units)
- Dryer control
- Source pressure reduction
- Right-sizing of distribution components such as piping, filters, regulators, connectors and hoses (routine maintenance replacements are ineligible)
- Leakage detection and repair
- Elimination of low-efficiency end-use of compressed air
- Heat recovery (replacement must reduce heat source electricity consumption)

Compressed Air Systems Incentives Table

Measure Code	Equipment Type	Units	Incentive per Unit
CA01	No-loss Condensate Drain	Drain	\$50
CA02	Air-Entraining Air Nozzle	Nozzle	\$10
CA03	Cycling Refrigerated Thermal Mass Dryer	Compressor HP	\$20
Measure Code	Equipment Type	Units	Incentive per Unit
CA04	Storage Tanks for Load/No Load Screw Compressors	Compressor HP	\$10
CA05	Variable Speed Air Compressor	Compressor HP	\$30
CA06	Compressed Air System Optimization	Compressor HP	\$50

Data Centers

Data center incentives ranging in size from office server closets to large, stand-alone facilities are available.

Data Center Unitary Chillers

Incentives are available for electric chiller technologies that meet the minimum efficiencies described in the Chillers section. Air-cooled chillers without condensers must be rated with matching condensers and comply with air-cooled chiller efficiency requirements.

All other chiller applications, including existing multiple chiller configurations (redundant or standby chillers), existing chillers serving multiple load groups and chillers in industrial applications, are defined as nonstandard applications and must follow a site-specific custom protocol. Situations with existing non-VFD chillers upgrading to VFD chillers may use this measure. The incentives do not apply to VFD retrofits to an existing chiller.

Savings need to be supported with certification that the chillers are appropriately sized for the estimated peak load for the site.

Computer Room Air Conditioners

Newly installed computer room air conditioner systems that exceed the sensible coefficient of performance (SCOP) efficiencies outlined in the Minimum Efficiencies for Computer Room Air Conditioners Table are eligible for this incentive.

Minimum Efficiencies for Computer Room Air Conditioners Table

Minimum Efficiencies for Computer Room Air Conditioner (CRAC) units			SCOP minimum ² (Direction)	
Measure Code	Equipment Type	Cooling Capacity (Btu/h) ¹	Down	Up
D3	CRAC, air-cooled	< 65,000	2.2	2.09
		≥65,000 and <240,000	2.1	1.99
		≥240,000	1.9	1.79
	CRAC, water-cooled	< 65,000	2.6	2.49
		≥65,000 and <240,000	2.5	2.39
		≥240,000	2.4	2.29
	CRAC, water-cooled with fluid economizer	< 65,000	2.55	2.44
		≥65,000 and <240,000	2.45	2.34
		≥240,000	2.45	2.34
	CRAC, glycol-cooled (rated at 40% propylene glycol)	< 65,000	2.5	2.39
		≥65,000 and <240,000	2.15	2.04
		≥240,000	2.1	1.99
	CRAC, glycol-cooled (rated at 40% propylene glycol) with fluid economizer	< 65,000	2.45	2.34
		≥65,000 and <240,000	2.1	1.99
		≥240,000	2.05	1.94

¹Net sensible cooling capacity: The total gross cooling capacity, minus the latent cooling, minus the energy to the air movement system (total gross – latent – fan power).

²Sensible coefficient of performance (SCOP-127): A ratio calculated by dividing the net sensible cooling capacity in watts by the total power input in watts (excluding reheaters and humidifiers) at conditions defined in ASHRAE Standard 127. The net sensible cooling capacity is the gross sensible capacity minus the energy dissipated into the cooled space by the fan system.

Efficient Fans for CRAH or CRAC Units

Data centers have significant cooling loads because of large internal heat gains from information technology equipment. Cooling for these spaces is typically provided by computer room air conditioner (CRAC) units or computer room air handler (CRAH) units. This incentive requires the installation of electrically commutated plug fans or VFD fan controls for existing AC motors in CRAC and CRAH units.

The term “plug fan” refers to a fan with no housing, typically with an airfoil, backward inclined or backward curved impeller design. Baseline fans typically are centrifugal, belt-driven fans powered by three-phase AC motors. These fans must be replaced with electrically commutated plug fans, which are direct-driven and can be mounted in the unit or under the floor. Underfloor mounting offers additional energy savings by providing a more efficient airflow path and reducing resistance on the blower.

This incentive also includes the installation of a VSD to control AC fan motors in CRAC and CRAH units. The incentive is available for new or retrofit CRAH or CRAC units with electrically commutated motors or VFD control. For new CRAC units, the customer cannot receive incentives for this measure and the Computer Room Air Conditioner measure.

Uninterruptible Power Supply

In the event of a power failure, an uninterruptible power supply (UPS) provides instantaneous emergency power to critical devices – computers, data centers and telecommunications equipment – through energy that typically is stored in a battery. An UPS temporarily provides this power to allow equipment (e.g., computers) to shut down properly or to allow a standby power generator (e.g., at data centers) to start up. In addition, a UPS can protect against power surges, voltage drops and frequency distortions.

To qualify for this incentive, the installed equipment must be a UPS system that is ENERGY STAR certified.

Servers and Mainframes

Servers and mainframes in data centers provide email service, information storage and other information technology services. A large proportion (40%) of servers and mainframes are located in closets within individual businesses. ENERGY STAR certified servers and mainframes can, on average, cut energy usage by 30%. Each watt saved at the server or mainframe level can translate to 1.9 watts saved when interactive effects are included.

This incentive applies to electric ENERGY STAR server or mainframe systems installed in conjunction with a retrofit or early replacement project. To qualify for this incentive, the installed equipment must be a server system or mainframe that is ENERGY STAR certified.

HVAC System Optimization

To qualify for this incentive, the final HVAC system must include an economizer to implement free cooling and must increase the exhaust air temperature.

Hot and Cold Aisle Containment

This incentive is for installation of new hot and cold aisle containment measures. Replacement of existing aisle containment does not qualify. Plenum-only installations are not eligible. The installation must result in a higher difference between the return air (hot aisle) and supply air (cold aisle) temperatures, measured at rack intake and exhaust locations.

This incentive requires site-specific data (operating parameters or usage or trend data) to justify savings.

Server Virtualization

Servers in data centers provide email service, information storage and other information technology services. Most servers are installed for one specific function, such as email. This results in up to 90% of servers in the United States running at 5–10% utilization. Server virtualization allows companies to consolidate excess servers into a single physical server, saving the associated energy of the removed servers.

To qualify for this incentive, servers must be consolidated to increase the utilization of the remaining servers. The virtualized servers must be either removed or physically disconnected from the power source.

Thin Clients

To qualify for this incentive, the thin clients must be ENERGY STAR certified.
 Decommissioned clients must be removed from the data center.

Data Center Incentives Table

Measure Code	Measure Code	Units	Incentive/ Unit
D1	Air Cooled Chiller*	Ton	\$40
D2	Air Cooled Chiller Without Condenser*	Ton	\$40
D3	Computer Room Air Conditioner (CRAC)	Ton	\$30
D4	Efficient Fans for CRAH or CRAC units	Ton	\$10
D5	Water Cooled Centrifugal Chiller*	Ton	\$30
D6	Water Cooled Positive Displacement or Reciprocating Chiller*	Ton	\$30
D7	Uninterruptible Power Supply, 20-100 kVA	kVA	\$10
D8	Uninterruptible Power Supply, > 100 kVA	kVA	\$10
D9	Mainframe Refresh	kW installed	\$20
D10	Server Refresh	kW installed	\$20
D11	PC Power Management System	PC Controlled	\$6
D12	HVAC System Optimization	kWh saved	\$0.05
D13	Hot/Cold Aisle Containment	kWh saved	\$0.05
D14	Server Virtualization	kW reduction	\$400
D15	Thin Clients	Units	\$5

**These chillers have the same minimum efficiency requirements as listed in the "Unitary Chillers" section.*

Whole Building Systems

Whole Building Systems Approach

The whole building systems approach is intended to encourage integrated energy-efficient designs by providing enhanced incentives to the customers who addresses overall energy performance. Owners of eligible and qualifying new construction and major renovation projects can receive whole building systems incentives when energy modeling indicates that a project will perform better than the ASHRAE standard 90.1-2007 by more than 10%. Savings in kWh from eligible electric end-uses define the amount of financial incentive. Energy savings achieved through renewable energy sources are not counted toward project energy savings and are not included in the savings basis. Incentive reservations obtained during the design phase of a project will be honored for up to 24 months.

How to Apply for Whole Building Systems Incentives

Before construction begins:

- A prenotification application must be submitted documenting the owner's intention to seek whole building systems incentives.
- The owner must confirm the goals and energy efficiency strategies being pursued by the design team on the completed Prenotification Worksheet and in the Whole Building Performance Summary Worksheet.
- Executable building modeling software files must be submitted.
- The Whole Building Performance Summary Worksheet, energy simulation model inputs and outputs, and supporting documentation must be submitted.
- Confirmation, eligibility notification and an incentive reservation are received from the PECO Smart Ideas team.
- An executable energy model and model output demonstrating compliance with the criteria of ASHRAE 90.1-2007 Appendix G is required, as well as the equipment data sheets. LED lighting fixtures must be on either the Design Lights Consortium or ENERGY STAR certified products list to be eligible. For LED fixtures not on either list, LM79 and LM80 test reports may be submitted for evaluation against eligibility criteria.

During the construction period:

- The owner and design team continue to work closely with their chosen contractor to ensure energy efficiency measures are included and installed in the completed building.

When the building is constructed and operational:

- The owner completes the final application. An equipment verification site visit by the PECO Smart Ideas team is requested.
- Final incentives for new construction, whole building projects require that 100% of the building systems operate as described in the submitted energy model. The model typically includes systems like HVAC and lighting. To be eligible for an incentive, the

equipment must be operating in a manner consistent with the energy model. Eligibility will be verified during an inspection, at which time one of two conditions must be confirmed:

1. The equipment is installed and being operated by the occupant in a manner consistent with the energy model.
 2. The equipment is installed and being operated in a manner consistent with the energy model, but the building is not currently occupied (e.g., HVAC equipment is energized and responding to heating and cooling loads).
- Equipment is not eligible if it is installed but not being operated in a manner consistent with the energy model (e.g., lights are off because there is no occupancy, heat pumps are installed but turned off).
 - For projects with a subset of ineligible equipment, the owner has the option to delay project finalization and energy savings calculation until an agreed-upon future date (when more equipment may be operating and eligible). At that time, a follow-up inspection will occur to determine final equipment eligibility and the incentive amount. If the decision is made to finalize the project as is, an updated model representing verified equipment operation will be required, and final incentives will be based on the as is energy savings.
 - When PECO confirms that final equipment is operating and eligible, a final incentive payment will be made to the owner within six weeks.
 - If changes from the proposed design energy simulation are found, the owner and design team will be notified of the reduced incentive amount and a period of 20 calendar days will be allowed for supplemental information to be provided. If no additional information is received by the PECO Smart Ideas team, the reduced incentive payments will be made and sent to the owner. If additional clarification and information are available, program staff will work diligently to resolve the discrepancies and arrive at a reasonable incentive adjustment with the owner.
 - Payments made by PECO Smart Ideas are final.
 - The final incentive paid may differ from the reserved incentive amount. The final incentive will be calculated based on site-verified equipment installation and performance. The owner's final application and complete documentation must be received within six months of equipment installation or certificate of occupancy, whichever is later.

Customer Eligibility

The owner of the proposed new building project must be a customer of PECO and receive delivery of electric service from PECO to receive kWh-based incentives. Please note that electricity supply can be provided by any vendor.

Project Eligibility

- The project must be a new construction or major renovation. Major renovations involving the removal and redesign of at least two building systems (such as interior lighting and mechanical systems) may be eligible for whole building systems incentives.
- To qualify for incentives, projects must demonstrate energy efficiency enhancements that achieve at least 11% improvement in the proposed design versus the standard baseline.
- The owner must submit a pre-approval application to the program at the stage when changes for increased energy efficiency are still feasible and construction has not been completed.
- Projects receiving whole building systems incentives are not eligible to receive other incentives, such as the prescriptive or custom program incentives, for the same scope.
- Project components that are NOT eligible for consideration as a basis for PECO Smart Ideas include the following:
 - Combined heat and power systems.
 - Renewable energy sources (e.g., solar, wind and biomass).
- Exterior lighting; process, receptacle and miscellaneous loads; and other unregulated end uses are not eligible for the incentives. Custom incentives are available for exterior lighting in new construction.

Whole Building Systems Incentives Table

% Improvement over Code	Incentive per Sq. Ft.
≥11% to <20%	\$0.155
≥20% to <30%	\$0.233
≥30% to <40%	\$0.350
≥40% to <60%	\$0.525
≥60%	\$0.700

Custom Projects

Energy Savings Calculations for Custom Projects

Custom projects must involve measures that result in a reduction in electric energy use (kWh) for technologies not listed as prescriptive measures. Electricity savings may result from either efficiency improvements or fuel switching.

Custom incentives are based on the first-year kWh savings. Custom applications must be accompanied by detailed engineering calculations that document the annual total energy savings.

The following serves as a guideline for the minimum required documentation.

Equipment Information

- A list of the present and proposed equipment and components to be installed, including manufacturer's catalog or model number, must be submitted.
- Manufacturer's specification sheets showing capacities and performance for all major components must be submitted.

Energy Savings Calculations

Calculations documenting the predicted energy consumption of the existing (or baseline) and proposed system using appropriate analytical tools and clearly stated assumptions must be provided. Calculations may be performed by hand, but spreadsheet analysis or more rigorous modeling is preferred. All analysis should be provided in electronic format. All assumptions, such as operating hours and existing and proposed equipment operational details, must be presented. Engineering algorithms and procedures from recognized technical organizations such as ASHRAE, SMACNA and ANSI must be used. Rated performance factors tested under accepted procedures specified by recognized rating agencies such as AHRI, ANSI and ASTM should be used. Explanation must be provided when equipment performance rating conditions vary from standard conditions.

To support the calculations, documentation of the basis for the savings estimates must be provided. The documentation must include information on the equipment operating schedule, daily and seasonal load profile and baseline AND energy-efficient equipment performance at the operating loads. Typical documentation for custom projects often includes:

- Engineering or architectural drawings and equipment schedule sheets
- Component specification sheets that include part-load efficiency or performance factors
- Spreadsheet calculations or input/output files and results from system modeling or other engineering analysis using accepted engineering algorithms and practices

- Log sheets, trend logs from a building management system, or other operating documentation that specify operating hours and equipment loading and were used as a basis for the calculations (In some cases, short-term monitoring may be required to document the load profile.)
- Documentation of the control sequence of operations, if controls were a part of the savings equation

Additional documentation other than that described in the application may be required for program participation. Larger projects may also require pre- and post-project sub metering or monitoring of loads or power input to verify the actual energy savings realized.

Baseline for Custom Analysis

When equipment is replaced before the end of its rated service life to achieve energy savings, the existing equipment performance may be used as the baseline in the energy savings calculations. When equipment is replaced due to failure or for other reasons (such as obsolescence or a need for more capacity), the baseline performance used in the savings calculation should be either the minimum performance required by code (if a code applies) for that equipment type and application or, if no code applies, the performance of the equipment that would have been selected as the customer's standard practice.

Baseline or Existing System Summary

For the custom worksheet on the application, include the brand, model number, nameplate information (such as operating voltage and rated full-load amps), rated capacity, quantities, equipment condition and age, facility operating hours, equipment operating schedule and load curves for the existing system. If needed, attach separate sheets.

All decisions regarding incentives for custom projects are at the sole discretion of PECO.

PECO INSTANT LIGHTING DISCOUNTS (updated May 1, 2019)

In addition to the application-based process described above, contractors or customers for most PECO commercial and industrial accounts can receive point of purchase discounts on prequalified LEDs through participating distributors.

How to participate:

- A list of participating distributors can be found at: <https://solutions.peco-energy.com/InstantLightingDiscounts>.
- You will need your PECO account number or meter number with you when you inquire.
- You must be validated as a commercial PECO customer (or a contractor purchasing for a project with a commercial PECO customer).
- Incentives of more than \$5,000 require preauthorization, and all products must be installed within 45 days of the purchase date within PECO service territory at the location reported to your distributor. All preauthorized transactions require a site inspection.
- Customers may be contacted on all other projects not requiring preauthorization to verify that the equipment was purchased and installed.
- New construction*; residential, multifamily and assisted living/nursing homes; and condominiums are NOT eligible.
- The minimum customer contribution is \$0.50 for all measures included on distributor invoices submitted for reimbursement on or after February 1, 2019.

*The following types of projects are considered new construction, and therefore ineligible for PECO Instant Lighting Discounts:

- A newly constructed building where no previous structure existed
- A gut rehab project which takes an existing space and removes all electrical and mechanical equipment that was previously in existence
- A change of use – e.g. an office space that is being converted/repurposed for a new function such as a laboratory space

Equipment purchased for these instances must use the existing commercial prescriptive program to obtain incentives.

Current PECO Instant Lighting Discount Levels

Lighting Equipment	Minimum Lumen	Maximum Lumen	Maximum Watts	Discount Level
DLC TLED Tubes, 2', 3', 4'	All Lumens			\$1-\$3
DLC TLED Tubes, 8'	0	4,000		\$4
	4,001	-		\$6
DLC High-Bay and Low-Bay Fixtures or Retrofit Kits	3,850	11,150		\$15
	11,151	12,200		\$20
	12,201	15,550		\$30
	15,551	20,100		\$40
	20,101	-		\$75
	250	4,650		\$15
DLC LED Garage/Canopy Fixtures or Retrofit Kits	4,651	7,900		\$30
	7,901	11,050		\$40
	11,051	24,700		\$50
	24,701	57,250		\$75
DLC Streetlights or Parking Lot LED Fixtures or Retrofit Kits	250	4,650		\$15
	4,651	7,900		\$30
	7,901	11,050		\$40
	11,051	24,700		\$50
	24,701	57,250		\$75
DLC Exterior LED Flood Fixtures or Retrofit Kits	All Lumens			\$25
DLC Exterior LED Wallpacks	250	4,650		\$15
	4,651	7,900		\$30
	7,901	11,050		\$40
	11,051	24,700		\$50
	24,701	57,250		\$75
DLC LED Troffers, Surface and Suspended Linear Fixtures, 2'	1,500	3,500		\$2
	3,501	5,500		\$6
DLC LED Troffers, Surface and Suspended Linear Fixtures, 4'	-	2,131		\$4
	2,132	4,261		\$8
	4,262	12,783		\$12
DLC LED Troffers, Surface and Suspended Linear Fixtures, 8'	-	3,290		\$5
	3,291	6,580		\$10
	6,581	9,870		\$15
	9,871	-		\$20
LED Exit Sign, Single-Sided*	N/A			\$6
LED Exit Sign, Double-Sided*	N/A			\$10
ENERGY STAR® LED Screw-In Standard (A Line), Globe, and Specialty Lamps	All Lumens			\$2
ENERGY STAR LED Screw-In BR30, BR40 Lamps	400	1,200		\$3
ENERGY STAR LED Screw-In R20 Lamps	All Lumens			\$3
ENERGY STAR LED Screw-In PAR16, PAR20 Lamps	All Lumens			\$3
ENERGY STAR LED Screw-In PAR30 Lamps	All Lumens			\$4
ENERGY STAR LED Screw-In PAR38 Lamps	All Lumens			\$6
ENERGY STAR Recessed Downlight LED Fixture or Retrofit Kit	300	1,259		\$5
	1,260	4,500		\$10
ENERGY STAR MR16 LED (GU5.3, GX5.3, GU10 Pin Base)	All Lumens			\$4
ENERGY STAR GU24 Pin Base LED	500	1,000	11	\$0.50
	1,001	1,500	16	\$0.50
	1,501	-	-	\$1
DLC 4-Pin LED Replacement Lamps for CFLs	500	1,000	11	\$0.50
	1,001	1,500	16	\$0.50
	1,501	-	-	\$1

*Field-configurable single- versus double-sided LED exit signs will have discounts at the lower single-sided level (\$6). If an exit series has single-versus double-sided options hardwired at the factory, the model number associated with the SKU on the transaction PDF must clearly show which option is associated with the SKU. Different SKUs need to be used for single-versus double-sided hardwired variants in a series of products.