Application Form for Residential Energy Tax Credit Certification — Instructions

Solar Electric System (Photovoltaic)

Oregon Department of Energy

The Oregon Residential Energy Tax Credit Program provides a tax credit for photovoltaic systems of 60 cents per kilowatt hour (kWh) saved during the first year of operation, up to $1,500. To qualify for a tax credit, you must have an Oregon income tax liability and the photovoltaic system must be located in an Oregon dwelling that is your primary or secondary residence.

To qualify for a tax credit, you must have an Oregon income tax liability. You claim the tax credit when you file your state income tax. If you are an Oregon resident and do not have an Oregon income tax liability, you may choose to transfer your tax credit to an Oregon resident who does. The Pass-through Option will allow you transfer your tax credit to an individual or business with an Oregon tax liability who will make a lump-sum payment to you equal to 95 percent of the certified tax credit amount. To use this option, complete this application form first. Your application will be reviewed for eligibility. A Pass-through Option Application will be sent to you in return. You and your pass-through partner (the tax credit recipient) will complete and sign the Pass-through Option Application and mail it to the Oregon Department of Energy. You are responsible for finding your own pass-through partner. The Department of Energy will then issue the tax credit certification to the pass-through partner. There may be tax implications for the pass-through partner. We advise you to consult with your tax preparer.

Don't wait to apply for the tax credit. The Oregon Department of Energy should receive the application **no later than April 1** of the year following the purchase to get a tax credit Certificate back by the April 15 filing deadline.

Take the following steps to receive your tax credit:

1. **Complete a sun chart for your location.** Use the attached sun chart worksheet to determine how much solar energy your system receives.

2. **Submit a completed Application and Verification Form for Tax Credit Certification Photovoltaic System.** The form may be filled out on your computer. Please print it, sign it and mail it with your receipt to the Oregon Department of Energy. The forms can NOT be filed on-line. Include the sun chart, proof of payments (receipts, contracts, or invoices dated and marked paid by your contractor). Sign the application form, have your contractor sign the form, and send the original to the Oregon Department of Energy. If the paperwork you submit demonstrates that your system qualifies for the tax credit, the Oregon Department of Energy will approve your application and send you a signed Certification specifying the qualifying tax credit amount.

3. **Claim the tax credit on your state income tax form.** Keep your Certification, a copy of your application, and proof of payment with your tax records. (Do not attach them to your tax return.) If your return is audited, the Oregon Department of Revenue will request copies of the information from you. Tax credits not taken in the first year may be carried forward up to five years.

General Requirements:

- Applications must be at least 200 peak Watts.
- Systems must be permanently installed and may not be located on a recreational vehicle.
- All equipment must be new and UL (Underwriter Laboratory) listed.
- Only the solar electric modules are eligible for the tax credit.
- You can get a tax credit for increasing the size of an existing system.

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Tips for Buying and Installing a Photovoltaic System

- If you are buying the system from an installer, ask how much experience he/she has installing photovoltaic systems. Ask for references, and check them.
- Make sure the system is installed in accordance with state electric code. Article 690 of the National Electric Code covers current standards. Failure to meet them may void some portions of your homeowners's insurance policy.
- Shop around. Prices vary and have been decreasing.
- Make sure the equipment has at least a 10-year warranty.
- If your system is utility interconnected, follow all guidelines established by your electric utility. To minimize your liability, ask the utility to inspect the system before you use it.
- Ask your electric utility about net metering. It allows you to run your meter backwards when you have surplus solar power and get a credit on your electricity bill at the full retail rate.
- If you system includes battery backup, maintain batteries at full charge to extend their life. If the batteries are not a "sealed" type, place them in a well-ventilated space to prevent buildup of potential explosive gases.

If you have any questions, please call the Oregon Department of Energy toll-free: 1-800-221-8035. (In Salem, call 503-378-4040.) Or consult the Department of Energy Web site (www.oregon.gov/energy).

If you have questions concerning claiming the credit on your Oregon tax return, contact the Oregon Department of Revenue at 1-800-356-4222 or 503-378-4988.

OREGON DEPARTMENT OF ENERGY

Application and Verification Form
for Residential Energy Tax Credit Certification

Solar Electric System (Photovoltaic)

Oregon Department of Energy

625 Marion St. NE
Salem, OR 97301-3737
Toll-free: 1-800-221-8035
Salem: (503) 378-4040 Fax (503) 373-7806
Web site: www.oregon.gov/energy

Don't forget...
...to sign your application and include your receipt

1. APPLICANT INFORMATION

Name:		Social Security No.*:	
Mailing address:		Daytime phone:	
City:	Oregon County:	State:	Zip:
Site address (if different):			
City:	Oregon County:	State:	Zip:
If different than mailing address, please explain:			
Name of electricity utility company:			
Name of natural gas utility company:			
Installation date:	Number of people in household:		
Cost of system: $			

2. SYSTEM DESCRIPTION

System Type (check one)

☐ Utility Independent system ("off-grid" – not connected to an electric utility)

☐ Utility Interactive system (connected to electric utility services)
Ask your electric utility about net metering. It allows you to run your meter backwards when you have surplus solar electric power and credit your electric bill for the kilowatt hours produced.

Expansion of existing system capacity (if applicable)

☐ Application is for new adding capacity being added to an existing system.
Previous peak PV capacity of system: _____ watts.

*OAR 330-070-0025 authorizes the Oregon Department of Energy to request that you voluntarily provide your social security number for use as an identification number in maintaining internal records and may be shared with the Department of Revenue to establish the identity of an individual in order to administer state tax law. If you provide your social security number and consent to its use, it will be used only for the purpose(s) stated above.

FOR OFFICE USE ONLY
File no.:
Date received:
Tax credit amount: $
Tax year:

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2. SYSTEM DESCRIPTION (Continued)

PV Modules

1. Module manufacturer: _____ Model No.: _____
2. Rated peak output per module (name plate): _____ watts
3. Number of modules: _____
4. Peak PV capacity (multiply line 2 by line 3) : _____ watts
   (this is additional new capacity and must be at least 200 watts)
5. Total capacity of system (including previous capacity if applicable) _____ watts

Inverter

6. Inverter manufacturer: _____ Model No.: _____

Energy Storage (if present)

7. Charge controller manufacturer: _____ Model No.: _____
8. Battery manufacturer: _____ Model No.: _____
9. Number of batteries: _____ Total storage: _____ kWh
10. Net metering with utility? ☐ Yes ☐ No

3. SYSTEM PERFORMANCE ESTIMATION

Shading Impact

11. Loss from external shading (% loss on annual output - from sun chart) ..... _____ %
12. Shading Factor (100% – line 11) ..... _____ %

Tilt and Orientation Factor (TOF)

13. Tilt of collector surface ..... _____ degrees
14. Orientation of solar modules (negative = east of south, positive = west of south) _____ degrees
15. Tilt and Orientation Factor (from TOF graph) ..... _____ %

Total Solar Resource Fraction (TSRF)

16. Solar Resource for 1 kW system at site (with no losses; see Yield Table on Web site) _____ kWh/yr-kW
17. Total Solar Resource Fraction (**TSRF** = line 12 x line 15) ..... _____ %
18. Total Solar Resource (line 16 x line 17) ..... _____ kWh/yr-kW

Estimated Annual Production

19. Peak Output (line 4 divided by 1000) ..... _____ kW
20. Overall System Efficiency ..... _____ %
21. Estimated Annual Production (line 18 x line 19 x line 20) ..... _____ kWh

4. TAX CREDIT CALCULATION

If **TSRF** ≥ 75% Tax Credit = line 4 x $3.00/watt = $_____

If **TSRF** ≥ 50% but < 75% Tax Credit = line 4 x $2.25/watt = $_____

If **TSRF** < 50 % system is not eligible Tax Credit = $0.00 $_____

AMOUNT MAY NOT EXCEED $1,500

5. PASS-THROUGH OPTION

☐ **Yes - I want to transfer my tax credit to another Oregon resident (see below)**

☐ **No - I want to keep the full tax credit myself**
If you are an Oregon resident, the Pass-through Option will allow you transfer your tax credit to an individual with an Oregon tax liability who will make a lump-sum payment to you equal to 95% of the certified tax credit amount. To use this option, complete this application form first. Your application will be reviewed for eligibility. A Pass-through Option Application will be sent to you in return. You and your pass-through partner (the tax credit recipient) will complete and sign the Pass-through Option Application and mail it to the Oregon Department of Energy. The Department of Energy will then issue the tax credit certification to the pass-through partner. **Important: There may be tax implications for the pass-through partner. We advise you to consult with your tax preparer.**

6. INSTALLER SIGNATURE

Please have installer read and complete this section. If homeowner installed the system, he/she must complete.

***I certify that the system(s) described in this application is (are) installed and that the information contained herein is accurate and true*.** Complete and initial each item below:

_____The owner has received proper instruction for the operation and maintenance of the system.

_____The owner has received a system manual and an estimate of the annual energy savings

_____The owner has received a written _____ month full warranty for the system. Department of Energy Tax Credit Certified Contractors are required to provide at minimum a 12-month full warranty. The Oregon Department of Energy recommends a minimum 24-month full warranty on all parts and labor.

_____**The system has been properly permitted and inspected by local code jurisdiction.**
Jurisdiction: _____ Permit number:_____

I declare that this system meets all the requirements of ORS 469.160 through 469.180 and complies with all local building code requirements. Should the Oregon Department of Energy require changes in the system to make it conform to ORS 469.160 through 469.180 and OAR 330-70-010 through 330-70-097, the installer/contractor agrees to make such changes. By signing below, I certify that the system described in this application is installed and that the information contained herein is accurate and true.

Installation company:_____

Installation company address: _____

City: _____ State: _____ Zip: _____ Phone: _____

Installer name (please print): _____

CCB no.: _____Oregon Department of Energy Tax Credit Certified? Yes No

Installer's electrical license no.:_____ (if not installed by homeowner).

Installer's signature: _____ Date: _____

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7. DECLARATION, VERIFICATION AND APPLICATION SIGNATURES

***I understand that the Oregon Department of Energy does not make any warranty concerning the performance, operation, installation, or any other characteristic or feature of this system. Department of Energy approval is only for purposes of obtaining the Oregon Residential Energy Tax Credit. By signing below, I (we) certify that the system(s) described in this application is (are) installed and that the information contained herein is accurate and true*.** System Owner must initial each item below:

_____ I give the Oregon Department of Energy permission to inspect this installation upon agency request. Note: Refusing access for inspection may result in denial of this application.

_____ The installer has provided me with an owner's manual, a written warranty and instructed me in its proper operation.

_____ I have completed the attached sun chart for the site where this system is installed.

_____ **I have attached proof of payment** for this installation (an **itemized** receipt of payment from your contractor, marked "paid" and dated; a copy of the contract with your utility for the system; or, for do-it-yourself systems, an itemized receipt of payment for materials).

Have you received a prior tax credit through the Oregon Residential Energy Tax Credit Program in this tax year? ❑ Yes ❑ No If yes, for what type of system(s)? _____

We do not sell information from this application as a mailing list. However, the Oregon Department of Energy may be required to disclose the name, address and phone number from your application under the Oregon Public Records law ORS 192.410 et seq. We can withhold the address and phone number following a written request explaining personal safety concerns, such as a temporary restraining order. The Oregon Department of Energy does not endorse any company that requests the information.

Signature of Purchaser: _____ Date: _____

Signature of Joint Purchaser: _____Date: _____

Complete the following if two or more persons are purchasing this system and file separate tax returns.

Name: _____ Address: _____ % ownership: _____

Name: _____ Address: _____ % ownership: _____

Name: _____ Address: _____ % ownership: _____

Note: The Oregon Department of Energy certifies the energy efficiency of systems and equipment for the Oregon Residential Energy Tax Credit program. It is the applicant's responsibility to ensure compliance with all other eligibility requirements. If you have questions concerning claiming the credit on your Oregon tax return, contact the Oregon Department of Revenue at 1-800-356-4222 or 503-378-4988.

OREGON DEPARTMENT OF ENERGY

Sun Chart Worksheet

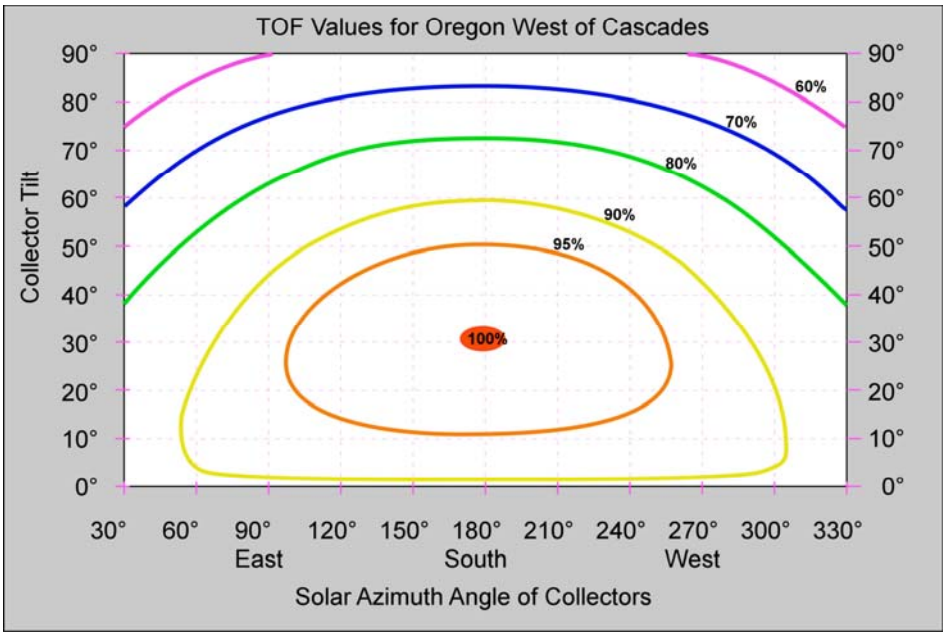
A tool for estimating the impact of collector tilt, orientation and shading

To estimate the performance of a solar energy system we need to know how much solar energy is available for your collector. This worksheet is used to estimate the impact of tilt, orientation and external shading on how much solar energy your solar collectors can collect. The Total Solar Resource Fraction (TSRF) represents the fraction of energy a particular collector would receive when compared to one in the same city, but that has optimal tilt, orientation and no external shading. For example, a collector with a TSRF of 80 percent indicates that 80 percent of the solar energy at your location over a year will be available to the solar collector.

For simplicity we have separated calculating the TSRF into two parts. The first part is to determine the impact of collector tilt and orientation. This Tilt and Orientation Factor (TOF) is estimated using one of the following plots. The second part is to use the a sun chart to estimate how much energy is lost on an annual basis from external shading from plants, buildings or other obstructions. The combination of these two effects will provide your collector's TSRF.

TOF graphs (right) show the impact of tilt, and orientation on annual performance of a solar collector. TOF values range from 100% (no loss) at the center of the inner circle to less than 60% (40% or more loss) in the upper left and right corners.

Use the upper graph if your system is installed West of the Cascades. Use the lower graph if your system is installed East of the Cascades.

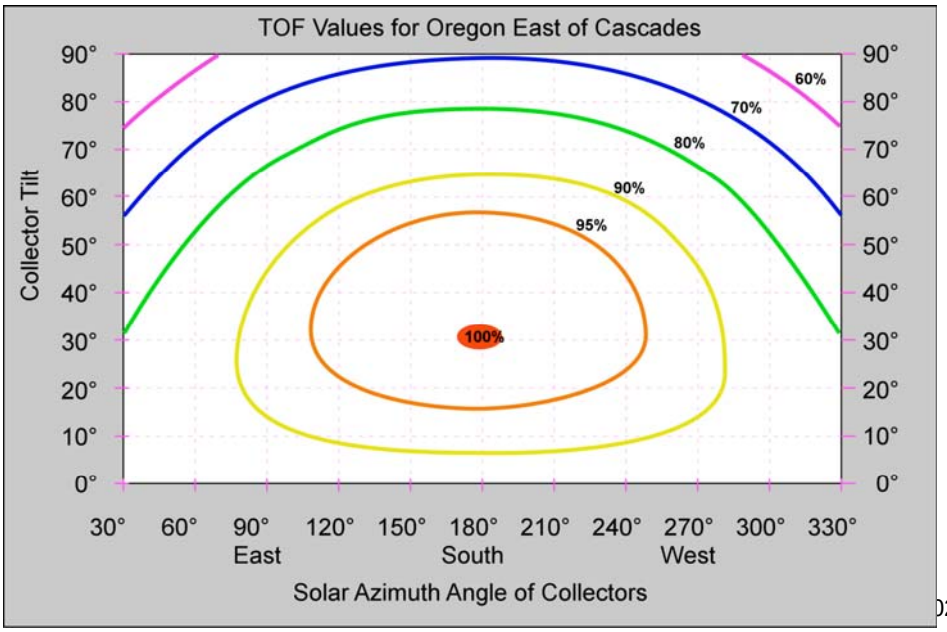


Draw a dark **X** mark the graph for your collector's tilt and azimuth angle. Interpolate between the nearest two lines to estimate the TOF value to the nearest 1%.

Collector Tilt = _____ °
(angle from horizontal)

Solar Azimuth =_____ °
(collector orientation)

TOF = _____ %
(estimated from graph)



Sun Chart

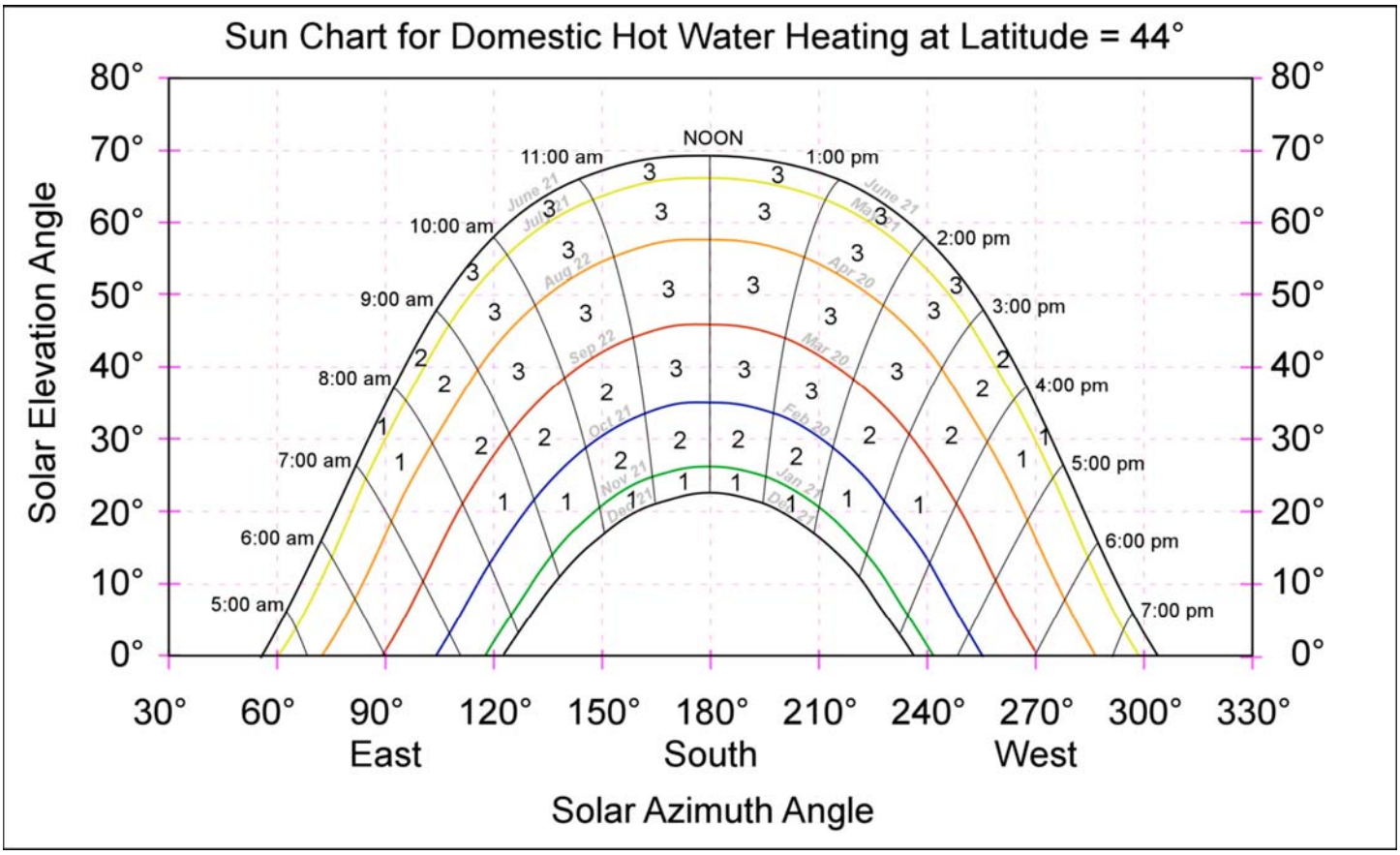
For solar water heating and PV

Roof Layout Sketch

North

Step 1 – In the box provided right, sketch the roof layout and location of the solar collector.

Step 2 – From the midpoint of the solar array, draw the skyline on the graph below. Use the elevation angles and solar azimuth angles to determine the location of the obstructions. Draw deciduous trees with a dotted outline and fill with light shading. Year-round (solid) obstructions like buildings, or conifer trees should be drawn with solid outlines and filled with heavy shading.



Step 3 – Add up the solar fraction numbers in the sections that have shading. You can use fractional values if the obstruction only covers a part of a section. In addition, any deciduous tree shading below the Sept 22/March 20 line can be counted at half value to account for the fact that some light will get through these obstructions when the trees lose their leaves. This sum of all these values is the "Shading Fraction". It represents the percent of energy lost to external shading for space heating systems. Subtract this number from 100 percent to get the Prime Solar Fraction (PSF). PSF = 100% - Shading Fraction = _____%

Step 4 – Calculate the Total Solar Resource Fraction using the following equation:

Total Solar Resource Fraction = Prime Solar Fraction x Tilt and Orientation Factor

TSRF = PSF x TOF = _____% x _____% = _____%