

## **Heating, Ventilation & Air Conditioning Equipment**

Pacific Power provides incentives for many types of energy efficient technologies. Please read the following sections carefully to ensure that you follow the appropriate steps for securing your incentive.

Incentives for additional measures may be available. For more information about the FinAnswer Express program, eligibility requirements, incentive levels or other general inquiries, contact your local equipment dealer or Pacific Power. You can visit the program website at [pacificpower.net/wattsmart](http://pacificpower.net/wattsmart) and submit your inquiry online, or you can call our **energy services hotline** at 1-800-222-4335.

### **HEATING VENTILATION AND AIR CONDITIONING (HVAC)**

**Measure Description:** High-efficiency cooling equipment can significantly reduce annual energy costs compared to standard-efficiency units. Incentives are available for high-efficiency air conditioning, heat pump and evaporative cooling equipment.

**Applicability:** New construction and retrofit installations that meet eligibility requirements may qualify for incentives via a post-purchase application process.

**Equipment Eligibility:** Equipment must be purchased and installed, and meet all other program terms and conditions.

Incentives are available for equipment meeting or exceeding the efficiency requirements listed in Tables 1, 2, and 3. Efficiency ratings will be determined by the applicable AHRI Standard and reported in the AHRI Directory of Certified Equipment (except evaporative equipment).

This directory is available at [www.ahridirectory.org](http://www.ahridirectory.org)

Heat Pumps must meet both the cooling mode and heating mode efficiency requirements to qualify for per ton cooling efficiency incentives. Packaged Terminal Heat Pumps (PTHPs) can replace electric resistive heating; however, in such cases, electric resistive heating must be removed.

Incentives for ground-source or groundwater-source heat pumps are available in addition to the incentives for installation of a ground-source or groundwater-source heat pump loop.

#### **Items to submit with application:**

1. Dated sales receipt/invoice with install date and retailer/contractor name, address and phone number
2. AHRI certificate or other manufacturer information documenting the efficiency and capacity of the equipment.
3. A current copy of the Pacific Power utility bill for the address where the item(s) are installed.

**Prequalification Required?** No.

**Table 1. Air-Cooled A/C Efficiency Requirements, Incentive Levels, & Equipment Codes**

Equipment Type	Size Category	Sub-Category	Minimum Efficiency Requirement(s) & Customer Incentive		
			\$50/ton	\$75/ton	\$100/ton
Unitary Commercial Air Conditioners, Air-Cooled (Cooling Mode)	< 65,000 Btu/hr (single phase)	Split system and single package	15.0 SEER 12.5 EER	--	--
	< 65,000 Btu/hr (three phase)	Split system and single package	--	14.0 SEER 11.6 EER	15.0 SEER 12.0 EER
	≥ 65,000 Btu/hr and < 135,000 Btu/hr	Split system and single package	--	11.5 EER 11.9 IPLV	12.0 EER 12.4 IPLV
	≥ 135,000 Btu/hr and < 240,000 Btu/hr	Split system and single package	--	11.5 EER 11.9 IPLV	12.0 EER 12.4 IPLV
	≥ 240,000 Btu/hr and < 760,000 Btu/hr	Split system and single package	--	10.5 EER 10.9 IPLV	10.8 EER 12.0 IPLV
	≥ 760,000 Btu/hr	Split system and single package	--	9.7 EER 11.0 IPLV	10.2 EER 11.0 IPLV

1. For retrofits of existing equipment, incentives are for one-for-one same size equipment replacements.
2. Equipment that meets or exceeds the efficiency requirements listed for the size category in the above table may qualify for an incentive. Equipment must meet both listed efficiency requirements to qualify for incentives.
3. Incentives for all equipment listed in the incentive tables are available via a post-purchase application process.
4. Equipment size categories and capacities are specified in terms of net cooling capacity at AHRI standard conditions as determined by AHRI Standard 210/240 for units < 65,000 btu/hr, AHRI Standard 340/360 for units ≥ 65,000 btu/hr, and AHRI Standard 310/380 for PTAC/PTHP units.

**SEER** = Seasonal Energy Efficiency Ratio  
**EER** = Energy Efficiency Ratio  
**IPLV** = Integrated Part Load Value

<u>Equipment Code</u>	<u>Size Category</u>	<u>Incentive</u>
HVCSA1	Single phase split system A/C	See Table 1
HVCPA1	Single phase packaged A/C	See Table 1
HVCSA3	Three phase split system A/C	See Table 1
HVCPA3	Three phase packaged A/C	See Table 1

**Table 2. Air-Cooled Heat Pump Efficiency Requirements, Incentive Levels, & Equipment Codes**

Equipment Type	Size Category	Sub-Category	Minimum Efficiency Requirement(s) & Customer Incentive		
			\$50/ton	\$75/ton	\$100/ton
Heat Pumps, Air-Cooled (Cooling Mode)	< 65,000 Btu/hr (single phase)	Split system and single package	15.0 SEER 12.5 EER	--	--
	< 65,000 Btu/hr (three phase)	Split system and single package	--	14.0 SEER 11.6 EER	15.0 SEER 12.0 EER
	≥ 65,000 Btu/hr and < 135,000 Btu/hr	Split system and single package	--	11.5 EER 11.9 IPLV	12.0 EER 12.4 IPLV
	≥ 135,000 Btu/hr and < 240,000 Btu/hr	Split system and single package	--	11.5 EER 11.9 IPLV	12.0 EER 12.4 IPLV
	≥ 240,000 Btu/hr	Split system and single package	--	10.5 EER 10.9 IPLV	10.8 EER 12.0 IPLV
Heat Pumps, Air-Cooled (Heating Mode) (See Note 3)	< 65,000 Btu/hr (single phase)	Split system	8.5 HSPF	--	--
		Single package	8.0 HSPF	--	--
	< 65,000 Btu/hr (three phase)	Split system	--	8.5 HSPF	9.0 HSPF
		Single package	--	8.0 HSPF	8.5 HSPF
	≥ 65,000 Btu/hr and < 135,000 Btu/hr	47°F db/43°F wb outdoor air	--	3.4 COP	
		17°F db/15°F wb outdoor air	--	2.4 COP	
	≥ 135,000 Btu/hr	47°F db/43°F wb outdoor air	--	3.2 COP	
		17°F db/15°F wb outdoor air	--	2.1 COP	

1. For retrofits of existing equipment, incentives are for one-for-one same size equipment replacements.
2. Equipment that meets or exceeds the efficiency requirements listed for the size category in the above table may qualify for an incentive. Equipment must meet **both** listed efficiency requirements to qualify for incentives.
3. Incentives for heat pumps are \$50-\$100 per ton of **cooling** capacity ONLY. No incentives are paid per ton of heating capacity. Heat pumps must meet **both** the cooling mode and heating mode efficiency requirements to qualify for per ton cooling efficiency incentives.
4. Incentives for all equipment listed in the incentive tables are available via a post-purchase application process.
5. Equipment size categories and capacities are specified in terms of net cooling capacity at AHRI standard conditions as determined by AHRI Standard 210/240 for units < 65,000 btu/hr, AHRI Standard 340/360 for units ≥ 65,000 btu/hr, and AHRI Standard 310/380 for PTAC/PTHP units.

SEER = Seasonal Energy Efficiency Ratio  
 EER = Energy Efficiency Ratio  
 IPLV = Integrated Part Load Value  
 COP = Coefficient of Performance  
 HSPF = Heating Seasonal Performance Factor

<u>Equipment Code</u>	<u>Size Category</u>	<u>Incentive</u>
HVCSH1	Single phase split system HP	See Table 2
HVCPH1	Single phase packaged HP	See Table 2
HVCSH3	Three phase split system HP	See Table 2
HVCPH3	Three phase packaged HP	See Table 2

**Table 3. Other HVAC Equipment Efficiency Requirements, Incentive Levels, & Equipment Codes**

Equipment Type	Equipment Code	Size Category	Sub-Category	Minimum Efficiency Requirement(s)	Customer Incentive
Unitary Commercial Air Conditioners, Water and Evaporatively Cooled	HVCUWC	< 135,000 Btu/hr	Split system and single package	14.0 EER	\$50 / ton
		≥ 135,000 Btu/hr	Split system and single package	14.0 EER	
Package Terminal Air Conditioners and Heat Pumps (PTAC/PTHP) (Heating & Cooling Mode)	HVCPTA (PTAC)	≤ 8,000 Btu/hr	Single package	11.8 EER (Cooling) 3.3 COP (Heating)	\$50 / ton
		> 8,000 Btu/hr and < 10,500 Btu/hr	Single package	11.4 EER (Cooling) 3.2 COP (Heating)	
	HVCPTH (PTHP)	≥ 10,500 Btu/hr and ≤ 13,500 Btu/hr	Single package	10.7 EER (Cooling) 3.1 COP (Heating)	
		> 13,500 Btu/hr	Single package	10.0 EER (Cooling) 3.0 COP (Heating)	
Heat Pumps, Water-Source	HVCWSH	< 135,000 Btu/hr	86°F Entering Water	14.0 EER (Cooling Mode)	\$50 / ton
			68°F Entering Water	4.6 COP (Heating Mode)	
Heat Pumps, Ground-Source	HVCGSH	< 135,000 Btu/hr	77°F Entering Water	14.1 EER (Cooling Mode)	\$50 / ton
			32°F Entering Water	3.3 COP (Heating Mode)	
Heat Pumps, Groundwater-Source	HVCGWH	< 135,000 Btu/hr	59°F Entering Water	16.2 EER (Cooling Mode)	\$50 / ton
			50°F Entering Water	3.6 COP (Heating Mode)	
Ground Source or Groundwater-Source Heat Pump Loop	HVCGSL	All sizes	Open Loop	--	\$25 / ton
	HVCGWL		Closed Loop	--	
Evaporative Cooling	HVCEVP	All sizes	Direct or Indirect	Industry Standard Rating (ISR)	\$0.02/ ISR CFM

- For retrofits of existing equipment, incentives are for one-for-one same size equipment replacements. Exception: PTHPs can replace electric resistance heating, which must be removed.
- Equipment that meets or exceeds the efficiency requirements listed for the size category in the above table may qualify for an incentive. Equipment must meet both listed efficiency requirements to qualify for incentives.
- Incentives for heat pumps are \$50 -\$100 per ton of **cooling** capacity ONLY. No incentives are paid per ton of heating capacity. Heat pumps must meet both the cooling mode and heating mode efficiency requirements to qualify for per ton cooling efficiency incentives.
- Incentives for all equipment listed in the incentive tables are available via a post-purchase application process.
- Equipment size categories and capacities are specified in terms of net cooling capacity at AHRI standard conditions as determined by AHRI Standard 210/240 for units < 65,000 btu/hr, AHRI Standard 340/360 for units ≥ 65,000 btu/hr, and AHRI Standard 310/380 for PTAC/PTHP units.
- Ground and water source heat pumps must meet or exceed listed efficiency requirements when rated in accordance with ISO-13256-1 to qualify for incentives.

**AHRI** = Air-conditioning, Heating, and Refrigeration Institute  
**PTAC** = Packaged Terminal Air Conditioner  
**PTHP** = Packaged Terminal Heat Pump  
**ISR** = Industry Standard Rating  
**CFM** = Cubic Feet per Minute  
**HVAC** = Heating, Ventilating and Air Conditioning

**SEER** = Seasonal Energy Efficiency Ratio  
**EER** = Energy Efficiency Ratio  
**COP** = Coefficient of Performance  
**HSPF** = Heating Seasonal Performance Factor  
**IPLV** = Integrated Part Load Value

## WATER-CHILLING EQUIPMENT

**Measure Description:** Water-chilling equipment (e.g., chillers) is commonly used to provide cooling for a variety of building types and process loads. Chillers come in many different types (centrifugal, rotary screw, scroll, and reciprocating) and typically reject heat either through air-cooled or water-cooled condensers. High efficiency chillers can yield significant energy cost savings compared to standard efficiency units.

**Applicability:** New construction and retrofit installations that meet eligibility requirements may qualify for incentives via a post-purchase application process. Technical assistance and financial incentives for comprehensive chiller projects are also available through California’s Energy FinAnswer program. For more information about Energy FinAnswer, contact Pacific Power or your vendor before purchasing your equipment.

**Equipment Eligibility:** Eligible chiller projects must meet the following requirements:

1. Chillers must exceed the minimum efficiency requirements according to the applicable energy code per Tables 4.
2. Chiller must not be a backup service unit.
3. IPLV ratings must account for Variable Frequency Drives (VFD) installed on the chiller compressor, if applicable.
4. Chiller loads must not be more than 20% process related.
5. Projects must not incorporate significant deviations from the standard chiller operational practices (e.g., non-standard chilled water or condenser water set points, ice production during off peak hours, changes in chiller sequencing, etc.).
6. Equipment must be purchased and installed, and meet all other program terms and conditions.

**Items to Submit with Application:**

1. Dated sales receipt/invoice with install date and retailer/contractor name, address and phone number.
2. Manufacturer’s equipment specification sheet showing the unit’s COP and IPLV ratings and Net Cooling Capacity at AHRI rated conditions (AHRI Standard 550/590).
3. A completed copy of the Chiller Information Table, see Table 5 below.
4. A current copy of the Pacific Power utility bill for the address where the item(s) are installed.

**Prequalification Required?** No. Prequalification is recommended, but not required to receive incentives. Contact your vendor or Pacific Power for more information.

<u>Equipment Code</u>	<u>Measure Description</u>	<u>Incentive*</u>
HVCCHL	Chiller	\$0.12/kWh + \$50/kW

\*To calculate the project savings and incentives, complete Table 5 and submit a copy with your application via e-mail to: [ca.hvacr@pacificpower.net](mailto:ca.hvacr@pacificpower.net). Energy and demand savings are subject to Pacific Power approval.

**Table 4. Chiller Minimum Efficiency Requirements**  
(California State Energy Code Title 24-2008, Table 112-D)

Heat Rejection	Type	Size Category (tons)	California State Code	
			Minimum COP	Minimum IPLV
Air cooled	With Condenser	All Capacities	2.80	3.05
	Without Condenser	All Capacities	3.10	3.45
Water cooled	Reciprocating	All Capacities	4.20	5.05
	(Positive Displacement) Rotary/Screw/Scroll	<150	4.45	5.20
		≥ 150 and <300	4.90	5.60
		≥ 300	5.50	6.15
	Centrifugal	<150	5.00	5.25
		≥ 150 and <300	5.55	5.90
≥ 300		6.10	6.40	

**Table 5. Chiller Information Table**  
(Submit copy of table with application)

Customer	Customer Name		
	Facility Address		
	Facility City, State, Zip		
	Pacific Power Account Number		
	Pacific Power Rate Schedule		
	Facility Type		
Vendor	Company Name		
	Company City		
	Company Contact Name		
Chiller Data (see Notes)	Chiller Cost (\$)		
	Cost Adder for Chiller		
	* Chiller Heat Rejection (circle one)	AIR	WATER
	* Chiller Type (from Table 4a or b)		
	Does the Chiller Include a VFD (circle one)?	YES	NO
	*AHRI Chiller Nameplate Capacity (tons)		
	*AHRI Chiller Full Load (COP or kW/ton)		
	*AHRI Chiller IPLV (kW/ton)		

\* Refer to cut sheets provided by chiller manufacturer for information on these parameters.

AHRI = Air-conditioning, Heating, and Refrigeration Institute  
 COP = Coefficient of Performance  
 IPLV = Integrated Part Load Value

## PORTABLE CLASSROOM CONTROL

**Measure Description:** 365/366-day programmable thermostats provide the capability to independently program occupied and unoccupied temperature set points for each day of the year. For portable classrooms unoccupied during summer months and occupied on fixed schedules the rest of the year, 365/366-day programmable thermostats reduce unnecessary heating and cooling during unoccupied periods and offer significant energy savings.

**Applicability:** New construction and retrofit installations that meet eligibility requirements may qualify for incentives via a post-purchase application process.

**Equipment Eligibility:** Equipment must be purchased and installed, and meet all other program terms and conditions. Thermostats must be installed in a portable classroom that is mechanically cooled, unoccupied during summer months and must have either local or remote 365/366 day programmable thermostatic setback capability.

**Items to submit with application:**

1. Dated sales receipt/invoice with install date and retailer/contractor name, address and phone number.
2. Manufacturer specification sheet.
3. A current copy of the Pacific Power utility bill for the address where the item(s) are installed.

**Prequalification Required?** No.

<u>Equipment Code</u>	<u>Measure Description</u>	<u>Incentive</u>
DPRGTH	365/366 day Programmable Thermostat	\$150 / thermostat

## OCCUPANCY BASED PACKAGED TERMINAL AC/HP CONTROLS

**Measure Description:** Occupancy based Packaged Terminal Heat Pump (PTHP) and Packaged Terminal Air-Conditioning (PTAC) controllers are a combination of a control unit and occupancy based sensor that operate in conjunction to provide occupancy controlled heating and/or cooling. The control unit is operated by an occupancy sensor that is mounted in the room and turns the PTHP/PTAC on and off.

**Applicability:** This incentive is available for installation of new occupancy based control on all sizes of PTHP/PTAC units with no existing occupancy based control. New construction and retrofit installations that meet eligibility requirements may qualify for incentives via a post-purchase application process.

**Equipment Eligibility:** Equipment must be purchased and installed, and meet all other program terms and conditions. Eligible controller units must include an occupancy sensor and have the capability to setback the zone temperature during extended unoccupied periods and return the temperature to an established setpoint when the zone is occupied.

**Items to submit with application:**

1. Dated sales receipt/invoice with install date and retailer/contractor name, address and phone number.
2. Manufacturer’s equipment specification sheet.
3. Itemized listing of quantity, description, manufacturer, model number and other identifying information as appropriate.
4. A current copy of the Pacific Power utility bill for the address where the item(s) are installed.

**Prequalification Required?** No.

<u>Equipment Code</u>	<u>Measure Description</u>	<u>Incentive</u>
HVCPTC	PTAC/PTHP Control	\$50 / controller

## INDIRECT-DIRECT EVAPORATIVE COOLING (IDEC)

**Measure Description:** Indirect-Direct Evaporative Cooling systems are integrated into air-handling units and use evaporative technologies instead of a chiller to provide cooling for buildings. Evaporative cooling systems work best in dry, arid climates and require much less energy than a chiller. Depending on the climate, IDEC systems can save considerable amounts of energy.

**Applicability:** New construction and retrofit installations that meet eligibility requirements may qualify for incentives via a post-purchase application process.

**Equipment Eligibility:** Equipment must be purchased and installed on or after January 1, 2010, and meet all other program terms and conditions. IDEC systems must be designed as an integral component of the central air-handling unit and air-distribution system. All components must exceed minimum efficiencies required by the applicable code.

Customer will be required to submit the design parameters of the air-handling system (i.e. supply air flow/temperature, operating set points, fan/pump specifications) and the installed mechanical cooling system. Incentives for IDEC systems are calculated based on climate, building occupancy, and cooling system parameters.

**Items to submit with application:**

1. Dated sales receipt/invoice with install date and retailer/contractor name, address and phone number
2. Documentation of IDEC/air-handling unit system parameters, documented by specifying engineer in Table 6 below.
3. Manufacturer’s equipment specification for the mechanical cooling system showing the unit’s COP/EER and IPLV ratings at AHRI rated conditions.
4. IDEC calculator savings/incentive summary, supplied by Pacific Power.

*Note:* Pacific Power has a calculation software tool available for vendors participating in our Energy Efficiency Alliance (EEA) to calculate project-specific energy savings, project economics, and eligible incentives for IDEC projects. Visit our website at [pacificpower.net/wattsmart](http://pacificpower.net/wattsmart) for a current list of participating vendors.

**Prequalification Required?** No. Prequalification is recommended, but not required to receive incentives. Contact your vendor or Pacific Power for more information.

<u>Equipment Code</u>	<u>Measure Description</u>	<u>Incentive*</u>
HVCIDC	Indirect-Direct Evaporative Cooling	\$0.12/kWh + \$50/kW

\*To calculate the project savings and incentives, complete Table 6 and submit a copy with your application via e-mail to [ca.hvacr@pacificpower.net](mailto:ca.hvacr@pacificpower.net) or contact Pacific Power on our energy services hotline at 1-800-222-4335. Energy and demand savings are subject to Pacific Power approval.

**Table 6. Indirect-Direct Evaporative Cooling System Information Table**  
*(Submit copy of table with application)*

<b>Customer</b>	Customer Name		
	Facility Address		
	Facility City, State, Zip		
	Pacific Power Account Number		
	Pacific Power Rate Schedule		
	Facility Type		
<b>IDEC Information (see Footnotes)</b>	IDEC System Cost (\$)		
	Direct Evaporative Installed? (circle one)	YES	NO
	Mechanical Cooling Installed? (circle one)	YES	NO
	<u>Type of Indirect Evaporative Cooling<sup>1</sup> (check one)?</u>		
	<input type="checkbox"/> Air to Air Indirect (i.e. Crossflow Plate)		
	<input type="checkbox"/> Coil to Coil Indirect (i.e. Heat Pipe)		
	<input type="checkbox"/> Water Cooling Tower to Coil		
	<input type="checkbox"/> None		
Design Air Flow (CFM)			
Design Supply Air Temperature (°F)			
Supply Fan Horsepower			
Design Static Pressure (inches H <sub>2</sub> O)			
<b>Mechanical Cooling Information</b>	<u>Proposed and/or Existing Type of Mechanical Cooling (check one)?</u>		
	<input type="checkbox"/> Chilled Water Coil, Water Cooled		
	<input type="checkbox"/> Chilled Water Coil, Air Cooled		
	<input type="checkbox"/> DX Refrigerant Coil, Air Cooled		
	<input type="checkbox"/> None		
	AHRI Mechanical Cooling Nameplate Capacity <sup>2</sup>		
AHRI Mechanical Cooling Efficiency <sup>2</sup>			EER   COP   kW/ton
AHRI Mechanical Cooling Part Load Rating <sup>2</sup>			IPLV   SEER   kW/ton

<sup>1</sup>For further information or descriptions of indirect evaporative stages, please consult the 2007 ASHRAE Handbook – HVAC Applications, Chapter 51.

<sup>2</sup>Refer to cut sheets provided by mechanical cooling system manufacturer for information on these parameters. Please circle the correct units associated with the values provided.

**AHRI** = Air-conditioning, Heating, and Refrigeration Institute

**SEER** = Seasonal Energy Efficiency Ratio

**EER** = Energy Efficiency Ratio

**COP** = Coefficient of Performance

**IPLV** = Integrated Part Load Value

**CFM** = Cubic Feet per Minute