

Pacific Gas and Electric Company  
Energy-Efficiency Rebates for Your Business

# Agriculture and Food Processing Rebate Catalog

Saving energy for a brighter future



Together, Building  
a Better California

## Why saving energy is good business.

Energy is a key resource for farms and food processing facilities. Smart energy management can be a powerful tool in addressing stricter regulatory standards and rising energy costs. The benefits of managing your energy go far beyond direct cost savings. Facilities are more efficient and property value increases. Production can increase with fewer work stoppages and less health and safety risks. Equipment life is extended. You may even be able to improve product quality, thanks to better, more efficient irrigation, cooling and refrigeration.

This catalog is filled with Pacific Gas and Electric Company (PG&E) rebates to help you use energy more efficiently, save money in the process, realize a quicker return on your investments and stay on top of trends in sustainability.

## Want help? Call PG&E's Agricultural Customer Service Center.

Maybe you are looking at this catalog because you have worked with us to conduct an energy audit and you are now selecting the equipment you want to upgrade. Or, maybe this is your first look at the money-saving solutions we offer your business. Either way, we are here to help you make smart decisions about all things energy-related. Contact your local PG&E account representative, or call our **Agricultural Customer Service Center** at [1-877-311-FARM \(3276\)](tel:1-877-311-FARM).

## Learn about general rebate requirements.

Carefully read the specifications in this catalog to determine if you are installing qualifying products, and note the following requirements:

- To qualify for energy-savings rebates, you must have an electric and/or natural gas account with PG&E at the installation address.
- All installations must be new or retrofitted and replace a previously-installed product, unless otherwise noted.
- For lighting installations, customer or trade professional must submit a product specification sheet, a screen shot from the LED qualified product list ([pge.com/ledqpl](http://pge.com/ledqpl)), showing product details and a date stamp, and an itemized invoice with the application. All other PG&E Business Rebate Application conditions apply.
- Funding for this program is limited and available on a first-come, first-served basis until allocated funds are exhausted or the program ends, whichever comes first. These rebates may be modified or terminated without prior notice. Additional terms and conditions may apply.

Additional rebates on qualifying products are available for agriculture and food processing customers through PG&E's energy-efficiency rebate programs for your business. For more information, visit [pge.com/ag](http://pge.com/ag), or call the **Agricultural Customer Service Center** at [1-877-311-FARM \(3276\)](tel:1-877-311-FARM).

NOTE: If building type eligibility is not listed, all building types are eligible. Additional requirements may apply.

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## Irrigation

### Advanced Pumping Efficiency Program

A worn pump could be costing you hundreds or thousands of dollars in excess electric charges and reducing access to water. A pump is the heart of an irrigation system. When it does not meet growing requirements, crops can suffer in size and quality.

#### Pump testing

Schedule subsidized tests for pumps of 25 horsepower (hp) or greater every 23 months so that you can maintain a reliable pump that will deliver the right flow and pressure for optimum irrigation efficiency.

#### Pumping efficiency

To encourage increased efficiency, PG&E provides incentives to retrofit eligible pumps of any size. There are also cash incentives, based on your annual energy use, with maximum payout 50 percent of the project cost.

Learn more at [pumpefficiency.org](http://pumpefficiency.org).

## Sprinkler-to-Drip Irrigation

Replacing a high-pressure sprinkler system with drip irrigation reduces water, energy and maintenance costs, and increases yields and revenue. Switching to drip irrigation also enables crop production in those areas where water supplies are depleted or restricted.

### Requirements:

- System must be converted from a high-pressure, impact-type sprinkler irrigation system (50 PSI operating pressure or more at the sprinkler head) to a low pressure (less than 40 PSI) micro-irrigation system.
- Drip tape system is eligible, but the drip tape must be at least 10 mil thick or have a warranty of at least five years.
- Low-pressure micro-sprinklers are eligible for this program.
- Installation address must have an agricultural electric account with PG&E.

### Exclusions:

- Rebates are not applicable to new plantings of crops, unless a field crop was the previous crop planted on the field.
- Drip tape, drip tubes or other drip irrigation systems with expected service life of less than five years are not eligible, including disposable drip tape.
- Rebates are not eligible in conjunction with Agricultural Irrigation Pump Variable Frequency Drive rebate applied for within the last five years.
- Rebates are not eligible for replacement of previously rebated equipment.

### Application process:

- Customer must include dated invoice that lists drip system equipment, manufacturer's make/model, a copy of the manufacturer's equipment specification cut sheet and, if applicable, the warranty details of the drip system installed.
- Customer must include an assessor's parcel map, or other documentation, to verify acreage.
- For questions on application process or eligibility, contact your PG&E representative, or call the Agricultural Customer Service Center at **1-877 311-FARM (3276)**.

Rebate Code	Description	Rebate/Unit Measure
A266	Sprinkler-to-Drip Irrigation Field Vegetables	\$44/acre

## Agricultural Irrigation Pump Overhaul (Less than or equal to 25 horsepower)

Overhauling irrigation pumps enables you to increase your irrigation system's efficiency. Without changing your irrigation system design, you can reduce the energy it takes to run the pumps while still distributing the volume of water your crops need.

### Requirements:

- Existing pump must be operational prior to the overhaul. Proof of the pump's operating status may be required in order to receive the incentive.
- Pump rating must be less than or equal to 25 horsepower (hp).
- Pump type must be one of the following: submersible well, submersible booster, centrifugal booster, turbine booster or turbine well.
- Pump overhaul must include at least one of the following: replacing the pump bowl assembly/impeller, trimming the existing impeller on a booster pump or adjusting the bowl and impeller on a deep well pump.
- If adjusting the bowl and impeller on a deep well pump with semi-open impellers, all impellers in the bowl assembly must run in close proximity (0.003 to 0.007 inches) to the next lower bowl after adjustment. (For enclosed impellers with a principal seal that is parallel to the centerline of the shaft, a close axial adjustment is not necessary.)
- Installation address must have an agricultural electric account with PG&E.

### Exclusions:

- Rebates do not apply to industrial pumps; only agricultural, irrigation district or other irrigation pumps are eligible.
- Specialty pumps with predetermined low load factors, such as fire pumps and storm water pumps, do not qualify for incentives.

### Application process:

- Applicant must provide an invoice that includes the detailed scope of work of the overhaul. To qualify, at least one of the following must be performed: replacing the pump bowl assembly/impeller, trimming the existing impeller on a booster pump or adjusting the bowl and impeller on a deep well pump.
- If hp is not indicated on the invoice, applicant must provide photograph of pump motor nameplate showing pump hp is less than or equal to 25 hp.

Rebate Code	Description	Rebate/Unit Measure
IR001	Centrifugal Booster Pump System Overhaul (≤ 25hp)	\$75/hp
IR002	Submersible Well Pump System Overhaul (≤ 25hp)	\$75/hp
IR003	Submersible Booster Pump System Overhaul (≤ 25hp)	\$75/hp
IR004	Turbine Booster Pump System Overhaul (≤ 25hp)	\$75/hp
IR005	Turbine Well Pump System Overhaul (≤ 25hp)	\$75/hp

## Agricultural Irrigation Pump Variable Frequency Drive

**Adding a variable frequency drive (VFD) to irrigation pumps may enable you to reduce your irrigation system's operating pressure, thus reducing energy consumed by pumps. Adding a VFD also enables you to vary the flow of water as needed for your irrigation schedules, while providing additional benefits such as soft start capability and enhanced performance of equipment.**

**Note:** A VFD can save energy in cases where pumps and irrigation equipment are oversized, or in situations with variable water supply or irrigation flow conditions, but are not recommended in all situations. Consult a PG&E expert or an irrigation system engineer for more information.

### Requirements:

- VFD must be installed on a single-speed pump motor for booster and/or well pump.
- VFD must be used to control flow in pumping applications which require throttling below full flow to meet irrigation requirements.
- Rebate is applicable to pressurized irrigation system types, including sprinklers, microsprinklers and drip, but excluding flood irrigation.
- VFD is recommended, but not required, to meet power quality requirements as specified by Institute of Electrical and Electronics Engineers (IEEE) Standard 519-2014, Recommended Practices and Requirements for Harmonic Control in Electric Power Systems.
- To qualify for the higher incentive measures (IR012, IR013, IR014 and IR015), the VFD system must comply with the specifications for PG&E Agricultural Pumping VFD Incentive Program, as prepared by California Polytechnic University, San Luis Obispo. The VFD specification should be dated 8/15/2017 or after. The current version of VFD specifications, can be found here: [itrc.org/VFD](http://itrc.org/VFD) at the Irrigation Training and Research Center website.
- Operation must be a minimum of 1,000 hours per year.
- Installation address must have an agricultural electric account with PG&E.

### Exclusions:

- VFDs must be used to adjust operation of pumps to meet flow/pressure requirements and not simply as soft starters or for cavitation controls.
- VFDs must NOT be solely for the following pumping applications:
  - A well pump used to fill a reservoir
  - A well pump discharging directly into a canal
  - A mixed flow pump (high volume, low head)
- Rebates do not apply to industrial or commercial pumps. Only agricultural irrigation pumps are eligible.
- Rebates are not eligible in combination with A266 Sprinkler-to-Drip Irrigation Field Vegetables incentive.
- Rebates are not eligible if rebates were previously received for Sprinkler-to-Drip (A266/A268/A269) or Low-Pressure Irrigation Nozzles (A272/A273) incentives in the last five years.

continued

### Application process:

- Customer must supply an invoice or other supporting documentation that includes the quantity of VFD(s), type (well and/or booster), horsepower rating of motor(s) and VFD(s), area map showing physical location of pumps and the manufacturer's make/models of the VFD(s) installed.
- To qualify for the higher incentive measures (IR012, IR013, IR014 and IR015), customer must supply additional required documentation as stated in the VFD specification, which can be found at [itrc.org/VFD](http://itrc.org/VFD).

Rebate Code	Description	Rebate/Unit Measure
IR006	Well Pumps—Variable Frequency Drive, Retrofit and New Construction only ( $\leq 300$ hp)	\$20/hp/motor (max \$6,000)
IR007	Booster Pumps—Variable Frequency Drive, Retrofit and New Construction only ( $\leq 150$ hp)	\$20/hp/motor (max \$3,000)
IR012	Well Pumps (LTE 75hp) VFD—Enhanced Specifications, Retrofit, and New Construction	\$60/hp/motor (max \$6,500)*
IR013	Booster Pumps (LTE 75hp) VFD—Enhanced Specifications, Retrofit, and New Construction	\$60/hp/motor (max \$6,500)*
IR014	Well Pumps (GT 75hp to LTE 600hp) VFD—Enhanced Specifications, Retrofit and New Construction	\$60/hp/motor (max \$36,000)
IR015	Booster Pumps (GT 75hp to LTE 150hp) VFD—Enhanced Specifications, Retrofit and New Construction	\$60/hp/motor (max \$9,000)

\*In addition to the \$60 per horsepower (hp) incentive, this measure includes a \$2,000 bonus incentive.





# Dairy

## Agricultural Ventilation Fans

Installing agricultural ventilation fans helps dairy operations managers avoid compromising animal health while still improving energy efficiency, increasing cow comfort and reducing contaminant exposure in dairy facilities. These fans are box, panel or basket fans and are sometimes designated as low-volume, high-speed fans that are used primarily to cool cows.

### Requirements:

- Customer must convert from an agricultural ventilation fan to a high-efficiency, agricultural ventilation fan specifically designed for dairy ventilation.
- New fans must replace ventilation fans one-for-one, and must be designed to provide same airflow and radius as preexisting fans.
- Eligible agricultural ventilation fans are listed on the University of Illinois Bioenvironmental and Structural Systems Lab (BESS) website ([bess.uiuc.edu](http://bess.uiuc.edu)) using the minimum cubic feet per minute per watt (cfm/W) listed below, by rebate code.
- Installation address must have an agricultural electric account with PG&E.

### Exclusions:

- Rebates are for retrofit measures only (like-for-like replacement); no new construction (added load) applications are allowed.
- Applications are for added load, or for fans larger than 48 inches in diameter and must be handled under PG&E's Calculated Incentives program.
- Portable fans are not eligible for this incentive measure.

### Application process:

- To qualify for this rebate, customer must include a dated invoice that lists the number of fans, fan diameter and the manufacturer make/model.
- For questions on eligibility, contact your PG&E account representative, or call the Agricultural Customer Service Center at **1-877 311-FARM (3276)**.

Rebate Code	Description	Rebate/Unit Measure
H207	Ventilation Fans or Box Fans 24"-26" Retrofit	\$150 each (min. cfm/W 14.0)
H208	Ventilation Fans or Box Fans 36" Retrofit	\$200 each (min. cfm/W 20.4)
H209	Ventilation Fans or Box Fans 48" Retrofit	\$130 each (min. cfm/W 21.9)



## Lighting

### LED Troffers and Integrated Troffer Retrofit Kits

#### Requirements:

- Applications received must include products in the below qualifying categories and must be listed as DesignLights Consortium (DLC)-premium classification to qualify for this rebate.
- Only LED troffer fixtures or integrated troffer retrofit kits on the list of prequalified LED fixtures, available at [pge.com/ledqpl](http://pge.com/ledqpl), in the following DLC product categories, qualify for this rebate:
  - Troffer, 2x2 Luminaires for Ambient Lighting of Interior Commercial Spaces (indoor luminaires)
  - Troffer, 1x4 Luminaires for Ambient Lighting of Interior Commercial Spaces (indoor luminaires)
  - Troffer, 2x4 Luminaires for Ambient Lighting of Interior Commercial Spaces (indoor luminaires)
  - Troffer, 2x2 Luminaires for Integrated Retrofit Kits (indoor retrofit kit)
  - Troffer, 1x4 Luminaires for Integrated Retrofit Kits (indoor retrofit kit)
  - Troffer, 2x4 Luminaires for Integrated Retrofit Kits (indoor retrofit kit)
- DLC-listed initial light output must be greater than or equal to 2,200 lumens (lm) and less than or equal to 6,500 lm to qualify for this rebate.

continued

### Exclusions:

- Other fixture configurations, including LED troffer linear retrofit kits, linear ambient luminaires (direct/indirect) or external driver lamp-style retrofit kits (Underwriters Laboratories, Type C), do not qualify for this rebate. These configurations will be considered under the Customized Retrofit Program.
- Exterior or high/low-bay installations of these products do not qualify for this rebate.
- Products in the above listed categories—less than 2,200 lm or greater than 6,500 lm—do not qualify for this rebate and will be considered under the Customized Retrofit Program.

### Additional details:

- Customer selects the measure code based on the efficacy in lumens per watt (LPW) of the replacement fixture.
- LED Troffer and Integrated Troffer Retrofit rebates are offered on a per kilolumen (KLM)—1,000 lumens—basis, rather than a per fixture basis. The rebate increases as the efficacy (LPW) of the fixture or kit increases.
- Efficacy is defined by LPW, or how much light is produced by one watt of energy consumed.
- A lumen is the unit of light output: kilolumen = 1,000 lumens.

### How to calculate a rebate:

Use the rebate calculator available at [pge.com/ledqpl](http://pge.com/ledqpl) to help determine your total rebate amount.

1. Search for your product using model number, product manufacturer and/or product brand. Alternatively, use the filters for rebate category, product category and/or product metrics to narrow down results and see many options.
2. Once the desired product is found, click on the measure code in the Rebate Information box to be taken to the Rebate Calculator.
3. Enter in the total number of fixtures of a given product that you wish to purchase, and the calculator will calculate the total rebate amount. Enter product and rebate information into the rebate application, as shown.

continued

**2x4 LED New Luminaire for Ambient Interior Commercial Spaces**

Rebate Code	Description	Rebate/Unit Measure
LT148	≥ 125 LPW and < 140 LPW	\$5/kilolumen (max \$22.50/fixture)
LT149	≥ 140 LPW	\$6/kilolumen (max \$27/fixture)

**2x2 LED New Luminaire for Ambient Interior Commercial Spaces**

Rebate Code	Description	Rebate/Unit Measure
LT150	≥ 125 LPW and < 140 LPW	\$4.25/kilolumen (max \$19.13/fixture)
LT151	≥ 140 LPW	\$6/kilolumen (max \$27/fixture)

**1x4 LED New Luminaire for Ambient Interior Commercial Spaces**

Rebate Code	Description	Rebate/Unit Measure
LT152	≥ 125 LPW and < 140 LPW	\$5/kilolumen (max \$22.50 /fixture)
LT153	≥ 140 LPW	\$6/kilolumen (max \$27/fixture)

**2x4 LED Integrated Retrofit Kit for Ambient Interior Commercial Spaces**

Rebate Code	Description	Rebate/Unit Measure
LT154	≥ 125 LPW and < 140 LPW	\$5/kilolumen (max \$22.50/fixture)
LT155	≥ 140 LPW	\$6/kilolumen (max \$27/fixture)

**2x2 LED Integrated Retrofit Kit for Ambient Interior Commercial Spaces**

Rebate Code	Description	Rebate/Unit Measure
LT156	≥ 125 LPW and < 140 LPW	\$4.25/kilolumen (max \$19.13/fixture)
LT157	≥ 140 LPW	\$6/kilolumen (max \$27/fixture)

**1x4 LED Integrated Retrofit Kit for Ambient Interior Commercial Spaces**

Rebate Code	Description	Rebate/Unit Measure
LT158	≥ 125 LPW and < 140 LPW	\$5/kilolumen (max \$22.50/fixture)
LT159	≥ 140 LPW	\$6/kilolumen (max \$27/fixture)

**All LED Troffer and Integrated Troffer Retrofit Kit rebates are capped at 4.5 kilolumens per fixture**



## Interior LED High-Bay and Low-Bay Lighting

### Requirements:

- Only interior installations of LED fixtures or retrofit kits on the list of prequalified LED fixtures, available at [pge.com/ledqpl](http://pge.com/ledqpl), in the following DesignLights Consortium (DLC) product categories, qualify for this rebate:
  - High-Bay Luminaires (fixtures and retrofit kits)
  - Low-Bay Luminaires (fixtures and retrofit kits)
  - High-Bay Aisle Luminaires (fixtures)
- Customer selects the measure code based on the wattage and efficacy of the new fixture.

### Exclusions:

- Self-ballasted, screw-based or pin-based lamps and LED tube-style lamps do not qualify.
- Products not listed in the high-bay or low-bay categories above, including LED troffers, troffer retrofit kits, linear LED retrofit kits, lamp style retrofit kits, linear ambient luminaires or any lighting products classified in the outdoor/exterior categories, do not qualify for this rebate.
- Horticultural installations do not qualify for this rebate.
- Exterior installations do not qualify for this rebate.

### Additional details:

- **Effective June 1, 2018:** PG&E measure codes and corresponding rebates for LED High-Bay and Low-Bay Lighting are divided into two different tiers based on DLC classification and efficacy.
- Measures LT376–LT393 and rebate levels are available starting June 1, 2018 through December 31, 2018.
- **Please note:** Measure codes LD101–LD 113 expired on May 31, 2018. Any rebate applications that include those measure codes will be rejected.
- Measure codes and rebates are defined by and set according to efficacy and wattage and grouped as follows:
  - Tier 1 measures: Products must meet or exceed DLC Standard classification
  - Tier 2 measures: Products must meet or exceed DLC Premium classification

continued

Tier 1: Meets or exceeds DLC Standard Classification

Rebate Code	Wattage Range	Minimum Efficacy Requirements	Rebate/Unit Measure
LT376	0 to < 48 watt	≥ 110 LPW	\$12/fixture
LT377	48 to < 71 watt	≥ 110 LPW	\$15/fixture
LT378	71 to < 90 watt	≥ 110 LPW	\$18/fixture
LT379	90 to < 125 watt	≥ 120 LPW	\$21/fixture
LT380	125 to < 153 watt	≥ 120 LPW	\$24/fixture
LT381	153 to < 187 watt	≥ 125 LPW	\$27/fixture
LT382	187 to < 212 watt	≥ 125 LPW	\$30/fixture
LT383	212 to < 246 watt	≥ 125 LPW	\$33/fixture
LT384	246 to < 283 watt	≥ 125 LPW	\$36/fixture

Tier 2: Meets or exceeds DLC Premium Classification

Rebate Code	Wattage Range	Minimum Efficacy Requirements	Rebate/Unit Measure
LT385	0 to < 42 watt	≥ 130 LPW	\$20/fixture
LT386	42 to < 60 watt	≥ 130 LPW	\$25/fixture
LT387	60 to < 82 watt	≥ 130 LPW	\$30/fixture
LT388	82 to < 113 watt	≥ 130 LPW	\$35/fixture
LT389	113 to < 140 watt	≥ 130 LPW	\$40/fixture
LT390	140 to < 174 watt	≥ 135 LPW	\$45/fixture
LT391	174 to < 194 watt	≥ 135 LPW	\$50/fixture
LT392	194 to < 227 watt	≥ 135 LPW	\$55/fixture
LT393	227 to < 262 watt	≥ 135 LPW	\$60/fixture





## LED Outdoor Area Lighting

### Requirements:

- Applications received must include products in the below qualifying categories and must be listed as DesignLights Consortium (DLC)-premium classification to qualify for this rebate.
- Only LED fixtures or retrofit kits on the list of prequalified LED fixtures available at [pge.com/ledqpl](http://pge.com/ledqpl), in the following DLC product categories, qualify for this rebate:
  - Outdoor Pole/Arm-mounted Area and Roadway Luminaires (fixtures and retrofit kits)
  - Large Outdoor Pole/Arm-mounted Area and Roadway Luminaires (retrofit kits)
  - Outdoor Pole/Arm-mounted Decorative Luminaires (fixtures and retrofit kits)
  - Parking Garage Luminaires (fixtures and retrofit kits)
  - Outdoor Non/Semi/Full-cutoff Wall-mounted Area Luminaires (fixtures)
  - Outdoor Full-cutoff Wall-mounted Area Luminaires (retrofit kits)
  - Fuel Pump Canopy Luminaires (fixtures and retrofit kits)

### Exclusions:

- Self-ballasted, screw-based or pin-based lamps do not qualify.
- Architectural Flood and Spot Luminaires, Landscape/Accent Flood and Spot Luminaires, and Bollards do not qualify.
- Street lighting applications for Pole/Arm-mounted Area and Roadway luminaires do not qualify for these rebates. Please check with PG&E's Government and Community Partnership team for LED street light rebates.
- Interior installations do not qualify for this rebate.

continued

**LED Outdoor Pole/Arm-mounted Area, Roadway and Decorative Lighting**

Rebate Code	Description	Rebate/Unit Measure
LT304	Install > 390–571 watt LED fixture	\$70/fixture
LT303	Install > 235–390 watt LED fixture	\$65/fixture
LT302	Install > 146–235 watt LED fixture	\$60/fixture
LT301	Install > 107–146 watt LED fixture	\$55/fixture
LT300	Install > 90–107 watt LED fixture	\$45/fixture
LT299	Install > 68–90 watt LED fixture	\$40/fixture
LT298	Install > 45–68 watt LED fixture	\$35/fixture
LT297	Install > 29–45 watt LED fixture	\$30/fixture
LT296	Install 0–29 watt LED fixture	\$25/fixture

**LED Outdoor Parking Garage Lighting**

Rebate Code	Description	Rebate/Unit Measure
LT308	Install > 88–113 watt LED fixture	\$30/fixture
LT307	Install > 56–88 watt LED fixture	\$25/fixture
LT306	Install > 38–56 watt LED fixture	\$20/fixture
LT305	Install 0–38 watt LED fixture	\$15/fixture

**LED Outdoor Wall-mounted Area Lighting**

Rebate Code	Description	Rebate/Unit Measure
LT317	Install > 337–493 watt LED fixture	\$105/fixture
LT316	Install > 203–337 watt LED fixture	\$90/fixture
LT315	Install > 126–203 watt LED fixture	\$70/fixture
LT314	Install > 97–126 watt LED fixture	\$60/fixture
LT313	Install > 78–97 watt LED fixture	\$45/fixture
LT312	Install > 58–78 watt LED fixture	\$40/fixture
LT311	Install > 39–58 watt LED fixture	\$35/fixture
LT310	Install > 25–39 watt LED fixture	\$30/fixture
LT309	Install 0–25 watt LED fixture	\$25/fixture

**LED Outdoor Fuel Pump Canopy Lighting**

Rebate Code	Description	Rebate/Unit Measure
LT324	Install > 99–153 watt LED fixture	\$45/fixture
LT323	Install > 73–99 watt LED fixture	\$40/fixture
LT322	Install > 59–73 watt LED fixture	\$35/fixture
LT321	Install > 46–59 watt LED fixture	\$30/fixture
LT320	Install > 29–46 watt LED fixture	\$25/fixture
LT319	Install > 19–29 watt LED fixture	\$20/fixture
LT318	Install 0–19 watt LED fixture	\$15/fixture





## Refrigeration

### Efficient Evaporator Fan Motors

#### Requirements:

- Electronically commutated motors (ECM) must be installed in refrigerated display cases, walk-in coolers and freezers.
- Fan motor must replace standard efficiency shaded-pole or permanent split capacitor evaporator fan motor.
- Installation address must have a commercial electric account with PG&E.

#### Exclusions:

- Motors in walk-ins built after 2008 are not eligible.
- Motors in display cases built after 2011 are not eligible.
- May not be used in conjunction with PG&E rebates for new display cases.

Rebate Code	Description	Rebate/Unit Measure
R145	Efficient ECM Evaporator Fan Motor Medium-Temperature Display Case	\$35/motor
R176	Efficient ECM Evaporator Fan Motor Low-Temperature Display Case	\$50/motor
RF004	Efficient ECM Evaporator Fan Motor Walk-in Cooler	\$75/motor
RF005	Efficient ECM Evaporator Fan Motor Walk-in Freezer	\$75/motor

## Evaporator Fan Controllers for Walk-in Coolers and Freezers

### Requirements:

- Existing evaporator fan must run continuously at full speed, with the exception of defrost cycles.
- Evaporator fan must be at least 1/20 horsepower.
- Evaporator fan motor must be single phase.
- Control type must be cycling control (not variable frequency drive).
- Control must reduce fan power at least 75 percent when the compressor cycles off.
- Evaporator must use off-cycle or time-off defrost.
- Installation address must have a commercial electric account with PG&E.

Rebate Code	Description	Rebate/Unit Measure
R53	Evaporator Fan Controllers for Walk-in Coolers and Freezers	\$75/controller

## Vending Machine Controllers

### Requirements:

- Controller must turn off lights and compressor when surrounding area is unoccupied for a time period adjustable between 15 and 60 minutes.
- Coolers must have glass sliding or pull-open doors with self-contained condensing unit.
- Coolers must maintain temperatures for nonperishable products.
- Installation address must have a commercial electric account with PG&E.

Rebate Code	Description	Rebate/Unit Measure
R86	Vending Machine Controller (Cooled)	\$100/controller

# Insulation

## Pipe Insulation

### Requirements:

- Minimum-qualifying pipe diameter is 0.5 inch.
- Pipe must transfer fluid directly from gas-fired equipment, and insulation materials/accessories must be installed according to manufacturer's instructions.
- Application must include the manufacturer's name, insulation material type and material K-value rating.
  - Acceptable types of insulation for hot water pipes include: elastomeric foam rubber, polyethylene foam, UV-resistant polyethylene foam and rigid polyurethane foam.
  - Acceptable types of insulation for steam pipes include silicone foam rubber, melamine foam, rigid urethane-based foam, cellular glass, rigid fiberglass and rigid mineral wool.

### Exclusions:

- These measures are applicable to any small, large commercial and industrial pipe insulation retrofit (i.e., non-new construction) application. They cannot be used for residential purposes.
- Replacement of damaged or existing insulation is not eligible for a rebate.
- California Building Standards Code (Title 24), Section 123, establishes requirements for pipe insulation in the design and installation of space-conditioning and service water heating systems and equipment. Any pipe requiring insulation according to these standards does not qualify for a rebate. Details are available at [energy.ca.gov/title24](https://energy.ca.gov/title24).
- Pipe insulation for exposed steam and hot-water pipes within 7 feet of the floor that are not otherwise guarded in order to prevent contact does not qualify for rebate. Occupational Safety and Health Administration (OSHA) standards require that exposed, heated surfaces be covered to prevent injury.

### Additional details:

Project cost can include installation and material cost.

continued

Pipe diameter is less than or equal to 1 inch

Rebate Code	Description	Rebate/Unit Measure
PR051	1 inch insulation layer, ≤ 1 inch pipe, ≤ 15 psig steam, outdoor	\$3/linear ft.
PR052	1 inch insulation layer, ≤ 1 inch pipe, > 15 psig steam, outdoor	\$3/linear ft.
PR053	1 inch insulation layer, ≤ 1 inch pipe, hot water, outdoor	\$3/linear ft.
PR060	1 inch insulation layer, ≤ 1 inch pipe, ≤ 15 psig steam, indoor	\$3/linear ft.
PR061	1 inch insulation layer, ≤ 1 inch pipe, > 15 psig steam, indoor	\$3/linear ft.
PR062	1 inch insulation layer, ≤ 1 inch pipe, hot water, indoor	\$3/linear ft.
PR069	Fitting insulation ≤ 1 inch pipe, ≤ 15 psig steam, indoor	\$3/fitting
PR070	Fitting insulation ≤ 1 inch pipe, > 15 psig steam, indoor	\$3/fitting
PR071	Fitting insulation ≤ 1 inch pipe, hot water, indoor	\$3/fitting
PR078	Fitting insulation, ≤ 1 inch pipe, ≤ 15 psig steam, outdoor	\$3/fitting
PR079	Fitting insulation, ≤ 1 inch pipe, > 15 psig steam, outdoor	\$3/fitting
PR080	Fitting insulation, ≤ 1 inch pipe, hot water, outdoor	\$3/fitting

Pipe diameter larger than 1 inch and less than or equal to 4 inches

Rebate Code	Description	Rebate/Unit Measure
PR057	1 inch insulation layer, 1 inch < pipe ≤ 4 inch, 15 psig steam, outdoor	\$3/linear ft.
PR058	1 inch insulation layer, 1 inch < pipe ≤ 4 inch, > 15 psig steam, outdoor	\$3/linear ft.
PR059	1 inch insulation layer, 1 inch < pipe ≤ 4 inch, hot water, outdoor	\$3/linear ft.
PR066	1 inch insulation layer, 1 inch < pipe ≤ 4 inch, ≤ 15 psig steam, indoor	\$3/linear ft.
PR067	1 inch insulation layer, 1 inch < pipe ≤ 4 inch, > 15 psig steam, indoor	\$3/linear ft.
PR068	1 inch insulation layer, 1 inch < pipe ≤ 4 inch, hot water, indoor	\$3/linear ft.
PR075	Fitting insulation 1 inch < pipe ≤ 4 inch, ≤ 15 psig steam, indoor	\$3/fitting
PR076	Fitting insulation 1 inch < pipe ≤ 4 inch, > 15 psig steam, indoor	\$3/fitting
PR077	Fitting insulation 1 inch < pipe ≤ 4 inch, hot water, indoor	\$3/fitting
PR084	Fitting insulation, 1 inch < pipe ≤ 4 inch, ≤ 15 psig steam, outdoor	\$3/fitting
PR085	Fitting insulation, 1 inch < pipe ≤ 4 inch, > 15 psig steam, outdoor	\$3/fitting
PR086	Fitting insulation, 1 inch < pipe ≤ 4 inch, hot water, outdoor	\$3/fitting

Pipe diameter is greater than 4 inches

Rebate Code	Description	Rebate/Unit Measure
PR054	1 inch insulation layer, > 4 inch pipe, ≤ 15 psig steam, outdoor	\$3/linear ft.
PR055	1 inch insulation layer, > 4 inch pipe, > 15 psig steam, outdoor	\$3/linear ft.
PR056	1 inch insulation layer, > 4 inch pipe, hot water, outdoor	\$3/linear ft.
PR063	1 inch insulation layer, > 4 inch pipe, ≤ 15 psig steam, indoor	\$3/linear ft.
PR064	1 inch insulation layer, > 4 inch pipe, > 15 psig steam, indoor	\$3/linear ft.
PR065	1 inch insulation layer, > 4 inch pipe, hot water, indoor	\$3/linear ft.
PR072	Fitting insulation > 4 inch pipe, ≤ 15 psig steam, indoor	\$3/fitting
PR073	Fitting insulation > 4 inch pipe, > 15 psig steam, indoor	\$3/fitting
PR074	Fitting insulation > 4 inch pipe, hot water, indoor	\$3/fitting
PR081	Fitting insulation, > 4 inch pipe, ≤ 15 psig steam, outdoor	\$3/fitting
PR082	Fitting insulation, > 4 inch pipe, > 15 psig steam, outdoor	\$3/fitting
PR083	Fitting insulation, > 4 inch pipe, hot water, outdoor	\$3/fitting

## Tank Insulation

### Requirements:

- One or two inches of fiberglass or foam insulation must be added to existing bare, liquid solution storage or transfer tanks. The insulation thickness and tank solution temperature will determine the rebate amount.
- Tank must be coupled to gas-fired commercial or industrial equipment that transfers heat to the contained liquid or solution.
- Insulation materials and accessories must be installed according to manufacturer's instructions.
- Application must include the manufacturer's name, insulation material type and material K-value rating.
- Project cost can include installation and material cost.
- Installation address must have a commercial natural gas account with PG&E.

### Exclusions:

- Tanks with preexisting insulation do not qualify for a rebate. This rebate cannot be used for the replacement of old or damaged insulation.
- California Building Standards Code (Title 24), Section 123, establishes requirements for tank insulation in the design and installation of space-conditioning and service water heating systems and equipment. Any tank requiring insulation per these standards does not qualify for a rebate. Details are available at [energy.ca.gov/title24](http://energy.ca.gov/title24).
- Tanks insulated within 7 feet of the floor do not qualify for rebates. The OSHA standards require that exposed, heated surfaces be covered to prevent injury.

Rebate Code	Description	Rebate/Unit Measure
H115	1 inch Tank Insulation, Low Temp. Solution (120 °F–170 °F)	\$2/sq. ft.
H13	2 inch Tank Insulation, Low Temp. Solution (120 °F–170 °F)	\$4/sq. ft.
H114	1 inch Tank Insulation, High Temp. Solution (170 °F–200 °F)	\$3/sq. ft.
H18	2 inch Tank Insulation, High Temp. Solution (170 °F–200 °F)	\$4/sq. ft.



## Central Natural Gas Furnaces

### Requirements:

- To qualify, the central natural gas forced air furnace must have an annual fuel utilization efficiency (AFUE) rating of:
  - 95 to 96.9 percent for the \$150 rebate
  - 97 percent or greater for the \$250 rebate
- Application must include a permit number and a signature from a licensed contractor.
- Only residential furnaces installed in a small\* commercial setting qualify for this rebate. To find a list of qualifying equipment that meets or exceeds the program requirements, go to [ahridirectory.org](http://ahridirectory.org). In the Residential Directory, select "Furnaces," then indicate the AFUE minimum in the appropriate box and search.
- Furnaces located outdoors or exposed to damp conditions must be weatherized.
- Rebate only applies to the following building types: assembly, education (community college, primary/secondary school, relocatable classroom), grocery, hospitals, hotels, nursing homes, small office, restaurant (fast-food, sit-down), single-story large retail, small retail, conditioned storage, refrigerated warehouses, manufacturing (biotech, light industrial), commercial, other.
- Installation address must have both commercial natural gas and electric accounts with PG&E.

Rebate Code	Description	Rebate/Unit Measure
SA17	Central Natural Gas Furnace 95–96.9% AFUE without VSM	\$150/unit
SA19	Central Natural Gas Furnace ≥ 97% AFUE without VSM	\$250/unit

\*Small office is defined as less than 20,000 sq. ft., with small retail as less than 5,000 sq. ft.

## Central Natural Gas Furnaces with Built-in Variable-Speed Motors

### Requirements:

- Central natural gas forced air furnace with built-in variable-speed motor (VSM) must have an annual fuel utilization efficiency (AFUE) rating of:
  - 95 to 96.9 percent for the \$200 rebate
  - 97 percent or greater for the \$300 rebate
- Application must include a permit number and a signature from a licensed contractor.
- Only residential furnaces installed in a small commercial setting qualify for this rebate. To find a list of qualifying equipment that meets or exceeds the program requirements, go to [ahridirectory.org](http://ahridirectory.org). In the Residential Directory, select "Furnaces," then indicate the AFUE minimum in the appropriate box and search.
- Brushless direct current (DC) motor, also known as an electronically commutated motor (ECM), qualifies for this rebate.
- Consult with a licensed contractor to verify that your furnace has a built-in VSM.
- Furnaces located outdoors or exposed to damp conditions must be weatherized.
- Rebate only applies to the following building types: assembly, education (community college, primary/secondary school, relocatable classroom), grocery, hospitals, hotels, nursing homes, small office, restaurant (fast-food, sit-down), single-story large retail, small retail, conditioned storage, refrigerated warehouses, manufacturing (biotech, light industrial), commercial, other.
- Installation address must have both commercial natural gas and electric accounts with PG&E.

Rebate Code	Description	Rebate/Unit Measure
SA16	Central Natural Gas Furnace 95–96.9% AFUE with VSM	\$200/unit
SA18	Central Natural Gas Furnace ≥ 97% AFUE with VSM	\$300/unit



## Notched V-Belts Replacing Solid V-Belts

### Requirements:

- Customer must pick correct measure code for the type of packaged HVAC unit and enter the HVAC unit's tons of air-conditioning (AC) capacity on the rebate application as "Quantity."
- Customer must request separate rebate for each HVAC unit retrofitted with notched belts. See the HVAC unit's nameplate. (1 ton AC capacity = 12,000 Btuh)
- Customer must identify the building location, HVAC unit, motor, HVAC tonnage, v-belt make and model number and the quantity of the belts being replaced.
- Customer must replace solid v-belts with notched v-belts on HVAC supply or return fan motor.
- Only "A" or "B" type v-belts are considered.
- Rebate only applies to the following building types: assembly, education (community colleges, primary/secondary schools, relocatable classrooms, universities), hospitals, nursing homes, hotels, offices, restaurants (fast-food, sit-down), retail, conditioned storage, manufacturing (biotech, light industrial), other.
- Installation address must have a commercial electric account with PG&E.

### Exclusions:

- Packaged HVAC units already fitted with notched v-belts do not qualify. Only units with solid v-belts qualify.
- Rebates for SA14 do not apply to relocatable classrooms.

Rebate Code	Description	Rebate/Unit Measure
SA13	HVAC Fans Cogged V-Belt Replacement for Gas Packs	\$0.35/ton (max \$30/motor)
SA14	HVAC Fans Cogged V-Belt Replacement for Heat Pumps	\$0.35/ton (max \$30/motor)
SA15	HVAC Fans Cogged V-Belt Replacement for Unitary AC Only	\$0.35/ton (max \$30/motor)





## Advanced Rooftop HVAC Controls

Retrofit your existing rooftop HVAC unit with one of several advanced control options.

### Requirements:

- Customer must pick correct measure code for the type of packaged HVAC unit and enter the HVAC unit's tons of air-conditioning (AC) capacity on the rebate application as "Quantity." See the HVAC unit's nameplate for cooling capacity. (1 ton AC capacity = 12,000 Btuh)
- Installation must follow manufacturer's requirements. Customer must also ensure that controls are installed and operate according to current applicable building and energy codes.
- Installation address must have a commercial electric account with PG&E.

## Advanced Digital Economizer Control Systems for Packaged HVAC Units

Retrofit your existing analog or nonfunctional economizer controller for your packaged HVAC unit with an advanced digital economizer control (ADEC) system. ADECs detect and report problems with sensors, dampers and other components so that energy efficiency can be maintained.

### Requirements:

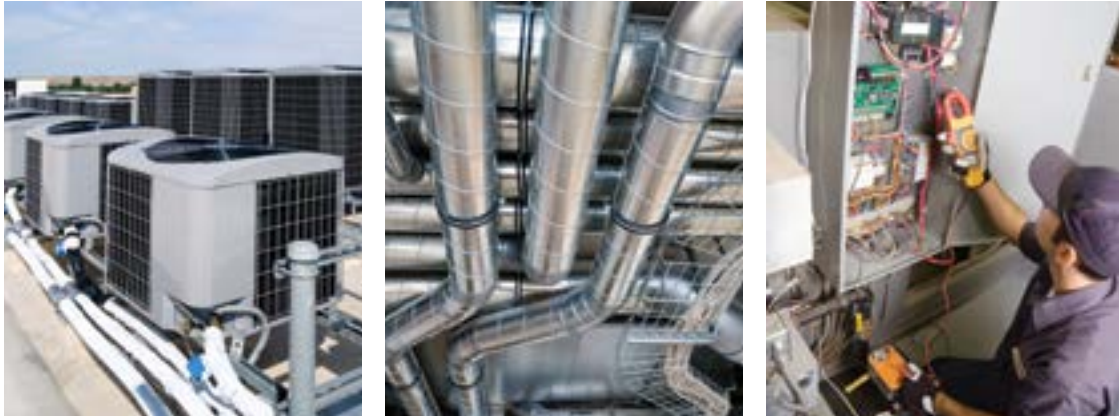
- Customer must pick correct measure code for the type of packaged HVAC unit and enter the HVAC unit's tons of air-conditioning (AC) capacity on the rebate application as "Quantity." See the HVAC unit's nameplate for cooling capacity. (1 ton AC capacity = 12,000 Btuh)
- Customer must replace existing analog or nonfunctional economizer control system with an ADEC system.
- Installation must follow manufacturer's requirements. Customer must also ensure that controls are installed and operate according to current applicable building and energy codes.
- Customer cannot combine this rebate with demand controlled ventilation (DCV) or enhanced ventilation control (EVC) rebate offers for the same HVAC unit.
- Rebate applicable for heat pumps, air conditioners, gas packs and variable air volume (VAV) systems.
- Installation address must have a commercial electric account with PG&E.

### Exclusions:

Not all building types qualify. See table below for eligible building types.

**Eligible Building Type Table for Advanced Digital Economizer Controls (ADEC)**

Measure	Packaged HVAC Unit Type	Eligible Building Types
HV294	Gas Pack	Assembly, community colleges, primary schools, relocatable classrooms, secondary schools, universities, grocery, hospitals, hotels, motels, manufacturing (biotech and light industrial), nursing homes, large and small offices, restaurants (fast-food and sit-down), retail (single/multistory large, small), conditioned storage, refrigerated warehouses, other
HV295	Air Conditioning	Assembly, community colleges, primary schools, relocatable classrooms, secondary schools, universities, grocery, hospitals, hotels, motels, manufacturing (biotech and light industrial), nursing homes, large and small offices, restaurants (fast-food and sit-down), retail (single/multistory large, small), conditioned storage, refrigerated warehouses, other
HV296	Heat Pump Unit	Assembly, community colleges, primary schools, relocatable classrooms, secondary schools, universities, grocery, hospitals, hotels, manufacturing (biotech and light industrial), nursing homes, large and small offices, restaurants (fast-food and sit-down), retail (single/multistory large, small), conditioned storage, refrigerated warehouses, other
HV297	Variable Air Volume (VAV) Unit	Community colleges, secondary schools, universities, hospitals, hotels, manufacturing (biotech), nursing homes, large and small offices, multistory large retail



## Demand Controlled Ventilation for Packaged HVAC Units

Add demand controlled ventilation (DCV) to your packaged HVAC unit. DCV enables your economizer to reduce the amount of outside air when the conditioned space is occupied by fewer people than the design capacity. A CO<sub>2</sub> sensor provides the occupancy signal to the advanced digital economizer control (ADEC) system. This is a good energy-efficiency measure for conditioned spaces with highly-variable or low occupancy. If your rooftop unit already has an ADEC, then you have the option of just adding a CO<sub>2</sub> sensor.

### Requirements:

- Customer must pick correct measure code for the type of packaged HVAC unit and enter the HVAC unit's tons of air-conditioning (AC) capacity on the rebate application as "Quantity." See the HVAC unit's nameplate for cooling capacity. (1 ton AC capacity = 12,000 Btuh)
- Rebate is based on the HVAC unit's cooling capacity and is maxed at \$1,500 per ADEC, plus CO<sub>2</sub> sensor system, or \$600 for CO<sub>2</sub> sensor.
- Installation must follow manufacturer's requirements. Customer must also ensure that controls are installed and operate according to current applicable building and energy codes.
- Customer must install DCV on existing operational packaged HVAC unit.
- Installer and manufacturer must warrant equipment for at least two years for parts and labor. All installed equipment must be new.
- Rebate cannot be combined with ADEC or enhanced ventilation control (EVC) rebate offers for the same HVAC unit.
- Rebate only applies to the following building types: assembly, education (primary/secondary school, relocatable classrooms, universities), small office, restaurant (fast-food, sit-down), retail, manufacturing (biotech), other.
- Installation address must have a commercial electric account with PG&E.

## Enhanced Ventilation Control for Packaged HVAC Units

Add enhanced ventilation control (EVC) to your packaged HVAC unit. EVC kits add variable speed, CO<sub>2</sub> sensors and advanced digital economizer control (ADEC) to existing packaged HVAC units. These retrofit add-on technologies can reduce the ventilation rate and outside air when the conditioned space is occupied by fewer people than the design capacity. This is a good energy-efficiency measure for conditioned spaces with highly-variable or low occupancy.

### Requirements:

- Customer must install EVC on existing operational packaged HVAC unit.
- Rebate cannot be combined with ADEC or demand control ventilation (DCV) rebate offers for the same HVAC unit.
- Rebate only applies to the following building types: assembly, education (primary/secondary school, universities), small office, restaurant (fast-food, sit-down), retail, manufacturing (biotech), other.
- Installation address must have a commercial electric account with PG&E.

### Exclusions:

Variable air volume (VAV) packaged HVAC units are excluded.

		Advanced Digital Economizer Controller	Demand Controlled Ventilation		Enhanced Ventilation Control		
Packaged HVAC Unit Type	ADEC	+CO <sub>2</sub> sensor only to existing ADEC	ADEC + CO <sub>2</sub> sensor	ADEC + CO <sub>2</sub> sensor + VFD	ADEC + CO <sub>2</sub> sensor + VFD + NEMA Premium Motor	ADEC + CO <sub>2</sub> sensor + VFD + Permanent Magnet Motor	
		<b>Rebate Code</b>					
Gas Pack	HV294	HV027	HV026	SA07	SA08	SA09	
Heat Pump Unit	HV296	HV031	HV030	SA10	SA11	SA12	
Air Conditioning	HV295	HV029	HV028	No rebate available			
Variable Air Volume (VAV) Unit	HV297						
<b>Rebate/Unit Measure</b>	<b>\$10/ton (max \$150)</b>	<b>\$40/ton (max \$600)</b>	<b>\$100/ton (max \$1,500)</b>	<b>\$155/ton (max \$3,875)</b>	<b>\$190/ton (max \$4,750)</b>	<b>\$194/ton (max \$4,850)</b>	

Demand controlled ventilation and enhanced ventilation control do not have specific separate rebates for the VAV category, but VAV is an option on the other three HVAC types: gas pack, heat pump and air conditioning only. (For example, an HVAC unit can be a VAV heat pump.)

## Definitions

**Air Conditioning, Heating and Refrigeration Institute (AHRI):** This organization offers product information and testing procedures. For more information, visit [ahrinet.org](http://ahrinet.org).

**American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE):** This organization provides lists of program-qualifying products and information on test procedures. For more information, visit [ashrae.org](http://ashrae.org).

**Annual Fuel Utilization Efficiency (AFUE):** This measures the percentage of fuel that is converted into usable heating energy. For example, a 90 percent AFUE furnace means that 90 percent of the fuel is used in heating a facility, while 10 percent escapes as exhaust with the combustion gases.

**Anti-Sweat Heaters (ASH):** ASH are typically applied to low-temperature refrigerated display cases to prevent glass doors from fogging and cold surfaces from forming condensation. Commonly, ASH stay on at full load around the clock. Their contribution to the cooling load and electric power consumption of the refrigeration system can be significant.

**Ballast:** This is a lighting component that controls the electrical current drawn in from a power source.

**Btu:** British thermal unit, which refers to the amount of heat required to raise the temperature of 1 pound of water by 1 degree Fahrenheit.

**Btuh:** British thermal units per hour.

**Bubble Diffusion:** This is a laundry method of inserting ozone into water by continuously bubbling ozone directly into the drum of the clothes washer throughout the wash cycle.

**California Energy Commission's Appliance Efficiency Database:** [energy.ca.gov/appliances](http://energy.ca.gov/appliances).

**CEC:** This refers to the California Energy Commission.

**Climate Zones (CZ):** Climate zones are based on energy use, temperature, weather and other factors. They are basically a set of geographic areas that are grouped according to similar climatic characteristics.

**CO<sub>2</sub> Sensor:** This device measures the parts per million (PPM) of CO<sub>2</sub> in the air.

**Color Rendering Index (CRI):** This is a measure of a light source's ability to show object colors "realistically" or "naturally" compared to a familiar reference source, either incandescent light or daylight.

**Conditioned Area/Space:** This term refers to an area being heated or cooled by the heating, ventilation and air conditioning (HVAC) system.

**Consortium for Energy Efficiency (CEE):** To learn more about CEE's Tier specifications, visit [cee1.org](http://cee1.org).

**Database for Energy Efficient Resources (DEER):** This database contains information on selected energy-efficient technologies and measures.

**Display Case:** This equipment is designed to store and display chilled and/or frozen foodstuffs.

**Electrical Testing Laboratory (ETL):** This organization marks products of compliance to applicable electrical, gas and other safety standards. For more information, visit [etl.com](http://etl.com).

**Electronically Commutated Motors (ECM):** ECMs are synchronous motors that are powered by a DC electric source using an integrated inverter/switching power supply, producing an AC electric signal, which drives the motor.

**End-Use Customers:** This term refers to customers who acquire energy for their own consumption.

**Energy Factor (EF):** EF measures a water heater's efficiency, based on recovery efficiency, standby losses and cycling losses. The higher the EF, the more efficient the water heater. This measure is only used for residential-grade water heaters.

**ENERGY STAR®:** To learn more about ENERGY STAR's energy-efficiency specifications, visit [energystar.gov/cfs](http://energystar.gov/cfs).

**Fixture:** Generally, a light fixture is an electrical device used to create artificial light by use of an electric lamp. All light fixtures have a fixture body and a socket to hold the lamp and allow for its replacement. For PG&E lighting rebates, a fixture refers to new equipment being installed based on system wattage (lamp and ballast for fluorescent fixtures).

**HID:** This refers to high-intensity discharge.

**High-Performance Linear Fluorescent Fixture Ballasts:** This term refers to National Electrical Manufacturers Association (NEMA) premium or Consortium for Energy Efficiency (CEE)-qualified T8 ballasts or T5 ballasts.

**High-Performance Linear Fluorescent Lamps:** This refers to Consortium for Energy Efficiency (CEE)-qualified 4-foot T8 lamps or 2-foot T8/T5 lamps with at least 20,000-hour-rated life and a Color Rendering Index (CRI) that meets or exceeds 82.

**Horsepower (hp):** This is a unit of power equal to 550 foot-pounds per second.

**Ice Making Head (IMH):** Automatic commercial ice makers that do not contain integral storage bins, but are generally designed to accommodate a variety of bin capacities. Storage bins entail additional energy use not included in the reported energy consumption figures for these units.

**Indoor Tank:** This refers to a tank located in an enclosed indoor space, where it is not exposed to sun or wind.

**Integrated Retrofit Kits:** These replace existing fluorescent lamps, sockets and ballasts, along with the lens and frame, and they can be installed easily into the existing fluorescent fixture. Troffers provide the required electrical components, LED light sources and optical elements, which include new lens and door frame—all in a prepackaged kit.

**K-Value:** This refers to thermal conductivity and has a unit of Btu-inch per hour, per square foot, per degree Fahrenheit.

**Kilolumen:** A kilolumen is 1,000 lumens.

**Large Office:** This refers to office buildings typically greater than 20,000 square feet.

**Large Retail:** Retail buildings that are typically greater than 5,000 square feet.

**Light-Emitting Diode (LED):** LED is a light-emitting diode product that is assembled into a lamp (or light bulb) for use in lighting fixtures. LED lamps have a lifespan and electrical efficiency that is several times better than incandescent lamps, and significantly better than most fluorescent lamps, with some chips able to emit more than 100 lumens per watt.

**Low Temperature:** For freezers, refrigerated space temperatures are considered “low” if they are below 32 degrees Fahrenheit.

**Lumen (lm):** A lumen is the unit of light output.

**MBtu:** 1,000 British thermal units.

**MBtuh:** 1,000 British thermal units per hour.

**Medium Temperature:** For coolers, refrigerated space temperatures are considered “medium” if they are between 32 to 50 degrees Fahrenheit.

**Minimum Energy Efficiency Ratio (EER):** EER is a measure of the efficiency of the unit. It indicates the cooling capacity in Btu per watt hour. The higher the EER rating, the higher the efficiency of the unit.

**National Electrical Manufacturers Association (NEMA) Premium Ballasts:** These are the most efficient fluorescent fixed output and dimmable electronics for T8 ballasts to be recognized by NEMA.

**NEMA Premium Motor:** This is an alternating current (AC) induction motor that has a certified efficiency rating from NEMA.

**Parking Garage:** A parking garage is a covered building or structure for the purpose of parking vehicles, which consists of at least a roof over the parking area, enclosed with walls on all sides. Parking garages may have fences, rails, partial walls (pony wall) or other barriers in place of one or more walls. The structure has an entrance(s) and exit(s) and includes areas for vehicle maneuvering to reach the parking spaces. If the roof of the parking structure is also used for parking, the section without an overhead roof is considered a parking lot instead of a parking garage.

**Permanent Mag Motor:** This term refers to a permanent magnet alternating current (AC) motor.

**Pounds per Square Inch (PSIG):** This refers to the pounds of steam pressure per square inch, as shown on a gauge. The steam system should have a steam pressure gauge attached that reads the pressure of the steam in the pipes. The pressure gauge will register in pounds of pressure per square inch.

**Reach-in Cabinets:** These are refrigerated retail display cabinets with chilled glass door(s) and horizontal/semi-horizontal merchandising. Cabinets enable customers to view contents even when closed, and enable customers to self-serve. Styles include:

- “Plug-in” refrigerated display cabinets with integral refrigeration systems (for example, incorporating a compressor and condensing unit)
- “Remote” refrigerated display cabinets designed to work with a nonintegral refrigeration system (for example, where the compressor and condenser, or all or parts of the refrigeration system, are located at a different location from the cabinet)

**Remote Condensing Unit (RCU):** A type of automatic commercial ice maker in which the ice-making mechanism and condenser or condensing unit are in separate sections. This includes ice makers with and without remote compressor.

**R-Value:** Insulation is rated in terms of thermal resistance, called R-value, which indicates the resistance to heat flow. A greater R-value corresponds with a greater insulating effectiveness.

**Self-Contained Unit (SCU):** A type of automatic commercial ice maker in which the ice-making mechanism and storage compartment are in an integral cabinet.

**Shaded-Pole Motor:** This type of motor is the original form of an AC single-phase induction motor.

**Small Office:** This refers to office buildings that are typically less than 20,000 square feet.

**Small Retail:** This refers to retail buildings that are typically less than 5,000 square feet.

**System Types:** Commercial refrigeration equipment can be classified into two categories: split-system refrigeration systems and self-contained refrigeration systems. Split-system configurations have a condenser unit that is located remotely, usually on the rooftop, which allows it to exchange heat with the outside air. Self-contained units have all of the components, including the condenser, contained in a single package.

**Thermal Efficiency (TE):** Measures a water heater’s efficiency, based on recovery efficiency, standby losses and cycling losses. The higher the TE, the more efficient the water heater. It is only used for nonresidential grade water heaters.

**Ton:** When used in reference to air conditioning systems, a ton is the unit of measurement that is the cooling capacity of the system and is 12,000 Btuh.

**Total Washer Capacity:** This refers to the rated capacity of installed and operating washing machine units that will be connected to an ozone laundry system. This is normally measured in pounds capacity.

**Troffer:** A troffer is a rectangular light fixture that fits into a modular dropped ceiling grid.

**Underwriters Laboratories (UL):** This independent product safety certification organization’s website is [ul.com](http://ul.com).



**Uniform Energy Factor (UEF):** This measures a water heater's efficiency, based on recovery efficiency, standby losses and cycling losses. The higher the UEF, the more efficient the water heater. UEF is used to measure both residential and nonresidential water heaters.

**Variable Frequency Drive (VFD):** This electric motor control changes the driven motor's input power frequency measured in cycles per second by either manual setting or variable input from one or more sensors.

**Venturi Injection:** This laundry method inserts ozone, using very high pressure, directly into the cold-water supply line leading to a washer.

**Walk-in Coolers/Freezers:** Also known as "walk-ins," these are insulated refrigerated spaces with access doors large enough for people to enter. Walk-ins are used for food storage and merchandising in the food service and food sales applications.

## More ways for your business to save money

To find the latest rebate information and catalogs or to apply for rebates online, visit [pge.com/businessrebates](https://www.pge.com/businessrebates).

PG&E offers a wide range of tools and resources that can help your business save energy and money while helping the environment.

- Check out PG&E's Calculated Incentives for businesses if you did not find a rebate matching the high-efficiency equipment you would like to install. To learn more, visit [pge.com/cr](https://www.pge.com/cr).
- Sign up for automated benchmarking service at [pge.com/benchmarking](https://www.pge.com/benchmarking), which allows you to use the ENERGY STAR® Portfolio Manager to track and compare your facility's energy performance over time.
- Use PG&E's audit tools to identify options for saving energy and money at your facility, and get started on developing a comprehensive energy management plan. Visit the Business Energy Checkup at [pge.com/waystosave](https://www.pge.com/waystosave).
- Find out how you can earn incentives for large custom projects, including equipment upgrades and retrocommissioning, by using PG&E's Calculated Incentives Program. Visit [pge.com/customized](https://www.pge.com/customized) and [pge.com/rcx](https://www.pge.com/rcx).
- Explore PG&E's demand response programs, which offer incentives for managing your energy use during times of peak demand. Visit [pge.com/demandresponse](https://www.pge.com/demandresponse).
- Check out PG&E's third-party programs at [pge.com/thirdparty](https://www.pge.com/thirdparty). These programs are managed by energy-efficiency specialists and offer a range of services to provide you with industry-specific, energy-saving solutions—from dairies and wineries to food processors.
- Use PG&E's Savings By Design or Customized New Construction programs to build in energy efficiency from the ground up and earn incentives at the same time. To get started, visit [pge.com/savingsbydesign](https://www.pge.com/savingsbydesign).
- Go to the Agriculture and Food Processing section of PG&E's website at [pge.com/ag](https://www.pge.com/ag) to learn about loans and grants that focus on food, agribusiness, alternative energy and environmental programs, or call our **Agricultural Customer Service Center** at [1-877-311-FARM \(3276\)](tel:1-877-311-FARM).
- If you are considering generating your own electricity, talk to your PG&E account representative about incentives for solar, wind and fuel cell self-generation equipment.

You also may learn more about these programs, tools and offers by contacting your local PG&E account representative or by calling our **Business Customer Service Center** at [1-800-468-4743](tel:1-800-468-4743).

Ready to get started with your next project and need the help of a contractor? Find local vendors who participate in PG&E's energy-efficiency rebate programs for your business at [pge.com/tradeprodirectory](https://www.pge.com/tradeprodirectory).