

Oregon Department of Energy

Residential Energy Tax Credit Program

2009 Tax Credit Listed Company Training Heat Pump/AC & Duct

July 28, 2009

Residential Energy Tax Credit Pgm.

- HVAC systems
 - Gas furnaces and boilers
 - Heat pumps and AC
 - Ground source heat pump
- Water heating
 - Gas condensing tank type
 - Gas tankless
 - Heat pump water heater
- Appliances
 - Refrigerator
 - Dishwasher
 - Clothes washer
- Residential fuel cell



Oregon Residential Energy Tax Credit

Tax credits for...

- Premium efficiency appliances
- Heating, ventilation, air conditioning systems
- Ground-source heat pumps
- Premium efficiency water heaters
- Hybrid vehicles
- Solar and wind electric systems
- Premium efficiency wood and pellet stoves

OREGON DEPARTMENT OF ENERGY

Tax Credit Eligibility

- Must be resident
- Principal residence or vacation home
 - Rental property use BETC
- Tax credit applies to year system is installed
 - System must be put in service by April 1 of following year
 - No annual \$ limit on tax credits
 - Carry forward unused tax credit amounts up to 5 years; or
- Must apply in advance
 - Certificate issued
- Transfer tax credit with “pass through” option
 - Refer customer to tax preparer

The image shows a screenshot of the Oregon 2007 Individual Income Tax Return Form 40. The form is titled "Amended Return OREGON 2007 INDIVIDUAL INCOME TAX RETURN Form 40". It includes sections for "Full-Year Residents Only", "Filing Status", "Exemptions", "ADDITIONS", "SUBTRACTIONS", "DEDUCTIONS", and "TAX". The form is partially filled out with values like .00 for various lines. At the bottom right, it says "NOW GO TO THE BACK OF THE FORM".

Tax Credit Listed Companies

- Tax Credit Listed Companies required
 - Air source heat pump (not ductless systems)
 - Duct sealing
 - Ground source heat pump
- Purpose of Certification
 - Insure systems deliver rated energy savings
 - Improved quality assurance
- Requirements for company listing
 - Employ PTCS certified technician
(includes Proctor Engineering *CheckMe!* techs)
 - Apply to ODOE for listing
 - At least 2 key company personnel participate in annual update conference call

ODOE Listed Companies

- Provide systems of high quality & workmanship
- Installations in accordance with local building codes
- Provide owner with system manual and educate on operation and maintenance
- Provide written company warranty
- Assist in preparation of tax credit application

Maintaining Company Listing Status

- Employ PTCS certified technician
 - Tech must meet PTCS/CheckMe eligibility requirements
- Next November-December
 - Submit company renewal application
 - At least 2 key staff participate in update conference call

Heat Pump & Central AC Incentives

- Tax Credits for
 - Qualifying equipment \$300-\$430
 - CheckMe/PTCS testing cost 25% of testing cost
 - Duct sealing 25% of cost
 - \$150 Bonus if RETC HP/AC or RETC gas furnace or geothermal system at same time



RETC Heat Pump Incentives

	12 EER	12.5 EER	13 EER
9.0 HSPF	\$300	\$320	\$340
9.5 HSPF	\$300	\$360	\$380
10.0 HSPF	\$300	\$360	\$430

- **Equipment tax credit is calculated at 25% of equipment cost up to maximum Multiple systems at same address – each eligible**
- **Hybrid (gas backup) systems – only primary system eligible**
- **Bonus tax credit if duct sealing performed at the same time**

RETC Central AC Incentives

EER	Max. Tax Credit
13	\$160
14	\$225
15	\$300

- Tax credit is calculated at 25% of equipment cost up to max. +25% of cost of verification test
- Only Proctor CheckMe (no PTCS incentive for central AC)
- Bonus tax credit if duct sealing performed at same time

RETC Heat Pump/AC Tune Up

- 25% up to \$250 tax credit
 - Based on cost of verification test
 - + cost of any repairs needed to pass test
 - Tune ups – air flow & charge
 - New HP installation charge, air flow and controls



Submitting HP/AC Applications

- Verify efficiency of equipment at AHRIDirectory.org
- Phone in CheckMe or submit PTCS worksheet
- Application sent directly to customer by PTCS or Proctor Engineering *CheckMe*
- Final paid invoice must show
 - AHRI #,
 - Equipment model numbers – inside and outside
 - Description of any devices required to meet energy performance spec are installed (TXV etc.)
 - Retail cost of equipment-only (“box cost”)
 - Total job cost

RETC Duct Sealing

- Tax credit is 25% of cost up to \$250
- PTCS requirements
 - Duct sealing in existing home
 - 50% reduction; or
 - 10% X floor area = max. CFM50
 - New ducts in existing home
 - 10% X floor area = max. CFM50
 - New ducts in new home
 - If air handler installed: 6% X area = max. CFM50
 - If no air handler: 4% X floor area = CFM50
- \$150 bonus if ducts sealed at same time as install of tax credit furnace, heat pump, GSHP



Other PTCS Duct Requirements

- Mastic only (no foil tape)
 - No foil tape allowed except access panels
- No leakage threshold as before
 - If system meets requirements it is eligible
- Non-sealed combustion device
 - CAZ test
 - 3 pa. maximum
 - Install CO alarm



Duct Paperwork Flow

- Submit PTCS worksheet as instructed by Energy Trust or public utility
- PTCS sends tax credit application directly to your customer
- Your company provides itemized final invoice

PTCS™ Duct Sealing Certificate & NW Duct Sealing Form

Instructions: This form allows a certified duct sealing technician to certify a duct sealing installation as PTCS™ Duct Sealing. Sections B, C, and D must be filled out by the technician at the time of installation. A copy of this completed form must be promptly submitted to the utility and a copy provided to the home owner in accordance with utility policy. Also, a copy must be faxed to Ecos Consulting at 503-961-1376.

SECTION A

Technician Certification Number PTCS - _____		Installation Company Name _____		Electric Utility Company _____	
Customer Name _____			Site Street Address _____		
Site City _____	Site State _____	Site Zip Code _____	Site County _____	Site Phone Number _____-_____-_____ () - / /	Duct Sealing Install Date ____/____/____

SECTION B

PTCS™ Certification of Compliance – To be completed by technician at the time of installation
As a certified PTCS™ Duct Sealing Technician, I certify the Duct Sealing at this site and related equipment is in accordance with the standards set for the Performance Tested Comfort Systems (PTCS™) program.

PTCS™ Certified Technician Name (Print) _____ Date _____

PTCS™ Certified Technician Signature (Required) _____ PTCS™ Certified Technician Phone Number _____

Was this PTCS™ Duct Sealing Certification performed in conjunction with a PTCS™ Heat Pump Installation? (check one) Yes No Unknown Is this installation being submitted for Oregon State Energy Tax Credit? Yes No

Funding Program (check one) BPA Credit ENERGY STAIRS/Homes Northwest Other

SECTION C

Combustion Appliance Zone (CAZ) Test
If there are any combustion appliances at the site that are NOT a sealed combustion appliance, then a CAZ test is mandatory.

Baseline Pressure with reference to outside (all exhaust devices and air handler OFF) _____ Pa

Zone Description	With air handler ON, record gauge readings below		Internal Doors Open		Internal Doors Closed	
	Reading	Net	Reading	Net	Reading	Net
Zone 1	_____ Pa	_____ Pa	_____ Pa	_____ Pa	_____ Pa	_____ Pa
Zone 2	_____ Pa	_____ Pa	_____ Pa	_____ Pa	_____ Pa	_____ Pa
Zone 3	_____ Pa	_____ Pa	_____ Pa	_____ Pa	_____ Pa	_____ Pa

Net Depressurization Example: "Net" equals how much the pressure goes down when the air handler is turned ON (compared to baseline).

Air Handler ON Reading: -0.1 Pa -0.2 Pa -0.3 Pa -0.4 Pa -0.5 Pa -0.6 Pa -0.7 Pa -0.8 Pa -0.9 Pa -1.0 Pa

Air Handler OFF Reading: 0 Pa 0.1 Pa 0.2 Pa 0.3 Pa 0.4 Pa 0.5 Pa 0.6 Pa 0.7 Pa 0.8 Pa 0.9 Pa 1.0 Pa

For systems to qualify, the air handler must cause no more than a -3 Pa net depressurization in any zone. Does this system qualify? (check one) Yes No

If the CAZ test results in remedial action, describe actions taken in space provided: _____

What were the conditions at the time the test was conducted? (check one) Calm Windy An UL® approved Carbon Monoxide Detector is required when a combustion space heating appliance is located in a conditioned space. Is there a functioning UL® approved Carbon Monoxide Detector in the home? Yes No

SECTION D

PRIVACY ACT STATEMENT
Basic authority for collecting this information is authorized by 16 U.S.C. §§ 802 et seq., 804 et seq., and 806 et seq., passed to Bonneville Power Administration's Conservation Program pursuant to a license established in 1978. This information is primarily intended to determine the performance of BPA's energy efficiency program. The objective of this program is to improve energy efficiency, to determine what conservation measures and other applicable measures require resources should be installed or adjusted or other conservation measures, and to provide incentives for the installation of such measures. Other values some of the information is also aggregated into a public database or energy efficiency services to authorized personnel for identification of equipment, aggregated into a database for program utility, and it is used to determine conservation, reporting, billing of the state, and to determine conservation of the building. Your disclosure of the requested information is voluntary, however, failure to provide requested information may result in a loss of the program for you to participate in the BPA Energy Efficiency program.

Customer _____ Page 1 of 2 Form continued on next page ▶

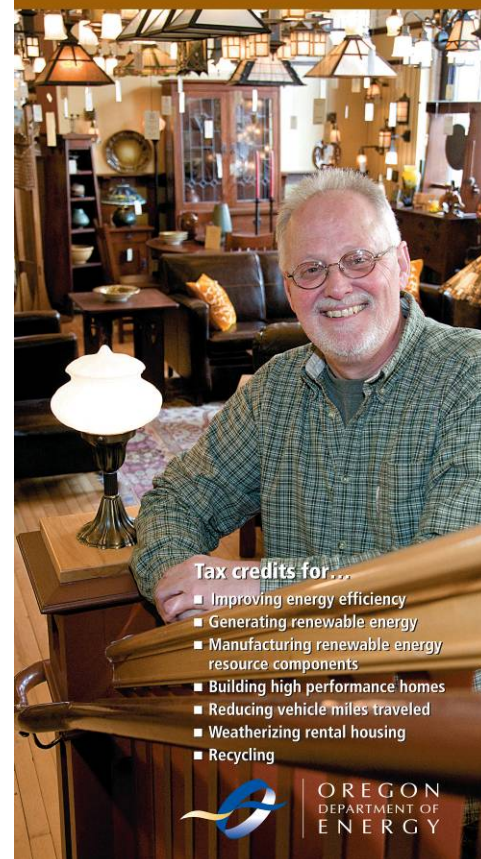
Other RETC HVAC Technologies

- **Tax credit certified technician required for:**
 - Ground source heat pump - \$600 - \$900
 - Solar thermal & photovoltaic electric systems - \$1500+
- **Any company can qualify systems for tax credit:**
 - Gas furnace-92% AFUE+GAMA electrically efficient “e” –up to \$350
 - Gas boiler – 92% + outdoor reset thermostat – up to \$225
 - Hydronic air handler – variable speed blower – up to \$125
 - Bonus tax credit for duct sealing at some time as above - \$150
 - Ductless minisplit - \$50 per half ton (all systems)
 - “Inverter” (variable speed compressor) & ARI listing
 - Factory training within past 5 years
 - Provide signed/dated copy of “Start Up” page of installation manual
 - Condensing gas & tankless water heaters - \$340
 - 80% EF (sorry Vertex not currently eligible)
 - Tankless: >140,000 BTU/hr. & <24,000 BTU/hr.
 - Heat pump water heaters - \$215
 - HRV/ERV ventilation systems – \$150 - \$430
 - See qualifying units at Oregon.gov/energy

Business Energy Tax Credit

- For rental property and commercial/business installations
- Two qualification paths for HVAC
 - 1) **Conservation project**
 - Show 10% net savings, 1-15 year payback prorated; min. performance requirements
 - Tax credit is 35% of eligible cost; no cap
 - Must receive pre-approval before installation begins; final certification upon job completion
 - 2) **One Step** – for RETC eligible equipment
 - Incentive cap same as RETC
 - No pre-approval needed
- Information & Applications forms
 - ODOE web site
 - Roland Gilchrist – 503-378-3926

Oregon Business Energy Tax Credit



2008 Oregon Energy Code

- New Residential Construction
 - R-value & U-value upgrades +
 - Any one of 9 measure packages including:
- High efficiency HVAC
 - 90% AFUE furnace
 - 8.5 HSPF heat pump
 - 3.0 COP Ground Source HP
- Or Ducts
 - Tested and sealed by ODOE certified contractor
 - All ducts inside heated space

<http://oregon.gov/ENERGY/CONS/Codes/cdres.shtml>



Simple Overview of 2008 Residential Energy Code Requirements



The State of Oregon mandated that Residential Code be 15 percent more efficient than current code, as of April 1, 2008. To achieve this savings target, several building envelope requirements are upgraded and four new required category measures are added to the Residential Energy Code prescriptive standards. Additionally, builders must choose one of nine energy efficiency options to include in the structure. The total code package will achieve 15 percent savings, while maintaining clear prescriptive standards and allowing builders some flexibility.

The following table lists the prescriptive standards. (New categories and new values are bolded.)

PRESCRIPTIVE STANDARDS		
Measure ^a	Effective 04/01/08	Pre-Existing Code
Underfloor insulation	R-30	R-25
Slab-on-grade insulation	R-15	R-15
Heated slab, i.e., hydronic heat – underneath entire slab	R-10	n/a
Windows & sliding glass doors	U-0.35	U-0.40
Skylights – 2% heated space floor area ^{b,c}	U-0.75 ^{a,c}	U-0.50 ^d
Skylights – 2% heated space floor area ^e	U-0.60 ^e	U-0.40 ^f
Exterior Door – 24 ft ²	U-0.54	U-0.54
Exterior Door – 24 ft ²	U-0.20	U-0.20
Exterior doors with >2 ft ² glazing ^g	U-0.40 ^g	U-0.40
Above grade wall insulation	R-21	R-21
Below grade wall insulation	R-15	R-15
Floor ceiling insulation	R-38	R-38
Vented ceilings – limited to <=50% heated space floor area	R-38 ^h	R-30
Vented ceilings – >50% heated space floor area	R-38 ^h	R-38
High efficiency lighting ⁱ	50% fixtures ^h	n/a
Forced air duct insulation	R-8	R-8
Heat Pump HSPF	7.7	6.8
Air conditioning SEER	13.0	n/a

Additional Measure must be selected from table on following page

^a The prescriptive measure requirements are typically an overall U-factor, but code specifies R-values for standard wood-framed assemblies.
^b Skylights with vinyl, wood, or thermally broken aluminum frames and low-emissivity coatings shall be deemed to satisfy U-0.75 requirement if total skylight area installed is 2% or less of total heated space floor area.
^c Pre 04/01/08 skylight U-factor was based on NFRC testing in the vertical plane. Effective 04/01/08 skylight U is tested in the 20 degree overhead plane per NFRC standards.
^d Hinged doors only – does not include sliding glass doors. Sliding glass doors are categorized with windows. Glazing that is either double pane with low-e coating on one surface, or triple pane shall be deemed to comply with this U-0.40 requirement.
^e R-38 is representative of insulation installed in a standard wood framed scissor truss (U-0.042).
^f R-38 is representative of insulation installed in either a wood rafter or wood raised-heel scissor truss (U-0.031).
^g A minimum fifty percent of permanently installed lighting fixtures (interior and exterior) shall be fitted with compact or linear fluorescent lamps, or a lighting source that has a minimum efficacy of 40 lumens per input watt. Screw-in compact fluorescent lamps will comply with this requirement.

(over)



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Oregon Department of Energy

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Celebrating Oregon's 150 Years of Statehood in 2009

At a press conference in Salem on Wednesday, October 10, 2007, Governor Theodore R. Kulongoski invited Oregonians to start planning their state's biggest birthday party in 50 years - the sesquicentennial in 2009 - and announced a no-cost, "official partnership program" for organizations statewide to become involved.

Share your "Oregon Story" for the sesquicentennial

What We Do

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What's New

- [Outdoor Lighting Report](#)
- [DOE Office of Energy Efficiency & Renewable Energy's Info Center](#)
- *****
- [Response to Governor's Request for LNG and Natural Gas Review](#)
- [Letter to Governor from ODOE - May 2008](#)
- [Letter to Governor from ODOE re: ODOE LNG Report \(June 2008\)](#)
- [Governor's Letter to FERC on FEIS](#)
- *****
- [State of Oregon Energy Plan 2007-2009](#)

Energy Program List

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Quick Picks

- [Community Renewable Energy Feasibility \(CREF\)](#)

RETC HVAC Technicians Page

www.oregon.gov/ENERGY/CONS/RES/tax/HVAC-Technicians.shtml

The screenshot shows the Oregon Department of Energy website. At the top, there is a banner with the Oregon.gov logo and a "Text Size: A+ A- A" option. Below the banner is the text "Oregon Department of Energy - Conservation Division". On the left side, there is a navigation menu with a "Department" dropdown and links for "Search", "About Us", "Contact Us", "For Businesses", "For Residents", "For Industry", "For Government", "For Schools", "Energy Savings", "Energy Loan Program", and "Energy Home". The main content area is titled "Tax Credit-Certified HVAC Technicians" and contains several links: "Information for Tax Credit Certified HVAC Technicians", "Becoming a Tax Credit Certified Technician", "Tax Credit-Certified Heat Pump & Central Air Conditioning Systems", "Submitting Tax Credit Applications", and "For More Information...". Below these links is a dark blue header for "Information for Tax Credit Certified HVAC Technicians" followed by a paragraph of text explaining the program requirements. Below the text is a "Back to the top" button with an upward arrow icon. At the bottom of the main content area is another dark blue header for "Becoming a Tax Credit Certified Technician".

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Oregon Department of Energy - Conservation Division

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Tax Credit-Certified HVAC Technicians

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[Becoming a Tax Credit Certified Technician](#)

[Tax Credit-Certified Heat Pump & Central Air Conditioning Systems](#)

[Submitting Tax Credit Applications](#)

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Information for Tax Credit Certified HVAC Technicians

The Residential Energy Tax Credit program requires that a tax credit certified technician verify the installation of solar thermal and photovoltaic systems, air source heat pump and central air conditioning systems, duct sealing, ground source (geothermal) heat pump systems in order to qualify the equipment for the tax credit. The Oregon Department of Energy distributes and updates lists of companies with tax credit certified technicians working for them for each technology.

The purpose of tax credit certification is ensure that the systems are being installed according to the best practices and that technicians can properly explain the Oregon Residential Energy Tax Credit program to their customers.

[▲ Back to the top](#)

Becoming a Tax Credit Certified Technician

AHRI Air-Conditioning, Heating, and Refrigeration Institute

Directory of Certified Product Performance

The AHRI Certification Programs are the trusted sources of performance for heating, ventilation, air-conditioning, and commercial refrigeration equipment.

RESIDENTIAL

- > Air Conditioners and Air Conditioner Coils
- > Baseboard Radiation
- > Boilers
- > Direct Geo Exchange Heat Pumps
- > Direct Heaters

COMMERCIAL

- > Air Cooled Chilling Packages
- > Air-to-Air Energy Recovery Ventilators
- > Automatic Commercial Ice-Cube Machines and Ice Storage Bins
- > Boilers
- > Central Station Air-Handling Units
- > Combo Systems
- > Comm. Refrigerated Display Merchandisers And Storage Cabinets

TRUSTED MARKS OF PERFORMANCE ASSURANCE

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Resources

- Find ENERGY STAR Qualified Air Conditioning and Heat Pump Systems
- Find Standards
- Learn more about Certification Programs
- Find NATE-certified HVACR contractors
- Help with this site

Performance Tested Comfort Systems Northwest

Home

Certified Technicians

Form Download

Technician Forums

New fax number: 1-877-848-4074

Welcome to Ecos Consulting's website designed to support contractors and utilities who are implementing Heat Pump and Duct Sealing programs based on Performance Tested Comfort Systems (PTCS™) standards.

The purpose of this website is to allow contractors and utilities to verify that particular technicians are certified to PTCS™

Standards and to provide information that will help technicians meet standards.

Events

PTCS Heat Pump Class

Saturday, Dec 13th
8:00 AM – 2:00 PM
(Lunch will be provided)
Cost: \$50.00 Non-Members;
\$25.00 Members

Northwest HVAC Assn &
Training Center
811 E. Sprague Ave #6
Spokane, WA 99202

Contact: Tena Risley
tena@inhvac.org
509.747.8810

Programs

Many utilities offer conservation programs that provide financial incentives to customers who have a system installed by a PTCS™ Certified technician. Examples include: ENERGY STAR® Homes Northwest, public utilities that utilize funding from Bonneville Power Administration's (BPA's) Conservation Rate Credit, and Puget Sound Energy's Air Source Electric Heat Pump program.

PTCS™ "Service Providers " such as Ecos Consulting and Proctor Engineering provide quality control by reviewing forms and conducting on site

Contacts for RETC HVAC

Applications – Tina Suzuki – 503-378-4040 x 315
tina.m.suzuki@state.or.us

Oregon Department of Energy

625 Marion St. N.E.
Salem, OR 97301-3737

Phone: 1-800-221-8035
Fax: 503-378-6000

www.oregon.gov/energy