

# Commercial Energy Solutions Program UES EasySave Program



## Measures and Rebate Amounts

Lighting Measures		Incentive Amount	
LED Lighting		\$0.125/kWh saved	
Compact Fluorescents		\$0.03/kWh - \$0.15/kWh saved	
Delamping		\$0.15/kWh saved	
Exit Signs		\$0.15/kWh saved	
Occupancy /Daylight Sensors		\$0.15/kWh saved	
T12 to Premium T8 Lighting		\$0.15/kWh saved	
HID Lighting to T5HO/T8		\$0.15/kWh saved	
Induction Lighting		\$0.15/kWh saved	
Heating and Cooling Measures			
AC or Heat Pump	15 SEER	16 SEER	17 SEER
2.0 ton	\$125/unit	\$250/unit	\$375/unit
2.5 ton	\$150/unit	\$300/unit	\$425/unit
3.0 ton	\$175/unit	\$350/unit	\$475/unit
3.5 ton	\$200/unit	\$400/unit	\$525/unit
4.0 ton	\$225/unit	\$450/unit	\$575/unit
5.0 ton	\$275/unit	\$550/unit	\$675/unit
Programmable Thermostat		\$50 per thermostat	
HVAC EMS System		\$0.15 to \$0.35/square foot	
System Test and Repair		\$240/first stage, then \$120/stage thereafter	
Building Envelope Measures		Incentive Amount	
Window Film		\$1.75/square foot	
Shade Screen		\$2.00/square foot	
Refrigeration Measures		Incentive Amount	
Anti-Sweat Heater (ASH) Controls		\$17/linear foot	
High Efficiency Evaporative Fan motor no controller		\$100/motor	
High Efficiency Evaporative Fan motor with controller		\$175/motor	
Automatic Door Closer for Walk-in cases		\$40/closer	
Plug Load Measures		Incentive Amount	
Non-Refrigerated Vending Machine Controller		\$75/controller	
Reach in Cooler Controller		\$75/controller	
Refrigerated Vending Machine Controller		\$150/controller	
Other Measures		Incentive Amount	
Variable Speed Drives		\$75/horsepower	
Any measure not listed above (Custom)		\$0.10/kWh saved	

Prescriptive measures capped at 85% of incremental costs, and custom measures cap at 50% of incremental cost.

# Equipment Specifications

*All equipment removed under the program must be recycled or disposed of in compliance with local requirements. A manufacturer's specification sheet may be requested for any installed measure.*

## 1 Lighting

### 1.1 LED Lighting

LED screw-in lamps must replace incandescent or halogen lamps on a one-for-one basis. Reflector lamps must be R, BR or PAR series. It is expected that a wattage reduction of 60% be achieved to obtain a rebate. Linear LED lamps may replace existing T12 or T8 lamps. It is expected that a wattage reduction of 40% be achieved to obtain a rebate. Metal halide and high pressure sodium fixtures may be retrofitted with appropriate LED lamps or replaced with an appropriate LED fixture. It is expected that a wattage reduction of 60% be achieved to receive a rebate. All LED lamps, linear tubes or fixtures must be either listed as a qualified product with DesignLights Consortium or Energy Star certified.

### 1.2 Compact Fluorescent Lamps (Screw-in)

This measure applies to screw-in compact fluorescent lamps (CFLs) and applies only if an incandescent or high intensity discharge (HID) lamp is being replaced. Replacing existing CFL lamps with new CFL lamps does not qualify. All screw-in CFLs must be ENERGY STAR® certified to be eligible for the incentive payment. Electronic ballasts are required for lamps  $\geq 18$  Watts. The CFL ballast programmed start or programmed rapid start with a PF  $\geq 90$  and THD  $\leq 20$ . Dimmable CFLs are included in this category. Incentives are limited to the quantity of available sockets at the facility. CFLs that were purchased at a retail location where a UES discount has reduced the cost of the lamps are NOT eligible for incentive under this program. Fixtures or lamps  $> 175$  Watts being replaced by a CFL are not eligible, but they may be considered for a custom incentive.

### 1.3 Specialty Compact Fluorescent Lamps (CFLs)

This measure applies to replacing existing incandescent lamps, metal halide, or other non-CFL with Specialty CFLs (such as PAR, 3-way, dimmable). A specialty CFL is one that is dimmable, bare spiral, and/or not single wattage. The lamps must be ENERGY STAR® certified, if available for the type of lamp.

### 1.4 Compact Fluorescent Fixtures

This measure applies to hardwired compact fluorescent fixtures. Only complete new fixtures or modular hardwired retrofits with hardwired electronic ballasts qualify. The compact fluorescent ballast must be programmed start or programmed rapid start with a power factor (PF)  $\geq 90$  and a total harmonic distortion (THD)  $\leq 20$  percent. Exterior fixtures must be rated for cold temperatures.

### 1.5 Premium T8 Lighting

This measure consists of replacing existing T12 lamps and magnetic ballasts with premium reduced wattage 25-watt or 28-watt T8 lamps and electronic ballasts or 32-watt High Performance lamps and electronic ballasts. 4-foot lamps and ballasts shall be Consortium for Energy Efficiency (CEE) listed as either Reduced Wattage or High Performance T8.

For CEE Commercial Lighting Specifications and Qualifying Product Lists please visit:

<http://library.cee1.org/content/commercial-lighting-systems-initiative>

<http://library.cee1.org/content/commercial-lighting-qualifying-products-lists/>

Ballasts for 2-foot, 3-foot, 4-foot non-CEE listed, or 8-foot lamps must have a power factor (PF)  $\geq 0.90$ . In addition, 2-foot, 3-foot, and 4-foot non-CEE listed lamps must have a CRI  $\geq 80$  and must either have a ballast factor  $\leq 0.78$  or have a mean lumens per watt of  $\geq 90$ . 4-foot lamps also have a minimum lamp life  $\geq 24,000$  hours and a lumen maintenance of 94%. 8-foot lamps must have a CRI  $> 80$  and lamp nominal wattage of  $\leq 57$  watts and mean lumens per watt of  $\geq 90$ . Ballasts for 4-foot lamps must have total harmonic discharge (THD)  $\leq 20\%$  at full light output. For 2- and 3-foot lamps, ballasts must have THD  $\leq 32\%$  at full light output. Electronic ballast for 2-foot, 3-foot, 4-foot non-CEE listed, and 8-foot lamps must be high frequency ( $\geq 20$  kHz), UL listed, and warranted against defects for 5 years.

## 1.6 Delamping (Permanent Lamp Removal)

This measure applies to permanent removal of existing fluorescent lamps. Permanent lamp removal is the net reduction in the quantity of lamps after a project is completed. Contractors are responsible for determining whether or not to use reflectors in combination with lamp removal in order to maintain adequate lighting levels. Lighting retrofits are expected to meet the Illuminating Engineering Society of North America (IESNA) recommended light levels. Unused lamps, lamp holders (tombstones), and ballasts must be permanently removed from the fixture and disposed of in accordance with local regulations. Removing lamps from a T12 fixture that is not being retrofitted with T8 or T5 lamps is not eligible for an incentive. PCB ballasts are hazardous materials and should be disposed of properly. National recognized testing laboratory (e.g., UL) ratings are mandatory where applicable.

## 1.7 Exit Signs

This measure applies to replacing an existing incandescent or CFL exit sign with a high-efficiency light emitting diode (LED) exit signs. T-1 type, non-electrified and remote exit signs are not eligible. All exit signs must be new, must be UL- or ETL-listed, have a minimum lifetime of 10 years, have an input wattage  $\leq 5$  watts per face or be ENERGY STAR<sup>®</sup> rated, and comply with local codes and ordinances.

## 1.8 Occupancy Sensor Controls

This measure allows passive infrared or ultrasonic detectors. Wall box and wall-, ceiling-, or fixture-mounted sensors must control interior lighting fixtures on/off.

## 1.9 Daylighting Controls

This measure consists of installing a photo sensor that controls dimming ballasts or a dimming system. Dimming can be continuous or stepped at three or more levels (including on/off). Systems that allow on/off overrides are not eligible. This measure is not eligible for incentives in conjunction with the daylighting incentive for the UES Renewable Energy Program.

## 1.10 HID Lighting to T8/T5HO

This measure consists of replacing Metal Halide (MH) or High Pressure Sodium (HPS) fixtures with new T8 or T5 fixtures and electronic ballast. Fixtures must have a reflector with a minimum of 90% reflectivity. Lamps must have a color rendering index CRI  $\geq 80$ . Ballasts must be high frequency ( $\geq 20$ kHz), UL listed, and warranted against defects for 5 years. Ballasts must have a power factor (PF)  $\geq 0.90$ . Ballasts for 4-foot lamps must have total harmonic discharge (HD)  $\leq 20\%$  at full light output.

## 1.11 Induction Lighting Systems

This measure consists of replacing Metal Halide (MH), Mercury Vapor (MV), High Pressure Sodium (HPS) fixtures with new induction lighting systems. All induction lamps must have a CRI  $\geq 80$ . All induction lamps must have an expected life  $\geq 60,000$  hours. All induction retrofits must save at least 30 % from the MH/HPS/MV lamp wattage.

## 2 Heating and Cooling

### 2.1 Unitary and Split Air Conditioning Systems and Air Source Heat Pumps

This measure applies to the installation of new unitary air conditioning units or air source heat pumps that meets or exceeds the qualifying Seasonal Energy Efficiency Ratio (SEER). They can be either split systems or single packaged units. The efficiency of split systems is based on an AHRI reference number. Water-cooled systems, evaporative coolers, and water source heat pumps do not qualify for prescriptive incentives, but may qualify for a custom incentive. All packaged and split system cooling equipment must meet Air-Conditioning and Refrigeration Institute (ARI) standards (210/240, 320 or 340/360), be NRTL listed, and use a minimum ozone-depleting refrigerant (e.g., HCFC or HFC). Disposal of the existing unit must comply with local codes and ordinances.

An AHRI Certificate and a manufacturer's specification sheet indicating the system efficiency must accompany the application:

- To get an AHRI Certificates, visit: <http://www.ahridirectory.org/ahridirectory/pages/home.aspx>
- AC and Heat Pumps units less than 6 tons are listed under Residential by selecting "Air Conditioners and Air Conditioner Coils" or "Heat Pumps and Heat Pump Coils" and entering made/ number.
- AC and Heat Pumps units over 6 tons are listed under Commercial by selecting "Unitary Large Equipment" and entering model number.

### 2.2 Programmable Thermostats

This measure applies to programmable thermostats that replace any non-programmable thermostat to automatically setback the temperature during periods of non-occupancy. New thermostats must be capable of maintaining at least two separate programs (to address the different comfort needs of workdays and weekends) and up to four temperature settings for each program.

### 2.3 HVAC EMS System

This measure is for installing an energy management system to replace thermostats, pneumatic controls or an existing direct digital control (DDC) system. This measure is paid by the square foot of the area controlled.

Please contact us at 1-866-324-5506 or [ces@tep.com](mailto:ces@tep.com) for more details.

### 2.4 System Test and Repair

Advanced Diagnostic Tune-up consists of an air conditioning equipment performance test with program approved specialized test equipment, tune-up with repairs and a test out. Refrigerant charge and air flow verification, belt replacement as necessary, air filter replacement, condenser coil cleaning with a non-acidic chemical, evaporator coil cleaning as needed, cleaning condensate drain lines, electrical connections checked and tightened, economizer functional testing and any other repairs needed to bring the unit back to the manufacturer's specifications. Outdoor temperature must be 55 degrees f or higher for systems with R410A and 60 degrees F for systems with R22 during the tune-up and repair procedure.

Please contact us at 1-866-324-5506 or [ces@tep.com](mailto:ces@tep.com) for a copy of the "HVAC Testing & Repair Technical Specifications" technical manual for complete service procedures.

## 3 Building Envelope

### 3.1 Window Film

This measure applies to window film installed to reduce the solar gain through the affected window. Incentives are not available for windows with northern exposure (+/- 45° of true north). Window film must meet one of the following requirements: it must have a Shading Coefficient  $\leq 0.65$  or a Solar Heat Gain Coefficient (SHGC)  $\leq 0.50$ . New Construction buildings are not eligible for this incentive. A manufacturer's specification sheet **must** accompany the application.

### 3.2 Shade Screen

This measure consists of adding exterior physical shading to the windows with east, south, and west exposures. Incentives are not available for windows with northern exposure (+/- 45° of true north). This measure is applicable only to retrofit of existing facilities. Shading Coefficient (SC) must be  $\leq 0.30$  at a 30° angle profile. Interior window shades, such as blinds and drapes do not qualify. Shade screens installed in a fixed position are eligible for an incentive. Roll-up shade screens are not eligible for an incentive. A manufacturer's specification sheet **must** accompany the application.

## 4 Refrigeration

### 4.1 Anti-Sweat Heater Controls

This measure applies to a control device that is installed to sense the relative humidity in the air outside of the display case and then reduce or turn off the glass door (if applicable) and frame anti-sweat heaters at low-humidity conditions. Technologies that can turn off anti-sweat heaters based on sensing condensation (on the inner glass pane) also qualify. Rebate is based on the total horizontal linear footage of doors controlled on the case.

### 4.2 Electronically Commutated (EC) Evaporator Fan Motor (no controls)

This measure is applicable to the replacement of an existing standard-efficiency, shaded-pole evaporator fan motor in refrigerated display cases or fan coils in walk-ins. The replacement unit must be an EC motor.

### 4.3 EC Evaporator Fan Motor with Evaporator Fan Control

This measure consists of replacing an existing standard efficiency shaded pole evaporator fan motor without controls with an EC evaporator fan motor with controls in medium temperature walk-in coolers. It must control a minimum fan load of 1/47 HP where the fan(s) operate continuously at full speed. It also must reduce fan motor power by at least 75% during the compressor off-cycle. This measure is not applicable if any of the following existing (base case) conditions apply: the compressor runs all the time with high duty cycle, the evaporator fan does not run at full speed all the time, the evaporator fan motor runs on poly-phase power, or the evaporator does not use off-cycle or time-off defrost.

### 4.4 Automatic Door Closer

This measure is for the installation of a new device to automatically close the main insulated door of an existing walk-in cooler or freezer. Only new installations are eligible for incentive. The auto-closer must firmly close the door when it is within one inch of full closure.

## 5 Plug Loads

### 5.1 Non-Refrigerated Vending Machine Controller

This measure consists of a controller that must include a passive infrared occupancy sensor to turn off lamps and other vending machine systems when the surrounding area is unoccupied for 15 minutes or longer. For vending machines located indoors, backlighting lamps and ballasts should be removed to obtain additional energy savings.

### 5.2 Reach-in Cooler Controller

This measure consists of controls with passive infrared occupancy sensor to turn off fluorescent lights and other refrigerated systems when the surrounding area is unoccupied for 15 minutes or longer. The refrigerated unit should contain only non-perishable bottled and canned beverages. Control logic should power up the machine at two-hour intervals to maintain product temperature.

### 5.3 Refrigerated Vending Machine Controller

This measure consists of a controller that must include a passive infrared occupancy sensor to turn off fluorescent lights and other vending machine systems when the surrounding area is unoccupied for 15 minutes or longer. Also, the control logic should power up the machine at minimum every 2-hour to maintain product temperature and provide compressor protection. For refrigerated beverage machines located indoors, backlighting lamps and ballasts should be removed to obtain additional energy savings.

## 6 Other Measures

### 6.1 Variable Frequency Drives

Variable speed drives (VSDs) installed on HVAC fans or pumps are eligible for an incentive. The rated connected motor horsepower must be <50 hp. The installation of a VSD must accompany the permanent removal or disabling of any flow control devices such as inlet vanes, bypass dampers, and throttling valves to be eligible. This measure applies only to VSDs installed with an automatic control technology.

This measure does not apply to redundant or backup/standby motors that are expected to operate less than 1,200 hours per year. Nor does it apply to variable pitch fans and forward curve with inlet guide vanes unless applicant supplies proof of kWh savings from logged or measured data

This measure does not apply to replacement of a multi-speed motor or VSDs included on a new variable speed chiller.

### 6.2 Custom Measure

The Commercial Energy Solutions Program offers rebates for energy efficiency improvements that are not listed as a prescriptive measure, but meet the custom project criteria. Custom projects must have isolated and measurable or verifiable energy savings. Projects replacing inefficient equipment with more efficient equipment must demonstrate that the old equipment has been eliminated from the resale market. All custom measures must pass a Societal Cost Test (SCT), as defined and calculated by DNV GL, using energy savings and incremental measure costs provided by the customer.

Equipment specifications, hours of operation, project cost information, and copies of the calculations that were used to determine savings (in Excel format) are required for the applicant to be eligible for a rebate. It is up to the applicant to present a convincing case for how energy savings should be estimated. The Commercial Energy Solutions team is available to assist in developing energy savings estimates. Examples of custom measures include but are not limited to:

- Economizers – Air-side or water-side
- High Intensity Discharge (HID) or fluorescent light fixture improvements not covered under the prescriptive measures (LEDs, etc.)
- Improved Automatic Controls (time switches, sensors, etc.)
- Building envelope improvements (solar screens, etc)

Ineligible projects include, but are not limited to, cool roofs, electrical generation projects including renewables, fuel switching, and customer-owned on-site generation. Measures that are listed in the prescriptive table above are **NOT** eligible for a custom rebate.

Custom rebates are calculated using \$0.10 per estimated first year kilowatt hour saved. Actual rebate payments are based on either (1) documented electrical energy (kWh) reduction or (2) an electrical energy reduction estimate approved by DNV GL. Under no circumstances will the rebate payment exceed 75% of the energy-efficiency-related project costs, which are defined as the incremental costs associated with implementing the energy-saving measures.