

Easy Upgrades HVAC/Controls Worksheet



Effective January 5, 2009. Please complete this worksheet for your retrofit of heating, ventilation, air conditioning equipment and controls. To qualify, the project must meet the applicable specifications stated on the back of this worksheet. Your total incentive for each measure will be the quantity multiplied by the per unit incentive ($Q \times I = TI$). When completed, attach this worksheet to your application form.

Easy Upgrades Application # _____ EZ _____

Installing	Replacing	Quantity (Units)	Incentive (Per Unit)	Total Incentive
Air Conditioning, Heat Pump Units				
H1	PTAC/PTHP unit, min 12 EER	Standard PTAC/PTHP unit	_____ unit	\$50.00 \$_____
H2	5 ton or less 1-phase AC unit, min 14 SEER	Standard 1–5 ton AC unit	_____ ton	\$25.00 \$_____
H3	5 ton or less 1-phase AC unit, min 15 SEER	Standard 5 ton or less AC unit	_____ ton	\$50.00 \$_____
H4	5 ton or less 1-phase AC unit, min 16 SEER	Standard 5 ton or less AC unit	_____ ton	\$75.00 \$_____
H5	5 ton or less 3-phase AC unit, min 13 SEER	Standard 1–5 ton AC unit	_____ ton	\$50.00 \$_____
H6	5 ton or less 3-phase AC unit, min 14 SEER	Standard 5 ton or less AC unit	_____ ton	\$75.00 \$_____
H7	5 ton or less 3-phase AC unit, min 15 SEER	Standard 5 ton or less AC unit	_____ ton	\$100.00 \$_____
H8	6–10 ton AC unit, min 11 EER	Standard 6–10 ton AC unit	_____ ton	\$50.00 \$_____
H9	11–19 ton AC unit, min 10.8 EER	Standard 11–19 ton AC unit	_____ ton	\$50.00 \$_____
H10	20 ton or more AC unit, min 10 EER	Standard 20 ton+ AC unit	_____ ton	\$50.00 \$_____
Economizers				
H11	Air-side economizer control addition	No prior control	_____ ton	\$75.00 \$_____
H12	Water-side economizer control addition	No prior control	_____ ton	\$75.00 \$_____
H13	Air-side economizer system repair	Non-functional Economizer	_____ unit	\$250.00 \$_____
Evaporative Coolers/Pre-Coolers				
H14	Pre-cooler added to condenser	Standard air cooled AC unit	_____ ton	\$100.00 \$_____
H15	Retrofit to direct evaporative cooler	Replacing standard AC unit	_____ ton	\$200.00 \$_____
H16	Retrofit to indirect evaporative cooler	Replacing standard AC unit	_____ ton	\$300.00 \$_____
Variable Speed Fans/Pumps				
H17	Variable speed drive, fan	Single speed HVAC system fan	_____ hp	\$60.00 \$_____
H18	Variable speed drive, pump	Single speed HVAC system pump	_____ hp	\$60.00 \$_____
Programmable Thermostats				
H19	7-day, two-stage setback thermostat	Manual thermostat	_____ unit	\$40.00 \$_____
Automated Control Systems				
H20	Energy management control system ¹	Manual controls	_____ ft ²	\$0.30 \$_____ ¹
H21	Control system reprogramming/optimization ²	Automated control system	_____ ft ²	\$0.10 \$_____ ²
H22	Lodging room occupancy control system	Manual controls	_____ room	\$50.00 \$_____

Notes: 1) The incentive for measure H20 is capped at \$10,000 per building.
2) The incentive for measure H21 is capped at \$2,500 per building.

HVAC/Controls Total

\$

Specifications for HVAC/Controls Measures

Effective January 5, 2009

Efficient Air Conditioning Units

New air conditioning or heat pump package units and split systems with seasonal energy efficiency ratings (SEER) qualify if they meet the minimums stated on the front of this sheet. Used or reconditioned units are not eligible. The minimums are from the Consortium for Energy Efficiency (CEE) Unitary Air Conditioning Specification, June 2008.

Except for single phase HVAC units between 1 and 5 tons, Tier 1 of the CEE standards apply. Single phase HVAC units, must meet Tier 2 minimums to qualify.

Refer to the CEE specification (www.cee1.org) for minimum qualifications for water cooled equipment and other products not listed on the front. Note that HVAC units of less than 6 tons that exceed minimum CEE requirements qualify for greater incentive payments.

Packaged Terminal Air Conditioning (PTAC) or Packaged Terminal Heat Pump (PTHP) units with 15,000 BTUH cooling capacity or less are eligible for an incentive when their ARI tested efficiency ratings are 12 EER or more.

Manufacturer's specification sheets for the units must accompany the application.

Economizers

Economizer systems with fully modulating dampers, differential changeover function and dry bulb sensors are eligible for this incentive. Economizer control systems must have functionality that meets the minimum requirements for Programmable Thermostats or Energy Management Control Systems. New controls installed to meet these requirements are also eligible for the applicable incentive.

Economizers on new HVAC units are only eligible for an incentive where not already required by code.

Manufacturer's specification sheets for economizer equipment and controls must accompany the application. Economizer repair incentives are for one-time unit repairs. Payments require an itemized invoice of corrections, setting adjustments or other repairs made. The incentive for repairs can not exceed the stated cost on the invoice.

Evaporative Coolers/Pre-Coolers

The pre-cooler incentive applies to air cooled air conditioning package units and split systems with evaporative pre-coolers added to the condenser coils.

The direct and indirect cooling system incentive applies to equipment that replaces a roof-mounted standard direct expansion air conditioning package unit. For these measures, the tonnage on the application is based on the capacity of the unit being replaced.

Installations must comply with manufacturer's guidelines on sizing and air flows. Manufacturer's specification sheets for the equipment must accompany the application.

Variable Speed Fans/Pumps

Variable speed drives (VSDs) for variably-loaded HVAC system fans and pumps can qualify for this incentive. Motors must be between 5 and 200 horsepower (hp), operating at least 2,000 hours per year and be installed in accordance with IEEE Standard 519.

Throttling or bypass devices such as inlet vanes, dampers, three-way valves or throttling valves must be removed or permanently disabled to qualify. Incentives are based on the hp of the motors each VSD controls.

VSDs for non-HVAC applications may also qualify for an incentive. Please refer to the Motors/Controls worksheet for details and use it to apply.

Manufacturer's specification sheets for the VSDs must accompany the application.

Programmable Thermostats

This incentive applies to commercial grade two-stage programmable setback thermostats that replace non-programmable thermostats. Commercial grade three-stage thermostats are recommended where heat pumps are used. In either case, the thermostat must have 7-day programmability and battery back-up. Optimum start capabilities are also recommended.

Manufacturer's specification sheets for the thermostats must accompany the application.

Automated Control Systems

An Energy Management System (EMS) controls heating, ventilation and air conditioning equipment with manual controls prior. This applies only to fully conditioned interior space served by the HVAC equipment it controls. EMS systems that control lighting, refrigeration and other energy-using equipment can also qualify. However, when applied to control lighting, the incentive for automated lighting controls cannot be claimed for the same project.

A summary of the EMS control strategy must accompany the application. In spite of the building area affected, this incentive is limited to \$10,000 per building and cannot be more than the cost of the control equipment (not including the labor for installation).

Existing EMS controls that require reprogramming or other retrocommissioning to optimize their operation are eligible. EMS optimization incentives are for one-time system retrocommissioning. Payments require an itemized invoice of corrections, setting adjustments or other repairs made. The incentive for control optimization is limited to \$2,500 and can not exceed the stated cost on the invoice.

Lodging room AC occupancy control incentives apply to any "smart" system that can sense when the room is unoccupied and turns the room HVAC unit off (or sets it back) to reduce unnecessary energy use.