Oregon Administrative Rules

Residential Energy Tax Credit

OAR 330-070-0010 to 330-070-0097
(for ORS 469.160-469.180)

Effective January 1, 2006
(Replaces August 2, 2004)

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DIVISION 70
TAX CREDITS FOR RESIDENTIAL ALTERNATIVE ENERGY DEVICES

DIVISION 70
TAX CREDIT ELIGIBILITY CRITERIA FOR RESIDENTIAL ALTERNATIVE ENERGY DEVICES

330-070-0010
Purpose

(1) ORS 469.160 through 469.180 offer tax credits for Alternate Energy Devices (AEDs).
(2) These rules are OAR 330-070-0010 through 330-070-0097. They govern the way tax credits for AEDs will be granted or denied. None of these rules replace any building code requirements.
(3) Effective Date: January 1, 2006. All decisions made by the Oregon Department of Energy (ODOE) regarding AED eligibility, issuance of tax-credit technician certification, complaints regarding performance of tax-credit certified technician, revocation of technician tax-credit certification and other matters relating to the administration of this program after the effective date of these rules will be made consistent with the criteria and standards contained in these rules.
(4) These rules apply to tax years beginning on or after January 1, 2006. For all prior tax years, the law and rules applicable to those years remain in full force.
(5) ODOE grants or denies AED tax credits. By granting a tax credit, neither ODOE nor the state implies that the AED will save more money than it will cost. Meeting standards in these rules does not assure that an AED is safe or reliable.
Stat. Auth.: ORS 469.086
Stats. Implemented: ORS 316.116
Hist.: DOE 12(Temp), f. & ef. 10-14-77; DOE 3-1978, f. & ef. 3-7-78; DOE 5-1978, f. & ef. 9-27-78; DOE 6-1979, f. & ef. 11-13-79; DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 6-1983, f. 12-16-83, ef. 1-1-84; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1989, f. & cert. ef. 6-15-89; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-1990; DOE 1-1995, f. & cert. ef. 1-17-95; DOE 1-1996, f. & cert. ef. 4-1-96

330-070-0013
Definitions

As used in OAR 330-070-0010 through 330-070-0097:

(1) "AED" – Alternative Energy Device.
(2) Active Solar Heating" – A solar system that uses air or water that is moved by pumps or fans to collect, store and distribute the sun's energy to a dwelling or part of a dwelling.
(3) "AFUE" (Annual Fuel Utilization Efficiency) – The efficiency rating for furnaces and boilers expressed as the ratio of the energy output to the energy (fuel) input, including part load and cycling effects, but not including fan or pump electrical energy use.
(4) "Alternative Energy Device" ("AED") - A device or system that reduces the amount of conventional energy used by a dwelling. AEDs include, but are not limited to, systems that collect and use solar energy; ground source heat pump systems; energy efficient appliances, energy efficient heating, ventilating and air conditioning systems; fuel cell systems; alternative fuel vehicles and related alternative fuel devices or wind devices that supply, offset or supplement electricity used for a dwelling or that supply electricity to a utility.
(5) "Alternative Fuel" – Electricity, natural gas, ethanol, methanol, propane, and any other fuel approved by the Director of ODOE.
(6) "Alternative Fuel Device" -- An alternative fuel vehicle, equipment necessary to convert a vehicle to use an alternative fuel, or a fueling system necessary to operate an alternative fuel vehicle.

(7) "Applicant" – A person who applies for a residential alternative energy device tax credit under this section.

(a) A person who files an Oregon tax return and applies for a residential alternative energy device tax credit under this section, or

(b) An Oregon Investor Owned Utility (IOU) as defined in ORS 757.005 or its subsidiaries and affiliated interests as defined in ORS 757.015 that is designated by an applicant under OAR 330-070-0013 (9)(a) to receive the residential tax credit certificate for a qualifying alternative fuel device on behalf of the designated applicant.

(c) Any other entity qualified to receive the residential tax credit certificate for a qualifying alternative fuel device on behalf of the designated applicant, as determined by ODOE.

(d) An individual or business that provides the tax credit pass-through amount to the eligible AED owner, and is assigned the tax credit by the AED owner.

(8) "ARI" – Air Conditioning and Refrigeration Institute.

(9) "ASHRAE" – American Society of Heating, Refrigerating and Air Conditioning Engineers.

(10) "AWEA" – American Wind Energy Association.

(11) "Btu" – British Thermal Unit.

(12) "C_{EF}" – Energy Factor for Combined Systems. A non-dimensional descriptor of efficiency for combined space and water heating systems during operation in the water-heating mode only. This part of the three-part rating (space heating efficiency and combined efficiency being the other two) takes into account the standby losses from the storage tank, if any. A higher energy factor denotes better efficiency. Testing is accomplished using the ANSI/ASHRAE 124 test method.

(13) "C_{AFUE}" – Annual Fuel Utilization Efficiency for Combined Systems. A descriptor of efficiency for combined space and water heating systems during operation in the space heating mode only. This part of the three-part rating (water heating efficiency and combined efficiency being the other two) does not count any standby losses from the storage tank, if any. A higher AFUE denotes better efficiency. Testing is accomplished using the ANSI/ASHRAE 124 test method.

((14) "Consumer Disclosure" – A form approved and provided by ODOE describing some AEDs. The technician fills this form out and gives it to the buyer of an AED. It shows estimated energy savings of the AED, required conservation items, required maintenance, freeze protection information and other data required by ODOE. Exclusions: energy efficient appliances and alternative fuel devices.

(15) "COP" – Coefficient of Performance. The ratio calculated by dividing the usable output energy by the electrical input energy. Both energy values must be expressed in equivalent units.

(16) "Department", "Energy Office", or **"Office"** – The Oregon Department of Energy.

(17) "Director" – Director of ODOE or the Director's representative.

(18) "Domestic Water Heating" – The heating of water used in a dwelling for bathing, clothes washing, dishwashing and other related functions.**19) "Dwelling"** – means real or personal property inhabited as a principal or secondary residence and located within this state. "Dwelling" includes, but is not limited to, an individual unit within multiple unit residential housing.

(a) Principal residence –The dwelling owned by the applicant who on the date of the application has legal title to a dwelling, including the mortgagor under a duly recorded mortgage of real property, the trust or under a duly recorded deed of trust or a purchaser under a duly recorded contract for the purchase of real property, and who inhabits the dwelling for no fewer than 14 days in the calendar year for which the credit is claimed;

(b) Secondary residence – Vacation property owned by the applicant; and

(c) Not qualifying – Primary or secondary residences do not include motor homes or recreational vehicles as defined in ORS 446.003.

(20) "EER" (Energy Efficiency Ratio) – A measure of a cooling system's instantaneous efficiency (cooling capacity divided by the power consumption), at DOE "A" test conditions, expressed in Btu/hr per watt.
(21) "Electric Load" – Appliance and lighting exclusive of any water or space heating use.
(22) "Energy Efficient Appliance" – A clothes washer, clothes dryer, water heater, refrigerator, freezer, dishwasher, space conditioning system, solar electric alternating current (AC) module, or any other major household appliance that has been certified by ODOE to have premium energy efficiency characteristics. Lists of certified energy efficient appliances are available from ODOE.
(23) "Energy Factor"(EF) – The non-dimensional efficiency rating for water heaters. It can be loosely translated as a percentage (e.g. EF 0.93 = 93 percent). A higher energy factor denotes better efficiency.
(24) "Energy Yield Chart" – Chart developed by ODOE showing first year energy yield of an AED.
(25) "Energy Recovery Ventilator" (ERV) – A device or system designed and installed to provide balanced fresh air ventilation for homes with the ability to transfer energy from the outgoing air stream to the incoming air stream that is also capable of at least 30 percent Latent Recovery/Moisture Transfer (LRMT) at 32 degrees F when operating at the lowest fan speed.
(26) "$EUI_{(FURNACE)}$" – The Energy Use Index for a furnace, used to determine its electric efficiency, and calculated by the following formula, with inputs derived from the appropriate values in the Gas Appliance Manufacturers Association (GAMA) Directory of Certified Efficiency Ratings for Heating and Water Heating Equipment: $3.412 \times E_{AE} / (3.412 \times E_{AE} + 1{,}000 \times E_F) \# 2.0$ percent.
(27) "$EUI_{(HERV)}$" – The Energy Use Index for an HRV or ERV, used to determine its electric efficiency, and calculated by dividing a model's power consumption, in watts, by the net supply air delivered, in cubic feet per minute (cfm), while the unit is operating in the lowest speed for which performance data is provided in the Home Ventilating Institute (HVI) Directory.
(28) "FERC" – Federal Energy Regulatory Commission.
(29) "First Year Energy Yield" – Usable energy produced under average conditions by an AED in one year. Expressed in kWh, usable energy is the gross energy contribution minus any parasitic energy used to operate the system.
(30) "Fuel Cell Stack" – The portion of a fuel cell system where the electrochemical reactions take place, generally consisting of an anode, an electrolyte, and a cathode and supporting systems bringing fuel to the stack and carrying away the electricity, electrochemical products and thermal energy generated.
(31) "Fuel Cell System" – A system for producing electricity electrochemically and non-reversibly, using a hydrogen rich fuel and oxygen, and producing an electric current, water, and thermal energy. Systems using reformed fossil fuels will also produce carbon dioxide
(32) "Ground Source Heat Pump" – A heating, ventilating and air-conditioning system, also known as a ground water heat pump, earth-coupled heat pump, geothermal heat pump or ground loop AED, that utilizes a subsurface closed loop heat exchanger to extract or reject heat to the earth.
(33) "Heating Season" – September 1 through March 31.
(34) "**Heat Recovery Ventilator" (HRV)** – A device or system designed and installed to provide balanced fresh air ventilation for homes with the ability to transfer energy from the outgoing air stream to the incoming air stream.
(35) "HSPF" (Heating Season Performance Factor) - A measure of the heating efficiency of a heat pump system over the entire heating season (heating accomplished divided by power used), expressed as a ratio of Btu per watt-hour.
(36) "HUD" – U.S. Department of Housing and Urban Development.

((37) "Hybrid Vehicle" – An alternative fuel vehicle which draws propulsion energy from on-board sources of stored energy which include both an internal combustion or heat engine and a rechargeable energy storage system.
(38) "Hydronic Space Heating System" – A system that uses hot or warm water to deliver heat from a boiler or water heater to the living spaces in a home.
(39) "IREC" – Interstate Renewable Energy Council.
(40) "kWh" – kilowatt-hour; 1 kWh = 3413 BTUs for purposes of ODOE calculations.
(41) "Latent Recovery Moisture Transfer" (LRMT) – In an HRV or ERV, moisture recovered to the ventilation supply air stream divided by moisture being exhausted, corrected for cross leakage, if any. LRMT = 0 would indicate that no exhausting moisture is recovered for the incoming supply air stream. LRMT = 1 would indicate that all exhausting moisture is transferred.
(42) "MCFC" – Molten carbonate fuel cell.
(43) "Modified Energy Factor" (MEF) – The non-dimensional efficiency rating for clothes washers. This measure, unlike the EF, takes into account the moisture removed from the wash load in the spin cycle, thereby changing energy use in the drying cycle. A higher MEF denotes a more efficient clothes washer.
(44) "MM" – Million.
(45) "Net Cost" – What the applicant paid to design, acquire, build and install the AED. Net cost includes permit and inspection fees. Net cost may include the value of federal tax credits or utility incentives. Net cost does not include service contracts, rebates, discounts or refunds.
(46) "Net Generation" – The gross kWh produced minus internal losses and parasitic loads. The net generation is the amount available to serve dwelling loads, to provide to the utility, or both.
(47) "OG" – Operating guidelines developed by the Solar Rating and Certification Corporation (SRCC) including system performance or component characteristics defined by SRCC in its directory. Operating guidelines shall be from the directory in effect at the date the rules are adopted.
(48) "ODOE" – Oregon Department of Energy.
(49) "Owner-Built" – An AED that is assembled and installed on an owner's personal property and with an owner's labor only.
(50) "Parasitic Power" – The electrical energy the system uses to operate.
(51) "Passive" – A solar AED that relies on heated liquid or air rising to collect, store and move heat without mechanical devices. **(52) "Passive Solar Space Heating"** - This refers to a system or building design that collects and stores solar energy received directly though south facing windows. The system/design is without powered moving parts and includes provisions to collect, store and distribute the sun's energy using only convection, radiation and conduction of energy. See section 330-070-0062 for details.
(53) "Pass-Through Amount"--The minimum amount required to be passed through to an eligible AED owner in exchange for the right to claim the tax credit. The pass-through amount shall be determined on an annual basis by the Director.
(54) "Pass-Through Provider"--An individual or business that pays the pass-through amount to an eligible system owner and applies for the tax credit in place of the system owner.
(55) "Pass-Through Verification" – Information collected by ODOE verifying that the approved pass-through amount has been provided, that the AED owner has relinquished his or her claim to a tax credit and has assigned the credit to the pass-through provider.
(56) "Peak Power Ratio" – In the case of a hybrid vehicle, the maximum power available from the electric motor providing propulsion energy when powered by the rechargeable energy storage system, divided by the total of such maximum power and the SAE net power of the internal combustion or heat engine.
(57) "Performance Checked Duct System"—A forced air duct system whose premium efficiency characteristics are that it has been tested for duct leakage by a tax credit certified technician using

ODOE-approved testing procedures, and that it has been repaired or constructed using ODOE-approved materials to reduce duct air leakage. For purposes of the tax credit, performance checked ducts are considered energy efficient appliances.

(58) "Performance Checked Heat Pumps and Air Conditioners"—A heat pump or air conditioner whose premium efficiency characteristics are that it has been tested using approved procedures and repaired or serviced as needed by a tax-credit certified technician to assure that refrigerant charge and system air flow are within ranges recommended by the equipment manufacturer. For purposes of the tax credit, performance tested heat pumps and air conditioners are considered energy efficient appliances.

(59) "Placed in Service" – The date when an AED is ready and available to produce usable energy.

(60) "PV System" – A complete solar electric power system capable of delivering power to either the main or sub-panel in a residence. Necessary components include: solar electric modules, inverter, mounting system, and disconnection equipment.

(61) "SEER" (Seasonal Energy Efficiency Ratio) – a measure of the efficiency of a cooling system over the entire cooling season (cooling accomplished divided by power used), expressed in Btu/kWh.

(62) "Solar Attic Fan"--A device that uses photovoltaics to power a fan that pulls hot air out of an attic or roof space. Such a device may either be a complete, all-in-one unit or be comprised of a small photovoltaic panel and a DC powered attic fan designed to be run by photovoltaic panel.

(63) "Solar Domestic Water Heating System" – A configuration of solar collectors, pump, heat exchanger and storage tank designed to heat water. System types include forced circulation, integral collector storage, thermosyphon, and self-pumping. For the purpose of determining system yields, a configuration of components is considered a new system if changes occur in any of the following: type or size of collectors, heat exchanger type or effectiveness, size of storage tank, or system type.

(64) "Solar Electric AC Module" – A solar photovoltaic module coupled with a utility interactive inverter. The combined system must be Underwriters Laboratory (UL) listed and meet all current Institute of Electronic and Electrical Engineers (IEEE) 929 requirements.

(65) "SRCC" – Solar Rating and Certification Corporation.

(66) "Sensible Recovery Efficiency" (SRE) – In an HRV or ERV, the sensible (measurable) energy recovered to the ventilation supply air stream minus supply fan and preheat coil energy use divided by the total sensible energy being exhausted plus exhaust fan energy. This measure of efficiency accounts for the effects of cross leakage between air streams, purchased energy for fan controls, and defrost system energy use.

(67) "STC" – Standard Test Conditions, which are 25 degrees Celsius cell temperature and 1000 watts per square meter.

(68) "Sunchart" – A chart or form issued or approved by ODOE showing the plotted path of the sun and any objects which block the sun from the AED. This shall include plant life and structures. The viewpoint shall be from the center of the lower edge of the collector. It shall show whether the plant life is made up of evergreen or leafy trees. If there is no shading on the AED, technicians shall indicate this in writing on the chart and shall include their signature and the date of the analysis.

(69) "System Certification" – Certification that an AED as described in the application meets criteria for the tax credit.

(70) "System Owner"--A person who owns the AED.

(71) "Tax-Credit Certified Technician"- A technician who has been approved by ODOE as sufficiently knowledgeable about the tax credit program. A tax-credit certified technician is responsible for assuring that the system installed is according to ODOE rules and verifying system installation quality and performance. A tax-credit certified technician must ensure that the applicant or system owner is knowledgeable about ODOE's AED rules.

(72) "Tax-Credit Listed Company"-- A company that employs at least one tax-credit certified technician.
(73) "Total Solar Resource Fraction" – the fraction of usable solar energy that is received by the solar panel/collector throughout the year. This accounts for impacts due to external shading, collector tilt and collector orientation.
(74) "Unheated Spaces" – Attics, garages, and any space with an average ambient temperature of 50 degrees Fahrenheit or below during the heating season.
(75) "Used Equipment" – Any solar tank or collector which previously has been installed or any piece of equipment not under current manufacturers' warranty.
((76) "Wastewater Heat Recovery Device" – A device designed to recover thermal energy from household wastewater streams for the purpose of returning a portion of this energy to the dwelling's hot water supply system.
(77) "Water Factor" (WF) – The measure of water efficiency in clothes washers. Measured in gallons per cubic foot of tub capacity, per cycle (gal/ft^3/cycle).
(78) "Wind AED" – A wind alternative energy device. A qualifying wind energy conversion system that uses wind to produce mechanical or electrical power or energy. This includes turbines, towers and their associated components needed to form a complete system.
Stat. Auth.: ORS 469.086
Stats. Implemented: ORS 316.116
Hist.: DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; Renumbered from 330-70-023; DOE 1-1989, f. & cert. ef. 6-15-89; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90; DOE 1-1995, f. & cert. ef. 1-17-95; DOE 1-1996, f. & cert. ef. 4-1-96

330-070-0014
Pass-Through
(1) Any person or business that provides the approved tax credit pass-through amount to the person who owns the eligible energy device is entitled to claim the tax credit associated with that device in place of the system owner. Any person or business that provides the approved tax credit pass-through amount to the person who owns or constructs an eligible alternative fuel station is entitled to claim the tax credit associated with that device in place of the system owner or contractor.
(2) The pass-through amount shall be determined and published at least each year and may be periodically revised by the Director.
(3) In addition to other required information, verification information for tax credits obtained by pass-through providers shall include verification that the approved pass-through amount has been provided, and acknowledgement that the person originally eligible to receive a tax credit has relinquished his or her claim to the credit and has assigned the credit to the pass through provider.

330-070-0020
Who is Eligible
(1) To qualify for a credit, a person must:
(a) Have an income tax liability in Oregon; and
(b) Purchase, construct, install and certify an AED in accordance with these rules (OAR 330-070-0010-330070-0097); and
(c) Be the owner or contract buyer of an Oregon dwelling served by the AED, or be a tenant of the dwelling owner; and
(A) Use the dwelling as a primary or secondary residence; or
(B) Rent or lease the dwelling to a tenant who uses the dwelling or dwellings as a principal or secondary residence.

(2) If the basis for the credit is the installation of an energy efficient appliance, the credit shall be allowed only to the taxpayer who actually occupies the dwelling as a principal or secondary residence.
(3) If the basis for the credit is a fueling station necessary to operate an alternative fuel vehicle, unless the certificate is transferred, the company that constructs the dwelling that incorporates the fueling station or who installs the fueling station in the dwelling may claim the credit. If the alternative energy device is an alternative fuel vehicle or related equipment, the credit must be claimed by the owner.
(4) A tax credit may be transferred. Any person that pays the present value of the tax credit for a qualified alternative energy device to the person who originally purchasesthe device shall be entitled to claim the credit in place of the original credit owner.
(5) For a qualified vehicle owned by lessor during period of first new use, the lessor may pass-through the right to claim the credit to the lessee exercising the first new use.
Stat. Auth.: ORS Ch. 469
Stats. Implemented: ORS 469.160
Hist.: DOE 12(Temp), f. & ef. 10-14-77; DOE 3-1978, f. & ef. 3-7-78; DOE 5-1978, f. & ef. 9-27-78; DOE 6-1979, f. & ef. 11-13-79; DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 6-1983, f. 12-16-83, ef. 1-1-84; DOE 7-1984, f. & ef. 12-19-84; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88

330-070-0021
Eligible Devices

(1) To earn a tax credit, the AED shall:

(a) Be a complete system. That is, the system must be able to collect, store, convert, monitor, and distribute energy to the dwelling it serves. Exception: Additions to existing AED systems, that are not pool, spa, or hot tub systems, shall be eligible when they increase the energy production capacity and the kWh saved by the system;

(b) Be a system that is built, installed, and operated in accord with ORS 469.160 through 469.180;

(c) Be a system with manufacturer's warranties against defects in products and materials;

(d) Be a system that complies with general and specific standards in these rules as they apply to AED systems. (OAR 330-070-0020; 330-070-0040 through 330-070-0055; and 330-070-0060 through 330-070-0097);and be one of the following:

(A) A system that uses solar energy;

(B) A ground water heat pump or ground loop AED;

(C) A renewable energy system that heats or cools space, heats water, or makes electricity;

(D) An energy efficient appliance including a wastewater heat recovery device;

(E) An alternative fuel device; vehicles licensed and registered for first new use on Oregon roadways and used vehicles being modified for first new use of a qualifying alternative fuel device are eligible for the tax credit.

(F) A fuel cell system; and

(G) Heat pump water heaters.

(2) These devices are not eligible for an AED tax credit:

(a) Standard efficiency furnaces;

(b) Standard backup heating systems;

(c) Wood stoves or wood furnaces, or any part of a heating system that burns wood;

(d) Heat pump water heaters that are part of a geothermal heat pump space heating system;

(e) Structures that cover or enclose a swimming pool and are not attached to the dwelling;

(f) Swimming pools and hot tubs used to store heat;

(g) Photovoltaic systems installed on recreational vehicles;
(h) Additions to existing spa and hot tub systems;
(i) Above ground, un-insulated swimming pools, spas and hot tubs;
(j) Conversions of systems from one type to another. An example is a conversion of a draindown solar hot water system to a drainback solar hot water system;
(k) Used equipment;
(l) Repairs and maintenance of systems having received prior certification for an AED tax credit;
(m) Water source heat pump - A system that uses surface or subsurface water in a single pass without recirculation (open loop);
(n) Hydro systems; and
(o) Wind systems that are used to heat or cool buildings, or to heat domestic, swimming pool or hot tub water.

Stat. Auth.: ORS 469.086
Stats. Implemented: ORS 316.116
Hist.: DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1989, f. & cert. ef. 6-15-89; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90; DOE 1-1995, f. & cert. ef. 1-17-95; DOE 1-1996, f. & cert. ef. 4-1-96

330-070-0022
Amount of Credit

(1) The amount of the AED tax credit is based on the first-year energy yield of an eligible AED. The energy yield basis for a solar tax credit may be adjusted by ODOE to account for less than optimal solar access.
(2) The amount of the AED tax credit shall not exceed the lesser of:
(a) $1,500 or the first-year energy yield of the AED in kWh multiplied by 60 cents for AEDs used for solar or geothermal space heating, cooling, electrical energy production or domestic water heating for tax years beginning on or after January 1, 1998. The amount of the credit may not exceed 100 percent of the cost of the system components and their installation.
(b) For an alternative energy device used for swimming pool, spa or hot tub heating, the credit allowed must be based upon 50 percent of the cost of the device or the first year's energy yield in kilowatt hours per year multiplied by 15 cents, whichever is lower, up to maximum credit amounts set in subsections (a) through (c) of this section.
(c) For each alternative fuel device, the credit allowed is 25 percent of the eligible cost of the alternative fuel device, not to exceed $750 for devices placed in service on or after January 1, 1998. Individual credit may be claimed for both an alternative fuel vehicle and an alternative fuel fueling system.
(A) Eligible cost is the difference in the cost between the conventional fueled vehicles of similar size with similar features and the cost of an alternative fuel vehicle and its charging or fueling systems.
(1) Conventional fuel vehicles manufactured by the same manufacturer with the same seating capacity and/or cab cubic volume or weight difference which are less than 20 percent, may be used to define eligible costs, provided that other features (upholstery, audio, suspension, body appointment) are similar.
(2) Low-speed alternative fuel vehicles for which no conventional fueled vehicle is available for comparison (seating cap/size/features) must use a minimum of $1,500 to determine cost difference for the alternative fueled vehicle.
(d) For fuel cell systems, $1,500 or the first year energy yield of the AED in kWh multiplied by 60 cents, for systems placed in service on or after January 1, 2000.

(e) For photovoltaic systems installed on or after November 4, 2005, $6,000 for four years ($1,500 per year) not to exceed 50 percent of the cost of the system.

(3) For an energy efficient appliance, the credit allowed under this section shall equal:

(a) 40 cents per kilowatt hour saved, or the equivalent for other fuel saved, not to exceed $1,000 for each tax year on or after January 1, 1999. Total not to exceed 25 percent of the cost of the appliance.

(4) For photovoltaic systems installed on or after November 4, 2005, the credit allowed under this section shall equal: $3 per watt of the installed capacity measure in watts of direct current at industry standard test conditions. The credit shall be issued for the year in which it was installed in annual increments up to $1,500 over a four-year period. The amount of credit per year shall not exceed $1,500 and the total credit shall not exceed 50 percent of the cost of the system.

(5) The amount of the tax credit must not exceed the net cost of the AED to the applicant.

(6) For purposes of the tax credit, the cost of the AED must:

(a) Comply with OAR 330-070-0060 through 330-070-0097, as those rules apply;

(b) Be the net cost of acquiring the system.

(A) AEDs using an alternative energy source for only a part of their energy output or savings will have net cost prorated. Net cost must be based on that part of the AED's energy output or savings that is due to the alternative source;

(B) ODOE may find an AED to be too large for a dwelling. In such case net cost must be prorated. Net cost must be based on the largest useful size of an AED for the dwelling. ODOE must determine largest useful size based on the energy needs of the building; and

(C) The amount of credit for the original system and an addition may not exceed $1,500 per year.

(7) For purposes of the tax credit, the net eligible cost of the AED is only those costs necessary for the system to yield energy savings and must not include:

(a) Unpaid labor including the applicant's labor;

(b) Operating and maintenance costs;

(c) Land costs;

(d) Legal and court costs;

(e) Patent search fees;

(f) Fees for use permits or variances;

(g) Loan interest;

(h) Amounts from vendors of an AED that reduce its cost. These include rebates, discounts and refunds;

(i) Service contracts;

(j) Cost of moving a used AED from one site to another;

(k) Cost of repair or resale of a system;

(l) Any part of the purchase price which is optional, such as an extended warranty; and

(m) Delivery fees.

Stat. Auth.: ORS 469.086

Stats. Implemented: ORS 316.116

Hist.: DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90; DOE 1-1996, f. & cert. ef. 4-1-96

330-070-0023 (Renumbered to 330-070-0013)

330-070-0024

Year Credit Claimed

(1) The tax credit is claimed for the tax year in which the alternative energy device is placed in service. However, the credit must be claimed for the tax year the AED is purchased if the system is placed in service by April 1 of the following tax year.

(2) The tax credit may not exceed a person's tax liability. Unused credit may be carried forward for a maximum of 5 years.

(3) Proof of purchase must be a contract or invoices dated in the year for which the applicant is claiming the credit.

Stat. Auth.: ORS Ch. 469

Stats. Implemented: ORS 469.160

Hist.: DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1989, f. & cert. ef. 6-15-89; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90

330-070-0025

Application for System Certification

(1) Applicants for the tax credit must get a system certification from ODOE.

(2) Applications for a system certification must be made in a form developed by ODOE:

(a) All applications must contain a statement that the system and technician or owner-builder will meet all federal, state and local requirements;

(b) All applications will request purchasers to provide social security numbers for use as an identification number in maintaining internal records. The purchaser's social security number may be shared with the Department of Revenue to establish the identity of an individual in order to administer state tax law.

(c) All applications must state:

(A) The net cost of the AED;

(B) The location of the AED;

(C) Estimated first-year energy yield of the AED by the technician or from the ODOE energy yield chart, (found in the ODOE AED System Directory), if any; and

(D) That the purchaser has received an operating manual for the AED. Exception: No operating manual is required for sunspaces or direct gain space heating systems.

(d) All applications must state that the technician agrees to make any changes required by ODOE for the system to comply with ORS 469.160 through 469.180;

(e) All applications must be signed by the purchaser and technician, if any, or, a form of electronic signature acceptable to ODOE shall be provided; and

(f) A technician or applicant must not give ODOE false or misleading information about an AED.

(3) System certification applications for solar water heating AEDs must contain:

(a) The number of collectors;

(b) The manufacturer and/or supplier;

(c) The collector dimensions and/or the net area of the collectors;

(d) The amount of heat storage;

(e) The system type;

(f) Declaration of SRCC certification status or equivalence as determined by ODOE;

(g) A description of the freeze protection for the system;

(h) A description of the over-heat protection for the system;

(i) The system model;

(j) Orientation and tilt of the collector;

(k) A sunchart for the collector location;

(l) A Consumer Disclosure signed by the applicant and technician or supplier, if any;
(m) A statement that the purchaser has received a copy of consumer information supplied by ODOE; and
(n) Any other data ODOE requires.

(4) System certification applications for active solar space heating AEDs must contain:
(a) All the data required in sections (2) and (3) of this rule;
(b) A heat loss estimate for the home;
(c) The type and amount of thermal storage;
(d) A sunchart for the collector location; and
(e) Any other data ODOE requires.

(5) System certification applications for passive solar space heating AEDs must contain:
(a) A copy of the building permit plans;
(b) A copy of the window specifications used;
(c) The type and amount of thermal storage;
(d) A sunchart taken at the center of the solar glazing; and
(e) Any other data ODOE requires.

(6) System certification applications for photovoltaic AEDs must contain:
(a) The brand name of the module(s);
(b) The module(s) area;
(c) The rated DC output in watts of the module(s) under Standard Test Conditions (STC);
(d) A description of the storage provided if storage is a part of the system;
(e) Storage brand and model;
(f) Storage capacity in kWh;
(g) The brand name of the inverter if an inverter is part of the system;
(h) The capacity of the inverter;
(i) Orientation and tilt of the array;
(j) A sunchart of the array location; and
(k) Any other data ODOE requires.

(7) System certification applications for ground water heat pumps and ground loop AEDs must contain:
(a) For all systems connected to a well, data on the well including:
(A) Depth;
(B) Diameter (cased);
(C) Temperature;
(D) Static water level below grade;
(E) A copy of the well driller's log, if available; and
(F) Any other data ODOE requires.
(b) For systems connected to a heat pump:
(A) Brand name and model number of the heat pump;
(B) Rated output at the entering water temperature;
(C) Estimated system COP rated by ARI under Standard 325 -85 at an entering water temperature of 50 degrees Fahrenheit; and
(D) Any other data ODOE requires.
(c) For ground loop heat pump systems:
(A) All the information in subsection (7)(b) of this rule; and
(B) Brand name, rated output, estimated COP;
(C) Length and depth of the loop;
(D) Materials and spacing used;
(E) Type of heat transfer fluid; and

(F) Any other data ODOE requires.

(8) System certification applications for energy efficient appliances must contain:

(a) Taxpayer's name and principal address;

(b) Installation location by street address;

(c) The name of the dealer or licensed and bonded technician;

(d) The dealer's business location;

(e) The brand name, make, model number, capacity and/or size of the appliance;

(f) A signed copy of the sales agreement, which will include all of the following:

(A) Verification of purchaser's name and address; and

(B) Verification of model of appliance; and

(C) Verification of actual price paid for appliance.

(g) Certification of new equipment warranty; and

(h) Any other data ODOE requires.

(9) System certification applications for alternative fuel devices must contain:

(a) Taxpayer's name;

(b) Taxpayer i.d. or social security number;

(c) State of Oregon vehicle registration number;

(d) Installation location by street address;

(e) The name of the licensed and bonded company employing the technician;

(f) The company's business location;

(g) The brand name, make, model number, or component list of the AFD;

(h) A signed copy of the sales agreement, which will include all of the following:

(A) Verification of purchaser's name and address; and

(B) Verification of model of, or components used for AFD; and

(C) Verification of actual price paid for the AFD.

(i) Certification of new equipment warranty;

(j) An optional letter attached to the application declaring that the applicant designates an Investor Owned Utility (IOU) or other qualifying entity as the eligible recipient of the credit certificate on behalf of the project owner applicant that includes:

(A) Name, address, contact person, phone number, facsimile number of the IOU or designated qualifying party; and

(B) Signature, or form of electronic signature acceptable to ODOE, of an authorized representative of the IOU or other designated qualifying party stating willingness to accept the tax credit certificate; and

(k) Any other data ODOE requires.

(10) System certification applications for fuel cells shall provide information regarding:

(a) The rated fuel cell stack peak capacity, in kW;

(b) The rated fuel cell system peak capacity, in kW (this rating includes peak capacity enhancing devices such as batteries and other storage devices or systems);

(c) Whether or not the system is grid connected;

(d) The fuel used by the system;

(e) The type of fuel stack (PEM, PAFC, SOFC, etc.);

(f) An estimate of the average load, in kW, expected to be placed on the system;

(g) The thermal energy production rate, in Btu/hour, at peak capacity and at the average load specified in (10)(f) above;

(h) Whether or not the system has provisions for thermal heat recovery, and if so, where the thermal energy is designed to be used (domestic hot water, space heating, etc.); and

(i) Any other data ODOE requires.

(11) A system certification may be transferred by an applicant who does not qualify for tax relief to the first eligible buyer of the dwelling.
Stat. Auth.: ORS 469.086
Stats. Implemented: ORS 316.116
Hist.: DOE 6-1979, f. & ef. 11-13-79; DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 6-1983, f. 12-16-83, ef. 1-1-84; DOE 7-1984, f. & ef. 12-19-84; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1988(Temp), f. & cert. ef. 1-13-88; DOE 1-1989, f. & cert. ef. 6-15-89; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90; DOE 1-1996, f. & cert. ef. 4-1-96

330-070-0026
Technician Tax Credit Certification

(1) Technicians may on a voluntary basis apply for ODOE tax- credit certification for a particular technology on an annual basis. Certification is intended to assist consumers with the state tax credit program, ensure that the systems are installed according to ODOE rules, and verify system installation quality and performance.

(2) A tax-credit certified technician applies only to the following products:

(a) Solar water heating systems

(b) Ground source heat pumps (geothermal)

(c) Photovoltaic systems;

(d) Performance-tested ducts; and

(e) Air source heat pumps/air conditioning systems.

(3) The tax-credit certified technician's status is based on the following:

(a) Knowledge and understanding of the tax credit program requirements and expectations;

(b) Ability to provide systems that are designed and installed with a focus on performance and longevity; and

(c) Ability to deal with both ODOE and consumers in a professional manner.

Failure to meet any of these criteria are grounds from removal from being certified. (See Section 330-070-0045 (2).)

(4) Tax-credit certified technician status entitles a technician to:

(a) Inform the owner that he or she has attended an ODOE-required training class and is familiar with the rules and requirements of the Residential Energy Tax Credit Program.

(b) Verify that installation of tax-credit qualified equipment and systems meet ODOE standards for performance and longevity.

(5) Tax-credit certified technician status requires that the technicians must follow ODOE requirements including:

(a) Duct and air-source heat pump/air conditioning technicians must acquire training required by the Director for providing the services necessary for that technology and pass a competency test with a score of 70 percent or above.

(b) Solar technicians must show licensure (North American Board of Certified Energy Practitioners-NABCEP or Limited Renewable Energy Technician- LRT for solar electric and Solar Thermal License (STL) for solar thermal) or pass a competency testing with a score of 70 or above for the technology. Until December 31, 2006, solar technicians may also demonstrate competency with proof of two 2005 installed systems in their technology that have been inspected and approved by the Energy Trust of Oregon.

(c) Geothermal technicians must show proof of International Ground Source Heat Pump Association training (IGSHPA) or IGSHPA certified manufacturer’s training program or other training approved by the ODOE Director.

(d) Participate in ODOE tax-credit training and annual ODOE update telephone conference calls.

(e) Assure owner has user manual for equipment/system.

(f) **(d)** Provide the customer with a completed application and a copy of the final itemized dated invoice for the system that is marked "inspected and paid for." Assure owner has a written full warranty for the system that lasts no less than 12 months after the system is installed. Maintain tax-credit certification status by completing the following technology-specific requirements: For solar technology – Complete at least two (2) hours of Oregon Solar Energy Industries Association (OSEIA)-approved solar-related training and either have submitted and approved two (2) tax credit applications for systems in technology in which technician is certified or score 70 percent or above on an ODOE competency test for appropriate solar technology. For air source heat pumps/air conditioning – Maintain current requisite technical certification and licensing; complete and either have submitted and approved four (4) tax credit applications or score 70 percent or above on competency test. For performance tested duct systems – Have submitted and approved a minimum of four (4) tax credit applications or score 70 percent or above on competency test. For geothermal – Have submitted and approved a minimum of two (2) tax credit applications.

(6) Tax credits for installation of air source heat pumps/air conditioning systems, performance-tested ducts, geothermal systems, solar electric and solar thermal systems must be verified by an ODOE tax-credit certified technician. Homeowner-installed systems will be reviewed by ODOE on a case-by-case basis.

(7) A tax-credit certified technician must notify ODOE within 30 days if changes are made in any of the information in the certification application.

(8) ODOE may reject any application if the AED does not comply with ORS 469.160 through 469.180 and OAR 330-070-0010 through 330-070-0097. ODOE will explain all rejected applications in writing. Approved requests for lesser cost than claimed by the applicant will also include written reasons.

Stat. Auth.: ORS 469.086

Stats. Implemented: ORS 316.116

Hist.: DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 6-1983, f. 12-16-83, ef. 1-1-84; DOE 7-1984, f. & ef. 12-19-84; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1989, f. & cert. ef. 6-15-89; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90; DOE 1-1995, f. & cert. ef. 1-17-95; DOE 1-1996, f. & cert. ef. 4-1-96

330-070-0027

Applications Review

(1) ODOE must review applications for system approval. Systems must comply with OAR 330-070-0010 through 330-070-0097. Specific guidelines for each type of AED are provided in OAR 330-070-0060 through 330-070-0097.

(2) ODOE will return applications that are not complete. ODOE shall identify the additional information needed.

(3) ODOE must act on a complete application within 60 days after it is received. ODOE may require more details within 30 days of receipt of an initial application. In some cases another 60-day review period may be needed. If so, ODOE will explain to the applicant why more time is needed:

(a) If ODOE fails to meet these deadlines, the system is considered approved;

(b) If ODOE requests additional data, the review period will be extended until required data is received;

(c) During review, ODOE may ask for proof that the system complies with OAR 330-070-0010 through 330-070-0097. ODOE may also ask for changes to make the system and application comply with these same OARs.

(4) To get the information needed to review an application or to verify eligibility and first year energy yield, ODOE may, with the owner's consent, inspect an installed AED:

(a) ODOE may deny a system certification or request Department of Revenue (DOR) to initiate proceedings for the forfeiture of a tax credit if an owner refuses to allow ODOE to inspect the AED;

(b) ODOE may require corrections to make the AED comply with OAR 330-070-0010 through 330-070-0097 to be made within 30 days; and

(c) If such changes are not made within this time limit, ODOE may reject the application. ODOE may use the results of utility inspections in lieu of its own.

(5) ODOE may reject any application if the AED does not comply with ORS 469.160 through 469.180 and OAR 330-070-0010 through 330-070-0097. ODOE will explain all rejected applications in writing. Approved requests for lesser cost than claimed by the applicant will also include written reasons.

(6) If ODOE rejects an application for system certification, an applicant may appeal the rejection. If ODOE approves a system certification for lesser cost than claimed by the applicant, the applicant may also appeal the rejection of those costs. The appeal must be within 60 days of the mailing of the rejection notice by ODOE. Appeals must be conducted as per ORS 183.310 through 183.500.

(7) If ODOE receives an application(s) for a qualifying alternative fuel device accompanied by a letter from the applicant designating an IOU or other qualifying party as the recipient of the tax credit certificate, then ODOE may aggregate such applications and issue a single tax credit certificate to designated qualifying party quarterly for applications for projects to be completed in that calendar year.

Stat. Auth.: ORS Ch. 469

Stats. Implemented: ORS 469.160

Hist.: DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 6-1983, f. 12-16-83, ef. 1-1-84; DOE 7-1984, f. & ef. 12-19-84; DOE 1-1986, f. & ef. 2-7-86; DOE 2-1987, f. & ef. 5-13-87; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90

330-070-0040

Other Rules and Regulations

(1) AEDs must comply with all state, federal and local laws and rules that apply. These OARs change no one's responsibility to comply with such laws.

(2) The policy of the Department of Energy is:

(a) To accept the findings of local, state and federal agencies which license or permit projects to be built or run;

(b) To avoid influencing any of those agencies to approve or deny a license or a permit; and

(c) To provide facts from tax credit files to such agencies when asked.

(3) Each applicant must:

(a) Obtain each local, state, and federal permit and license that applies to a project;

(b) Agree to comply with the express terms and conditions of each permit and license; and

(c) Agree to comply with all state rules and laws that apply to the project.

(4) System certification and tax credit technician certifications are based on the applicant's promise that each needed local, state and federal license and permit has been or will be obtained. Failure to obtain those approvals will cause ODOE approval to be revoked.

(5) If any license or permit named in these rules does not apply to the project, the licensing or permitting agency must certify that the license or permit is not required. Exception: This does not apply to residential DHW, pool, spa and hot tub systems.

(6) AED technicians must install all systems in compliance with the system manufacturer's published specifications.

(7) ODOE must assign a yield for all solar domestic water heating systems. For systems approved by ODOE that are not SRCC OG-300 certified, ODOE must assign a yield based on requirements determined comparable to SRCC OG-300.
Stat. Auth.: ORS 469.086
Stats. Implemented: ORS 316.116
Hist.: DOE 12(Temp), f. & ef. 10-14-77; DOE 3-1978, f. & ef. 3-7-78; DOE 5-1978, f. & ef. 9-27-78; DOE 6-1979, f. & ef. 11-13-79; DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 7-1984, f. & ef. 12-19-84; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1989, f. & cert. ef. 6-15-89; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90; DOE 1-1995, f. & cert. ef. 1-17-95; DOE 1-1996, f. & cert. ef. 4-1-96

330-070-0045
Enforcement

(1) Applicant's actions that are cause for revocation of a residential alternate energy tax credit

(a) A system certification may be revoked pursuant to ORS 469.180 if the Director finds that:

(A) The applicant obtained the system certification by fraud or misrepresentation;

(

(B) The AED has not been installed or operated in substantial compliance with the plans, specifications or procedures specified in the application or certificate, such as:

(i) Failure to follow applicable standards;

(ii) Failure to comply with required codes or obtain required permits or inspections;

(iii) Return of the AED to the seller or installer for a refund;

(iv) Sale or removal of the device so that it no longer operates on the property of the applicant; or

(C) The applicant refuses to allow ODOE to inspect the AED after a reasonable written request by the Department. A reasonable request must allow applicant to choose a day within three weeks of the request from the Department.

(b) Following revocation, the applicant must forfeit the tax credit, and the Department of Revenue must proceed to collect any taxes not paid by the taxpayer because of this credit.

(2) Technician's actions that are cause for revocation of technician's tax credit certification:

(a) A technician tax-credit certification may be revoked pursuant to ORS 469.180 if the Director finds that the system or technician tax-credit certification was obtained by fraud or misrepresentation by the technician. The Director may find that fraud or misrepresentation occurred if:

(A) False statements were made regarding the technician's licenses held, products or warranties carried by the tax-credit certified technician's employing company, the company's range of product cost, personnel employed in the business, or any other item in the application for technician tax-credit certification as defined in OAR 330-070-0026.

(b) A technician tax-credit certification may be revoked pursuant to ORS 469.180 if the Director finds that the technician's performance regarding sales or installation of the alternative energy device for which the technician is issued a tax credit certificate under ORS 469.170 does not meet industry standards. The Director may find that the technician's performance does not meet industry standards under the following conditions:

(A) The technician's employing company is not registered with the Construction Contractors Board or does not carry the required level of insurance, licensure or bonding; or

(B) The technician and/or employing company fails to obtain the required state, federal or local permits required to install the AED as defined in OAR 330-070-0040; or

(C) The technician fails to install the AED system in compliance with standards adopted under OAR 330-070-0060 through 330-070-0097; or

(D) The technician fails to install the AED system in a professional manner; or

(E) The technician fails to install the AED system to comply with manufacturers' published specifications; or

(F) The technician and employing company fail to honor contract provisions when there is no legitimate excuse for nonperformance of the obligation; or

(G) The technician and employing company fail to honor a warranty which they are contractually obligated to perform; and

(H) The technician and/or employing company fail to make corrections to remedy failure to comply with paragraphs (A) through (G) of this subsection requested by ODOE within 30 days of written notification from ODOE of the problem, unless a time extension is granted by ODOE.

(I) A tax credit for an AED sold or installed under the technician tax-credit certification is ordered revoked under subsection (2)(a) of this rule; or

(J) New information indicates that the AEDs installed under the technician tax-credit certification and his or her employing company do not meet eligibility requirements.

(c) A technician's tax-credit certification may be revoked pursuant to ORS 469.180 if the Director finds that the technician or employing company has misrepresented to the customer either the tax credit program or the nature or quality of the alternative energy device. The Director may find that the technician or employing company has misrepresented the tax credit program or the AED under the following conditions:

(A) The technician or employing company has provided false or misleading information to the customer regarding the availability of the tax credit, amount and nature of the tax credit, procedures for tax credit application, eligibility standards for credit, or any other misleading information about the program implemented under ORS 469.160 through 469.180; or

(B) The technician or employing company has misrepresented the nature of the performance of the AED or claimed savings in excess of those on a yield chart without providing accurate calculations to the customer and to ODOE to substantiate the yield. For geothermal heat pumps, the technician or employing company has claimed savings higher than other units of similar efficiency; or

(C) The technician or employing company has misrepresented the cost of a system. For example, the technician or employing company omits costs in the contract for features necessary for basic installation and/or operation of the system and/or costs to comply with the AED eligibility under ORS 469.160 through 469.180; or

(D) The technician or employing company has misrepresented a competitor's product or service; and

(E) The technician or employing company fails to make corrections requested in writing by ODOE to remedy violations of (A) - (D) of this subsection within 30 days, unless more time is allowed by ODOE; or

(F) The technician or employing company fails to remedy the construction and/or warranty claim as directed by order of the Construction Contractors Board.

Stat. Auth.: ORS Ch. 469

Stats. Implemented: ORS 469.180

Hist.: DOE 5-1978, f. & ef. 9-27-78; DOE 6-1979, f. & ef. 11-13-79; DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 6-1983, f. 12-16-83, ef. 1-1-84; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1989, f. & cert. ef. 6-15-89; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90; DOE 1-1995, f. & cert. ef. 1-17-95

330-070-0048

Administrative Process for Review and Revocation of Technician Tax Credit Certification

1) If ODOE receives a complaint, the tax-credit certified technician and employing company must be notified and given an opportunity to respond.

(a) If the complaint relates to issues that the Construction Contractors Board (CCB) has authority to resolve, the complaint must be referred to the CCB for resolution. The CCB generally has authority to address construction, warranty claims or complaints involving dishonest or fraudulent conduct. Failure to comply with the order of the CCB must be grounds for revocation of technician tax-credit certification or civil penalty.

(b) In all other cases, ODOE must evaluate the technician's or employing company's response and determine whether a violation occurred. ODOE must notify the technician and employing company of its determination and, if appropriate, the necessary remedy. ODOE must give the technician and employing company 30 days to remedy a violation. ODOE may grant the technician and employing company additional time where appropriate.

(2) If the technician and employing company do not take appropriate action within the time specified, ODOE must begin enforcement proceedings. An enforcement proceeding may be brought to revoke the technician tax-credit certification, remove company name from ODOE listing, and/or to impose a civil penalty.

(3) ODOE must commence an enforcement proceeding by sending the technician and employing company a notice of violation. The notice must describe the violation(s) and notify the technician and employing company of the proposed penalty (revocation and/or civil penalty).

(4) Civil Penalties: The technician and employing company may be subject to a civil penalty if a system certification or technician tax-credit certification is revoked by the Director. The amount of the penalty must be the total amount of tax relief estimated to have been provided to purchasers of the system for which a system or technician tax-credit certification is revoked under this rule.

(5) Before the Director imposes a penalty, the technician and/or employing company must be given 21 days in which to request a hearing pursuant to ORS 183.310-183.550 and the **Attorney General's Uniform and Model Rules of Procedure, January 15, 2004 edition**. The hearing will be to contest the revocation of a system or technician tax-credit certification based on actions listed under OAR 330-070-0045.

(6) Re-application: To reapply after the revocation of a technician tax-credit certification, the technician and employing company must prove to the satisfaction of ODOE that the problem causing revocation has been corrected. Revocation must be in effect for at least one year before that technician or employing company or any other firm with any of the same shareholders may reapply for certification.

Stat. Auth.: ORS Ch. 469

Stats. Implemented: ORS 469.180

Hist.: DOE 1-1995, f. & cert. ef. 1-17-95

330-070-0055

Guidelines for Consumer Information

(1) A tax credit certified technician must inform each buyer in simple terms:

(a) How to tell if the device is running right. Who to call if it is not;

(b) How to tell if the freeze protection is in effect. Who to call if it is not;

(c) What maintenance is needed, annually and long term;

(d) Who will honor warranties; and

(e) What are the conditions of the warranties including but not limited to how to start and keep warranties in force.

(2) A tax-credit certified technician or employing company must provide all clients with a copy of materials deemed necessary by the Director prior to sale of the system. Stat. Auth.: ORS 469.086 Stats. Implemented: ORS 316.116
Hist.: DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 6-1983, f. 12-16-83, ef. 1-1-84; DOE 7-1984, f. & ef. 12-19-84; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90; DOE1-1996, f. & cert. ef. 4-1-96

330-070-0059
Guidelines for Solar Pool and Spa AEDs

(1) Installations must be of professional quality, be installed according to manufacturer's instructions; comply with all applicable state, county, or local codes and regulations; and be verified by a ODOE tax-credit certified solar technician.

(2) Consumers who purchase a solar water heating system must receive written operating and maintenance instructions. These instructions must at a minimum include:

(a) Clear instructions on how to monitor the system performance;

(b) Description and recommended frequency of homeowner maintenance;

(c) Diagram of the system noting location of valves and monitoring devices; and

(d) What to do and who to call in an emergency and when the system needs professional maintenance and repairs;

(3) Pool heating system designs and installations must comply with the following additional requirements:

(a) Collectors and piping must be securely mounted to withstand local wind loads;

(b) Piping and pump sizing must consider collector area, total flow rates, pressure drop across collectors, length of run from collectors to pump, and maximum allowable pressure drop for the system;

(c) Any building insulation disturbed due to the system installation must be restored to previous condition;

(d) Pool collector materials must come with a minimum 10-year full warranty (to ensure that equipment designed for temporary installation is not used).

(e) System must have a method to show that it is operating correctly. This equipment must be a permanent part of the system, not require any special tools, and be in an easily accessible location.

(f) Collector risers must follow the slope of the surface they are mounted on to ensure drainage for proper freeze protection.

(g) Pool collectors must be equal to not less than 40 percent of the pool surface area if equipped with swimming pool blanket or not less than 60 percent if no pool blanket is present.

(4) Spa heating system designs and installations must comply with the following additional requirements:

(a) System design must be approved by the Oregon Department of Energy. Approval is based on complete system design documentation and calculation of annual energy savings.

(b) Controls must be capable of maintaining safe spa temperatures.

(c) Spa or hot tub must be insulated with not less than R-15 perimeter and bottom insulation and have a cover rated to not less than R-5.

(5) ODOE will provide technicians with a simple means of estimating annual energy savings for a pool heating system. Spa heating system performance will be determined on a case-by-case basis. For the purposes of determining the tax credit, the annual energy savings will be reduced by 25 percent if the total solar resource fraction for the site is less than 75 percent, and by 100 percent if the total solar resource fraction for the site is less than 50 percent.

(6) The costs listed in subsection (8)(a) through (h) of this rule are guidelines. They do not include all eligible costs. Other costs will qualify if justified to ODOE's satisfaction as part of a solar water

heating AED. Only total systems will qualify for the tax credit. All systems must comply with OAR 330-070-0010 through 330-070-0097.

(7) Eligible costs include:

(a) The cost of solar collectors;

(b) The cost of thermal storage devices;

(c) The cost of monitors, meters and controls;

(d) The cost of photovoltaic devices used to supply electricity to parts of the system;

(e) Installation charges;

(f) Fees paid for design or building;

(g) The cost of swimming pool blankets, if they are installed with a solar pool heating system; and

(h) Up to $200 of the cost of solar access easements. A certified copy of the recorded easement and proof of the cost must be submitted with an application.

(8) The addition of more energy producing capacity to an existing solar pool heating system may be eligible for an AED tax credit if:

(a) The system addition increases first year energy yield; and

(b) The system addition is built, installed and operated in accord with OAR 330-070-0010 through OAR 330-070-0097.

(9) ODOE will calculate first year energy yield of a system addition by subtracting the estimated savings of the original AED from the increased first year energy yield with the addition.

(a) ODOE will not recalculate the original AED's estimated energy savings, even if the AED produces less than estimated.

(b) Any AED which received an AED tax credit in a prior year shall be assumed to remain in place, for purposes of calculating a tax credit for a system addition.

(10) A tax credit for a system addition must count as a tax credit for the tax year in which the addition is placed in service. The total tax credit of current and previous year credits shall not exceed $1,500 per year.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Department of Energy.]

Stat. Auth.: ORS 469.086

Stats. Implemented: ORS 316.116

Hist.: DOE 12(Temp), f. & ef. 10-14-77; DOE 3-1978, f. & ef. 3-7-78; DOE 5-1978, f. & ef. 9-27-78; DOE 6-1979, f. & ef. 11-13-79; DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 6-1983, f. 12-16-83, ef. 1-1-84; DOE 7-1984, f. & ef. 12-19-84; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1989, f. & cert. ef. 6-15-89; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90; DOE 1-1995, f. & cert. ef. 1-17-95; DOE 1-1996, f. & cert. ef. 4-1-96

330-070-0060

Guidelines for Solar Domestic Water Heating AEDs

(1) Installations must be of professional quality, comply with all applicable state, county, or local codes and regulations and be verified by an ODOE tax-credit certified solar technician.

(2) Consumers who purchase a solar water heating system must receive written operating and maintenance instructions. These instructions must be plainly mounted/displayed on or near the solar storage or backup water-heating tank. These instructions must at a minimum include:

(a) Clear instructions on how to determine if the system is functioning properly;

(b) Description and recommended frequency of homeowner maintenance;

(c) Diagram of the system noting location of valves and monitoring devices;

(d) What to do and who to call in an emergency and when the system needs professional maintenance and repairs; and

(e) How to protect the system from overheating due to stagnation during periods when the system is not in use during the summer months.

(3) System designs and installations must comply with the following additional requirements:

(a) Collectors and piping must be securely mounted to withstand local wind loads;

(b) Piping and pump sizing must consider collector area, total flow rates, pressure drop across collectors, length of run from collectors to pump, and maximum allowable pressure drop for the system;

Pipe insulation must be installed on all solar pipe runs and protected against damage from exposure in outdoor conditions and be rated for design condition temperatures;

(d) Any building insulation disturbed due to the system installation must be restored to previous condition;

(e) For systems using pressurized anti-freeze fluids, a pressure gauge must be installed to indicate pressure in the system; and

(f) Piping containing pressurized water in attics 24 hours a day must be of the appropriate material allowed by applicable Oregon plumbing codes. A minimum number of fittings must be used in the attic, and the fittings shall be copper or brass.

(g) Pipe materials (e.g. copper, PEX, polybutylene) must be capable of handling the temperature ranges that they will be exposed to (e.g. freezing or collector stagnation).

(4) Freeze protection must be provided for systems where the heat transfer fluid may freeze. The freeze protection method shall follow these guidelines:

(a) The method must be clearly stated in the owner's manual.

(b) The method must work in the absence of utility electric power.

(c) Systems using tanks, piping, pumps and other components containing water in unheated spaces must be adequately protected from freezing.

(d) Recirculation is not an acceptable freeze protection measure, unless the collector used is a heat pipe type.

(e) Drain-down or manual drain systems are not acceptable freeze protection methods for solar domestic water heating systems.

(f) Drain-down or manual drain systems for pools or spas must be designed for gravity draining of the collector and piping.

(g) Thermosyphon systems may not connect power to the electric element in roof-mounted tanks as a freeze protection or backup measure.

(5) The annual energy requirement for domestic water heating must be reduced by setting the water heater thermostat to 120 degrees F.

(6) A method to show that the system is operating correctly must be provided.

(a) For passive systems this must be a thermometer in line between solar storage and backup tank.

(b) For an active system this must be a flow meter in the supply line to the collectors and a thermometer on the outlet port of the solar storage tank.

(c) Equipment meeting this requirement must:

(A) Be a permanent part of the system;

(B) Not require any special tools or equipment to monitor; and

(C) Be in an accessible location.

(7) The costs listed in subsection (8)(a) through (j) of this rule are guidelines. They do not include all eligible costs. Other costs will qualify if justified to ODOE's satisfaction as part of a solar water heating AED. Only total systems will qualify for the tax credit. All systems must comply with OAR 330-070-0010 through 330-070-0097.

(8) Eligible costs include:

(a) The cost of solar collectors;

(b) The cost of thermal storage devices;
(c) The cost of ductwork, piping, fans, pumps and controls that move heat from solar collectors to storage and to heat buildings;
(d) The cost of monitors, meters and controls;
(e) The cost of photovoltaic devices used to supply electricity to parts of the system;
(f) Installation charges;
(g) Fees paid for design or building;
(h) The cost of swimming pool blankets, if they are installed with a solar pool heating system;
(i) The cost of hot water conservation measures installed with a water heating AED; and
(j) Up to $200 of the cost of solar access easements. A certified copy of the recorded easement and proof of the cost must be submitted with an application.

(9) ODOE will provide a table of estimated annual energy savings or "yield chart" for most OG-300 systems common to Oregon and R&D systems. Annual energy savings will be based on the annual performance simulations provided by the SRCC modified for conditions required under state law.

(a) OG-300 systems that meet ODOE approval do not have to be on the yield chart if there has been no request by a tax-credit certified technician that they appear on the yield chart.

(b) For the purposes of determining the tax credit, the annual energy savings will be reduced by 25 percent if the total solar resource fraction for the site is less than 75 percent, and by 100 percent if the total solar resource fraction for the site is less than 50 percent. Yields must be developed for each of the three weather zones defined by ODOE and updated at least annually.

(10) All systems must meet the standards established by the SRCC OG-300 system certification in effect at the time the rules are adopted, or equivalent requirements as determined by the Director.

(a) Temporary authorization will be granted to non-OG-300 systems under a special "Research & Development" status. ODOE will extend this temporary authorization for up to 12 systems of a specific design. The solar technician will need to submit a complete copy of the system design and operation documents provided to the consumer to ODOE for approval. ODOE shall determine that such system will perform well under the conditions it is designed for and will likely last in excess of 15 years without replacement of major components. Tax credit amounts under this status will be determined by ODOE based on 90 percent of the estimated annual energy output.

(b) Temporary authorization may be extended to non-OG-300 systems under an "OG-300 Applicant" status providing the system manufacturer is currently applying for OG-300 certification from SRCC. ODOE will extend an unlimited quantity of systems to be installed in a 12-month period, providing ODOE has reviewed a copy of the SRCC application and determined it to be reasonably likely to achieve OG-300 certification within the 12-month period.

(11) System yields shown in the yield charts may be increased by a tax-credit certified technician providing they sign a statement of compliance provided by ODOE and meet the following storage tank insulation levels:

(a) A one tank/aux. tanks adjustment of +100 kWh applies to the tank in a solar water heating system that has only one storage tank, such as a thermally stratified active system or ICS systems or the auxiliary tank in two tank systems. Such tanks generally have the ability to heat water by means other than solar energy. To qualify for this yield adjustment the tank must meet the insulation requirements as specified by ODOE.

(b) A solar tank adjustment of +100 kWh applies to the solar storage tank in a solar water heating system. Such a tank does not have a means of heating water other than solar energy and is almost always located upstream of the auxiliary tank. Because of their size and because they are usually not part of the original home design, they are generally located outside the

conditioned space of the house. To qualify for this yield adjustment the tank must meet the insulation requirements as specified by ODOE.

(12) All technician tax-credit certified-installed systems must:

(a) Include an O&M manual which specifies installation instructions, operation instructions, maintenance plan, fluid quality, service and replacement parts, hazards, and warranty coverage;

(b) Provide clear labeling of on/off/bypass controls and safety issues;

(c) Have a means of indicating proper operation of the solar water heating system (flow indicators/meter or thermometers);

(d) Be installed to meet local building codes; and

(e) Have a tempering valve to prevent greater than 120 degree F. water downstream of the valve.

(13) Systems shall be installed with the OG-300 certification sticker located on the manual cover. The manual and any supporting documentation shall be placed in a waterproof, clear plastic bag located on or near the solar or domestic hot water heater.

(14) Owner-built and site-built domestic water heating systems are exempt from the testing requirements. ODOE will evaluate the system design and assign it a yield based on 50 percent of its estimated annual energy performance.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Department of Energy.]

Stat. Auth.: ORS 469.086

Stats. Implemented: ORS 316.116

Hist.: DOE 12(Temp), f. & ef. 10-14-77; DOE 3-1978, f. & ef. 3-7-78; DOE 5-1978, f. & ef. 9-27-78; DOE 6-1979, f. & ef. 11-13-79; DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 6-1983, f. 12-16-83, ef. 1-1-84; DOE 7-1984, f. & ef. 12-19-84; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1989, f. & cert. ef. 6-15-89; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90; DOE 1-1995, f. & cert. ef. 1-17-95; DOE 1-1996, f. & cert. ef. 4-1-96

330-070-0062

Guidelines for Passive Solar Space Heating AEDs

(1) Installations must be of professional quality and comply with all applicable state, county or local codes and regulations.

(2) The estimated first year energy yield must be the net usable energy produced under average environmental conditions in one year.

(3) Passive solar space heating systems must produce energy savings equal to not less than 20 percent of the annual energy used for space heating in the dwelling to be eligible for a tax credit. Such systems must:

(a) Have sufficient solar access, not jeopardized by future buildings or tree growth;

(b) Provide usable heat for the heated space;

(c) Provide adequate thermal storage for solar heat gained;

(d) Prevent overheating of the heated space that requires mechanical space cooling; and

(e) In addition, sunspaces must:

(A) Have no backup heating device; and

(B) Be able to be isolated from the heated space.

(4) Determination of annual performance shall be based on one of the following approved methods:

(a) Using ODOE's prescriptive passive solar heating path to achieve 20 percent savings.

(b) Annual hourly simulation using an approved energy modeling software (e.g.Energy-10).

(c) Monitored data from system before and after installation of AED.

(5) Solar device costs eligible for passive space heating systems include:

(a) The cost of mass or water walls for thermal storage;

(b) The cost of movable window insulation that is part of a passive system. It must tightly seal on all sides of the window. It must also have an R- value of at least three;

(c) The cost of south-facing windows, if the requirements of section (4) of this rule are met; and

(d) The cost of passive heat distribution components.

(6) ODOE will use data supplied by the applicant to determine if the requirements of OAR 330-070-0022 are met.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Department of Energy.]

Stat. Auth.: ORS Ch. 469

Stats. Implemented: ORS 469.170

Hist.: DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1989, f. & cert. ef. 6-15-89; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90

330-070-0063

Guidelines for Combined Active Solar Space and Domestic Water Heating AEDs

(1) Installations must be of professional quality, made to manufacturer's instructions, comply with all applicable state, county and local codes and regulations, and be verified by an ODOE tax-credit certified solar technician.

(2) Active solar space heating systems must produce energy savings equal to not less than 15 percent of the annual energy used for space heating in the dwelling to be eligible for a tax credit.

(3) The estimated first-year energy savings shall be based on the following:

(a) The house design prior to installation of the solar energy equipment, not a base code design or reference design.

(b) The total energy savings from both space heating and domestic hot water heating, with not less than 50 percent of the savings coming from solar heating.

(c) An annual solar utilization calculation method approved by the Director that accounts for the operating temperature of the energy storage and collector system and gives no credit for any insulation measures not directly associated with the solar AED.

(d) Typical residential occupancy setpoints and operating behavior. Savings will not be granted for consumer behavior options, with the exception of nighttime window insulation which will be evaluated at 50 percent of maximum effectiveness.

(4) Applicant must provide the following information:

(a) As-built to scale home drawing that indicates envelope shell insulation levels;

(b) Complete system design documentation with component list and controls sequence;

(c) Annual estimated savings calculations; and

(d) Solar equipment specifications and performance test data.

(5) Solar device costs eligible for the tax credit for active space heating systems include:

(a) The cost of solar collectors;

(b) The cost of thermal storage devices;

(c) The cost of ductwork, piping, fans, pumps and controls that move heat from solar collectors to storage and to heat buildings;

(d) The cost of monitors, meters, and controls;

(e) The cost of photovoltaic devices used to supply electricity to parts of the system;

(f) Installation charges; and

(g) Fees paid for design or building.

(5) ODOE will use data supplied by the applicant to determine if the requirements of OAR 330-070-0022 are met.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Department of Energy.]

Stat. Auth.: ORS Ch. 469

Stats. Implemented: ORS 469.170

Hist.: DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1989, f. & cert. ef. 6-15-89; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90

330-0070-0064

Guildelines for Photovolatic AEDs

(1) Installations must be professional quality, comply with all applicable Oregon codes, comply with the requirements of the National Electric Code article 690, and be verified by an ODOE tax-credit certified solar technician.

(2) A photovoltaic tax credit for a system installed on or after November 4, 2005, shall be limited to $6,000 per PV system. The amount of the credit shall be based on $3 per watt. The maximum tax credit given in a calendar year is $1,500. If a system results in a tax credit larger than $1,500, the remainder will be applied on to the subsequent year until either the $6,000 limit or the total tax credit is provided.

(3) System size shall be determined by the sum of all the photovoltaic module DC wattage ratings under standard test conditions (STC).

(4) The minimum system size must be 200 Watts DC output under STC.

(5) Photovoltaic AED costs eligible for the tax credit include the cost of:

(a) Photovoltaic modules;

(b) Inverters;

(c) Storage systems and regulators;

(d) Monitors, meters, and controls;

(e) Wiring and framing materials;

(f) Trackers;

(g) Installation charges; and

(h) Permits and fees, including up to $200 of the cost of solar access easements. A certified copy of the recorded easement and proof of the cost must be submitted with an application.

(6) For the purposes of determining the tax credit, the annual energy savings will be reduced by 25 percent if the total solar resource fraction for the site is less than 75 percent, and by 100 percent if the total solar resource fraction for the site is less than 50 percent. [Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Department of Energy.]

Stat. Auth.: ORS 469.086

Stats. Implemented: ORS 316.116

Hist.: DOE 1-1986, f & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-11996, f. & cert. Ef. 4-1-96

330-070-0070

Guidelines for Ground-Water Heat Pump and Ground Loop AEDs

(1) Only total systems will qualify for a tax credit. All systems must comply with OAR 330-070-0025 and 330-070-0040 and be of closed loop design and operation. See also OAR 330-070-0027.

(2) Systems must limit waste of the resource.

(3) Systems must not have adverse effects on:

(a) Other systems; and

(b) Water quality applying the standards of the Department of Environmental Quality.

(4) Systems must not create hazards such as:

(a) Steam or water vapor;

(b) Vapors or odors;

(c) Noise; and

(d) Hazardous wellhead design.

(5) System parts must have adequate:

(a) Structural strength;

(b) Resistance to weather and fire;

(c) Ease of upkeep; and

(d) Durability.

(6) No system will cause harmful physical effects on people or unwanted tastes or odors.

(7) Some heat transfer fluids need special handling. These include toxic, corrosive, and explosive fluids. Such fluids shall only be used when the system is designed to safely handle them.

(8) Under normal operation, any part of a system that may be touched by people must be cooler than 141 degrees F. If this cannot be done, any part that reaches more than 140 degrees F. must have warning labels. Each system must include a device to limit water for domestic use to 140 degrees F.

(9) Each system and nearby structures must be protected against pressures, vacuums and temperatures.

(10) Systems must fully protect drinking water as specified in the Oregon Plumbing Specialty Code.

(11) Systems must use storage tanks built by accepted methods. Each tank must be tested for leaks.

(12) Expansion and contraction due to changing heat levels must not cause undue strain or distortion.

(13) Systems that use heat transfer fluids that may freeze must have freeze protection.

(14) Systems must use accepted methods to guard against the known corrosion/scaling level of the water.

(15) Systems must also be designed for the least effect on groundwater.

(16) Ground loop systems must cover enough ground to meet total annual heating requirements, as required by manufacturers' recommended design standards. Ground loops used for cooling must restore soil moisture.

(17) Downhole heat exchangers will be reviewed on a case by case basis.

(18) The system COP must be at least three, including energy used by pumps. COP shall be determined by the following methods:

(a) For water source heat pumps, the COP must be determined in accordance with ARI Standard 325-85, at an entering water temperature of 50 degrees F.

(b) For water source or ground loop heat pumps using ambient surface water as an energy source and for solar assisted heat pumps, the COP must be the measured ratio of the heating season energy output divided by the heating season energy input. Both energy values must be expressed in the same units.

(19) All other types of ground water heat pumps and ground loop AEDs must be reviewed on their COP.

(20) Bermed or earth covered buildings will not qualify for the geothermal tax credit.

(21) All ground water heat pumps and ground loop water heating AEDs must include setting the water heater thermostat to 120 degrees F as a hot water conservation measure.

(22) A ground source heat pump system may receive a supplemental tax credit amount, determined by ODOE, based on additional energy savings, if the duct system to which it is attached is tested and certified in accordance with the protocols specified in Section 330-070-0073 (9) (a) through 330-070-0073 (9) (g). This amount is in addition to the tax credit amount for the ground source heat

pump system itself, and in addition to the tax credit amount provided for the duct testing and certification itself. In order to earn the supplemental tax credit amount, the ground source system must be installed, the duct system must be tested and certified, and the applications for all tax credit amounts associated with the system must be received, as a single package, at ODOE by April 1st of the tax year following the tax year for which the credits are being claimed.
Stat. Auth.: ORS 469.086
Stats. Implemented: ORS 316.116
Hist.: DOE 12(Temp), f. & ef. 10-14-77; DOE 3-1978, f. & ef. 3-7-78; DOE 5-1978, f. & ef. 9-27-78; DOE 6-1979, f. & ef. 11-13-79; DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 6-1983, f. 12-16-83, ef. 1-1-84; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1989, f. & cert. ef. 6-15-89 ; DOE 2-1989, f. 12-28-89, cert. ef. 1-1-90; DOE 1-1996, f. & cert. ef. 4-1-96

330-070-0073
Guidelines for Energy Efficient Appliances and Alternative Fuel Devices

(1) Energy efficient appliances must meet or exceed the following energy efficiency ratings, as measured in accordance with current United States Department of Energy (USDOE) test procedures where applicable, and be currently listed with ODOE as qualifying premium efficiency appliances.
(2) Where USDOE test procedures do not exist, ODOE will designate a nationally recognized test procedure that will apply instead.

(3) Clothes washers

(a) For the purpose of this program, clothes washer efficiency performance is determined using the USDOE Appendix J1 test procedure for residential clothes washers in effect at the time the rules are adopted.

(b) Clothes washers shall have a minimum Modified Energy Factor (MEF) of 1.60 and a maximum Water Factor (WF) of 8.50 gal/cubic foot/cycle.

(4) Refrigerator-Freezers

(a) Must have at least 20 percent lower energy consumption than that allowed by the July 1, 2001 USDOE standard for refrigerator/freezers;

(b) Must have a total net volume (sum of the fresh food compartment and freezer compartment volumes) of at least 12 cubic feet, but less than 30 cubic feet; and

(c) Must have a fully automatic defrost cycle.

(5) Dishwashers

(a) Dishwashers must have an Energy Factor of 0.61 cycles/kWh or higher; and

(b) Effective January 1, 2004, dishwashers must have tax credit eligibility based on an Energy Factor derived from the DOE Dishwasher Test Procedure effective September 28, 2003.

(c) Effective August 2, 2004, dishwashers must have a maximum water use per cycle, as tested, of 6.5 gallons.

(6) Water Heating Appliances

(a) Water heater efficiency requirements:

(A) Equipment efficiency requirements for units of nominal 1-ton or less capacity are based on the USDOE Energy Factor, as derived from the USDOE Appendix E test procedure for residential water heating equipment in effect at the time the rules are adopted. Efficiency requirements for units larger than 1-ton in capacity and smaller than 6-tons in capacity, are based on the system COP at 47 degrees F outdoor air temperature or other rating point appropriate for the system deemed equivalent by ODOE.

(B) Electric units of nominal 1-ton or less shall have an Energy Factor not less than 1.0; units with capacity greater than 1-ton and less than 6-tons shall have a COP rating of not less than 2.5.

(C) Natural gas, propane, or oil-fired units shall have an Energy Factor of 0.80 or greater as tested with natural gas fuel, and shall have a maximum firing rate of at least 140,000 Btu/hour and a minimum firing rate no higher than 24,000 Btu/hour.

(b) Combined space/water-heating system efficiency must be based on the water heating Energy Factor for Combined Systems (C_{EF}) as derived from the American National Standards Institute/American Society of Heating, Refrigerating, and Air Conditioning Engineers (ANSI/ASHRAE) 124-1991 test method. Water heaters that are part of a combined space and water heating system may not receive a tax credit for space heating efficiency as a boiler in addition to the tax credit as a water heating appliance.

(7) For Wastewater Heat Recovery Systems, field performance data submitted to and approved by ODOE must be the basis for tax credit qualification. The following rules also apply:

(a) The systems must meet all plumbing code requirements for vented double-wall heat exchangers;

(b) The system must not interfere with the proper operation of the dwelling's wastewater system; and

(c) Energy recovered must be re-introduced into the dwelling's hot water supply system.

(8) Performance Checked Space Conditioning Duct Systems must meet the following requirements:

(a) All joints and seams in duct work outside the conditioned space must be sealed, when accessible, with mastics that meet NFPA class 1 requirements, that are UL 181 listed, and that meet ASTM standards C557 and C919-79.

(b) All closure systems must be applied according to the manufacturer's instructions or as specified by these standards.

(c) If the home serviced by the performance checked duct system is new, or the building envelope is being altered, the house must meet residential energy conservation requirements of the Oregon Structural Specialty Code or of the Oregon One and Two Family Dwelling Code in effect at the time the home is constructed or structurally altered.

(d) Duct leakage must be tested using ODOE-approved, calibrated duct testing equipment and ODOE approved testing protocols.

(e) Testing to verify that these standards have been achieved must be conducted by technicians approved by ODOE or by an ODOE-designated agent or representative.**(f)** In addition to general requirements (a) through (e), performance checked duct systems must meet situation specific standards for eligibility, materials, design, installation, air tightness and safety, as specified in the Oregon Department of Energy Premium Efficiency Duct System Standards, dated October 30, 2003.

(g) Measures eligible for the purpose of calculating a performance checked duct system tax credit include:

(A) New construction

(i) Duct sealing labor and materials;

(ii) Heating and cooling load calculations;

(iii) Duct system sizing and design calculations;

(iv) Labor and materials for installing multiple returns;

(v) Labor and materials for installing passive pressure relief grilles;

(vi) Duct testing; and

(vii) Labor and materials for bringing duct systems inside heated space.

(B) New ducts in existing homes

(i) Duct sealing labor and materials;

(ii) Heating and cooling load calculations;

(iii) Duct system sizing and design calculations;

(iv) Labor and materials for installing multiple returns;
(v) Labor and materials for installing passive pressure relief grilles; and
(vi) Duct testing.

(C) Duct repair and sealing/existing ducts in existing homes
(i) Duct sealing labor and materials;
(ii) Labor and materials for installing multiple returns;
(iii) Labor and materials for installing passive pressure relief grilles; and
(iv) Duct testing.

(h) To apply for a performance checked duct tax credit, the following information must be submitted in a form approved by ODOE:

(A) Application form;

(B) Test results worksheet for "new construction," "new duct systems in existing homes," or " duct repair and sealing"/existing ducts in existing homes, as applicable;

(C) Copies of heating and cooling load calculations and/or duct sizing calculations, as applicable, shall be made available to ODOE upon request; and

(D) Itemized invoice identifying measures detailed in (g).

(i) The amount of the tax credit for performance checked duct systems must be 25 percent of the eligible costs detailed in (g), up to $250.

(9) Performance Checked Heat Pumps and Central Air Conditioners must meet the following standards:

(a) Systems must be tested and serviced as needed to confirm correct refrigerant charge and air flow by technicians certified by ODOE or its approved agent, based on procedures approved by ODOE.

(b) Approved supplemental air flow test methods must be used, including: flow grid, duct blaster, strip heat, or flow hood. Supplemental air flow test results must include pre-repair and post repair air flow readings in cubic feet per minute, cfm.

(c) To verify electronically commutated motor (ECM) installation results, the wattage of the existing fan motor and new ECM fan motor must be measured using a wattmeter or by clocking the revenue meter using the following procedure:

(A) Turn off all circuit breakers except the breaker to the AC/HP air handler.

(B) Turn on the air handler fan (cooling speed).

(C) At the meter, use a stopwatch, and for a period of at least 90 seconds, count the number of revolutions of the wheel. Record seconds and number of revolutions.

(D) Record meter data: kWh and multiplier if any.

(E) Calculate the watt draw of the fan: Watts = [kWh x number of revolutions x multiplier x 3600]/seconds.

(d) Eligible measures must be confirmed by the system diagnostic tests using ODOE-approved protocols in use at the time of measure installation. Duplicate tax credits may not be claimed.

(e) Measures eligible for the purpose of calculating a performance checked heat pump/air conditioner tax credit include:

(A) System diagnostic tests;

(B) Adding or removing refrigerant when initial diagnostic tests indicate need for refrigerant adjustment and post repair tests indicate correct charge has been installed;

(C) Altering the duct system to improve air flow when initial diagnostic tests show low air flow and post repair tests show an air flow improvement of 10 percent or more;

(D) Cleaning the inside coil when initial diagnostic tests indicate low air flow and post repair tests show an air flow improvement of 10 percent or more; and

(E) Replacing an existing inside fan motor with an electronically commutated motor (ECM) when initial diagnostic tests show low air flow and tests after ECM installation show an air flow improvement of 10 percent or more.

(f) To apply for a performance checked heat pump/air conditioner tax credit, the following information must be submitted in a form approved by ODOE:

(A) Application form;

(B) Performance checked heat pump/AC diagnostics data entry form;

(C) Pre and post repair system air flow measurements using approved methods listed in (b), if applicable;

(D) Watt draw of existing fan motor and new ECM, if applicable; and

(E) Itemized labor and materials cost information for applicable measures, testing, and repairs.

(g) The amount of the performance checked heat pump/AC tax credit must be 25 percent of the cost of testing and repair, up to $250.

(10) Alternative Fuel Vehicles must have equipment installed to make the vehicle capable of storing and utilizing an alternative fuel for vehicle propulsion. Equipment may consist of original equipment manufacturer components; or

(a) Components for natural gas powered vehicles that meet EPA1-A requirements current at the time these rules are adopted; or

(b) Components for hybrid vehicles must provide the hybrid vehicle with a combination of power between propulsion energy systems such that the peak power ratio of the vehicle is 0.10 or greater; or

(c) Other components as recognized by ODOE as necessary for alternative fuel use.

(11) Alternative Fuel Fueling Systems must be installed to meet all state and local fire and life safety codes and be capable of re-fueling /recharging an alternative fuel vehicle within 14 hours. The following rules also apply:

(a) On-board charging systems that feed into the rechargeable energy storage system in a hybrid vehicle must be high-voltage systems of 100 Volts or higher that have an active regenerative braking system integrated into the recharging system of the hybrid vehicle; and

(b) The use of an on-board charging system on a hybrid vehicle must result in significant energy savings as determined by the Director of ODOE.

(12) Energy Recovery Ventilators (ERVs) must:

(a) Be tested, rated and certified through the Home Ventilating Institute (HVI) Division of the Air Movement and Control Association (AMCA) International, Inc., and listed in the HVI directory;

(b) Be capable of at least 30 percent Latent Recovery/Moisture Transfer (LRMT) at 32°F when operating on the lowest fan speed;

Have a maximum $EUI_{(HERV)}$ of 1.5 watts/cfm at the lowest fan speed for which performance data is published in the HVI directory; and

(c) Have a minimum Sensible Recovery Efficiency (SRE) of:

(A) 65 percent at 32°F/0°C when operating at the lowest fan speed;

(B) 60 percent at 32°F/0°C when operating at the highest fan speed; and

(C) 60 percent at –13°F/-25°C when operating at the lowest fan speed, if rated at this condition.

(13) Heat Recovery Ventilators must:

(a) Be tested, rated and certified through the Home Ventilating Institute (HVI) Division of the Air Movement and Control Association (AMCA) International, Inc., and listed in the HVI directory;

(b) Have a maximum EUI of 1.5 watts/cfm at the lowest fan speed for which performance data is published in the HVI directory; and

(c) Have a minimum Sensible Recovery Efficiency (SRE) of:

(A) 65 percent at 32°F/0°C when operating at the lowest fan speed;

(B) 60 percent at 32°F/0°C when operating at the highest fan speed; and

(C) 60 percent at –13°F/-25°C when operating at the lowest fan speed, if rated at this condition.

(14) Very High Efficiency Air Conditioning Systems must:

(a) Be a central, split-system designed and installed to operate in conjunction with the air handling unit or furnace of a home's heating system;

(b) Be tested and rated in accordance with the DOE test procedure for residential air-conditioning systems in effect at the time these rules are adopted, and certified by, and listed in the directory of the Air Conditioning and Refrigeration Institute (ARI) in effect at the time these rules are adopted;

(c) Consist of a matched outdoor unit and indoor unit (air handler and coil or furnace and coil), as tested, rated and listed in the ARI Directory;

Have a minimum SEER rating at DOE "B" conditions of 14.5 (Effective April 1, 2006, this requirement will be deleted.)**(e)** Have a minimum EER rating at DOE "A" conditions of 12.5 (Effective April 1, 2006, have a minimum EER rating at DOE "A" conditions of 13.0); and

(f) Be installed in accordance with the protocols specified in section 330-070-0073 (10) (a) through 330-070-0073 (10) (g) of these rules.

(15) Very High Efficiency Air Source Heat Pump Systems must:

(a) Be a central, split-system;

(b) Be tested and rated in accordance with the USDOE Appendix M test procedure for residential air-conditioning systems in effect at the time these rules are adopted, and be certified by, and be listed in the directory of the Air Conditioning and Refrigeration Institute (ARI) that is in effect at the time these rules are adopted;

(c) Consist of a matched outdoor unit and indoor unit (air handler and coil or furnace and coil), as tested, rated and listed in the ARI Directory;

(d) Have a minimum DOE Region IV HSPF rating of 8.5 (Effective April 1, 2006. have a minimum DOE Region IV HSPF rating of 9.0);

(e) Have a minimum SEER rating at DOE "B" conditions of 13.0 (Effective April 1, 2006, this requirement will be deleted.)**(f)** Have a minimum EER rating at DOE "A" conditions of 11.0. (Effective April 1, 2006, have a minimum EER rating at DOE "A" conditions of 12.0); and

(g) Be installed in accordance with the protocols specified in section 330-070-0073 (9)(a) through 330-070-0073 (9)(g) of these rules.

(16) Very High Efficiency Warm Air Furnace Systems must:

(a) Be tested and rated in accordance with the USDOE Appendix N test procedure for furnaces in effect at the time these rules are adopted, and be certified by and listed in the directory of the Gas Appliance Manufacturers Association (GAMA) in effect at the time these rules are adopted;

(b) Have a minimum AFUE rating of 0.90 (90 percent);

(c) Use outdoor air for combustion; and

(d) The air handler for the unit must have an electronically commutated, permanent magnet variable speed DC (ECPM) motor, or have an $EUI_{(FURNACE)}$ of less than 0.02.

(17) Very High Efficiency Air Handlers must:

(a) Be installed as part of a hydronic space heating system; and

(b) Be equipped with an electronically commutated, permanent magnet variable speed DC (ECPM) motor.

(18) Very High Efficiency Hot Water Boiler Systems must:

(a) Be tested and rated in accordance with the USDOE Appendix N test procedure for furnaces in effect at the time these rules are adopted, and be certified by and listed in the directory of the Gas Appliance Manufacturers Association (GAMA) in effect at the time these rules are adopted; and

(b) Have a minimum AFUE rating of 0.88 (88 percent).

(19) Very High Efficiency Air Conditioning, Air Source Heat Pump or Furnace systems may receive a supplemental tax credit amount, determined by ODOE, based on additional energy savings if the duct system to which it is attached is tested and certified in accordance with the protocols specified in Section 330-070-0073 (9) (a) through 330-070-0073 (9) (g). This amount is in addition to the tax credit amount for the Very High Efficiency Air Conditioning, Air Source Heat Pump or Furnace system itself, and in addition to the tax credit amount provided for the duct testing and certification itself. In order to earn the supplemental tax credit amount, the air conditioning and/or heating system must be installed, the duct system must be tested and certified, and the applications for all tax credit amounts associated with the system must be received, as a single package, at ODOE by April 1st of the tax year following the tax year for which the credits are being claimed.**(20)** Any other standards adopted by ODOE for energy efficient appliances and alternative fuel devices, their components, and/or systems as determined by the Director of the Oregon Department of Energy.

Stat. Auth.: ORS 469.086

Stats. Implemented: ORS 316.116

Hist.: DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88; DOE 1-1996, f. & cert. ef. 4-1-96

330-070-0085

Fuel Cell Systems

(1) To be eligible for a tax credit under these rules, fuel cell systems must have a minimum rated stack capacity of 0.5 kW and a maximum rated system capacity of 10 kW.

330-070-0089

Guidelines for Wind AEDs

(1) To qualify for a tax credit, a wind AED system must:

(a) Meet all applicable industry standards published by the American Wind Energy Association (AWEA). The customer and ODOE must be given a copy of the documentation that shows that these standards have been met. The documentation must apply to the correct make, model and version of the wind AED for which the applicant seeks the credit.

(b) Include a one-year written guarantee from the dealer or maker assuring the buyer a full refund or no-cost replacement of the system if the system does not meet all applicable standards published by AWEA. The guarantee shall provide that, in the event the system does not meet the AWEA standards, the refund or no-cost replacement shall be at the buyer's option.

(2) Systems must be designed and located to reduce the potential for hazards and unpleasant living conditions. Systems must be designed and located taking into account:

(a) The proximity of the system to buildings, power lines, antennae or other similar hazards;

(b) The effect of high winds on the system and on any building connected to the system by guy wires;

(c) Whether the system blocks fire lanes, obstructs dwelling access, or otherwise increases fire danger;

(d) Whether the operation of the system significantly increases background noise; and

(e) Whether connecting the system to other buildings by guy wires creates vibration and tension in other buildings.

(3) Materials used will assure that the wind AED has adequate:

(a) Strength;
(b) Resistance to wind, lightning, ice, moisture, corrosion and fire;
(c) Durability; and
(d) Low maintenance cost.

(4) The wind AED must withstand all natural forces it may be expected to experience.
(5) No part of a wind AED project must put toxic substances into the environment in amounts that will cause disease or harmful physical effects to humans, animals or plants.
(6) Wind AED parts must be serviceable without the need to trespass.
(7) Maximum Design Wind Speed: All parts of a Wind AED project must withstand the highest wind speed expected at its location. All parts must withstand this wind without damage. To meet this requirement, wind AEDs may be shut down during highest expected winds.
(8) Manual Shutdown: All wind AEDs must have a manual way to stop the rotor from turning. This method must work safely during high winds and routine service.
(9) Overspeed Control: Rotor overspeeds shall be prevented by the wind AED's design.
(10) Tower safety: All parts of a wind AED project shall meet accepted engineering standards. Tower design must include consideration of:
(a) Gravity load; and
(b) Peak thrust on the rotor, nacelle, tail and tower over the full wind speed operating range.
(11) Electric: All wind AED electrical parts must adhere to all standards and codes in force at the time they are installed.
(12) Lightning: Wind AEDs must withstand lightning strikes.
(13) The Director may waive part or all of section (1) of this rule if production of the wind AED model stopped prior to 1990, or it is an owner-built system or a mechanical wind AED.
(14) The first-year energy yield of wind AEDs must be at least 350 kWh.
(a) The first-year energy yield must be estimated using the measured wind data and the wind AED's power curve or energy production data.
(A) The provided wind data must cover at least a one-year period.
(B) Wind data may be used from three nearby wind monitoring stations, the wind AED site itself, or, in the event of less than one year's measurements at the wind AED site, the application shall include the months of on-site measurements and one year's worth of data from two nearby locations.
(b) ODOE will use data supplied by the applicant to verify the first-year energy yield.

330-070-0091
Eligible Costs for a Wind AED

(1) The costs listed in subsections (2)(a) through (m) of this rule are guidelines. They do not include all eligible costs. Other costs will qualify if justified as AEDs to ODOE's satisfaction. Only total working systems will qualify for a tax credit. All systems must comply with OAR 330-70-0021 and 330-070-0040.
(2) Eligible costs include:
(a) The cost of wind turbine generators;
(b) The cost of DC/AC converters, inverters and synchronous inverters;
(c) The cost of wind and system instruments and controls when part of a total wind AED;
(d) The cost of energy storage (batteries or other methods);
(e) The cost of tower, foundation and guys;
(f) Fees paid for design and building;
(g) Fee to install;
(h) The cost of electric meters, switches and electrical safety equipment;
(i) The cost of electric transformers and lines and supports;

(j) The cost of safety equipment;
(k) Up to $200 of wind easement cost;
(l) The cost of windmills; and
(m) The cost of pumps, linkage, pump heads, and vacuum chambers.

330-070-0097
Guidelines for Electricity Producing AEDs

(1) Generating AEDs linked with an electric utility must be installed in accordance with local utility interconnect guidelines and be UL listed and installed per the state electrical code.
(2) All applications must include the nominal rated electric capacity,the power curve and energy production data as a function of the average annual wind speed.
Stat. Auth.: ORS Ch. 469
Stats. Implemented: ORS 469.170 Hist.: DOE 1-1982, f. 1-12-82, ef. 2-1-82; DOE 1-1986, f. & ef. 2-7-86; DOE 4-1987, f. 12-18-87, ef. 1-1-88