Program Guide for Solar Electric Allies

Developed by Energy Trust of Oregon

Part 1: Solar Program General Overview

Last updated November, 2019

1.1 Introduction

1.1.1 Purpose of the Program Guide

This Program Guide provides an overview of Energy Trust's Solar Electric Program (also referred to as the “Program”) requirements, processes, and procedures. In this Program Guide, the term "trade ally" means an approved Solar Electric Program trade ally installer; the term “design ally” means an approved Solar Electric Program design ally, usually an engineer, architect or designer. Solar Electric trade allies and design allies are collectively referred to as Solar Electric Allies.

All approved Solar Electric Allies are required to read and understand the entire Program Guide and follow the applicable portions as a condition of their agreement with Energy Trust. ***Part 1*** of the guide includes a basic overview of the program and applies to all Solar Electric Allies. ***Part 2*** of the guide includes expectations and requirements pertaining to trade allies. ***Part 3*** of the guide includes an overview of the programs offered. ***Part 4*** through ***Part 7*** includes a detailed explanation of each program summarized in ***Part 3***. ***Part 8*** of the guide describes expectations pertaining to design allies.

For information on becoming a Solar Electric trade or design ally, go to the ally pages on the Energy Trust website.

1.1.2 Revisions to the Program Guide

This Program Guide undergoes occasional revisions as requirements, procedures or processes change. When changes are made, a new version of the Guide will be issued and posted to the solar trade ally pages on the Energy Trust website at energytrust.org. Energy Trust will also typically announce any new versions in the INSIDER—a monthly newsletter distributed by Energy Trust electronically to all active Energy Trust allies. Solar Electric Allies should check Energy Trust’s website on a regular basis to ensure they are using the current version of the Program Guide.

1.2 Program Overview

1.2.1 Energy Trust

Since 1999, the Oregon legislature has required Portland General Electric (PGE) and Pacific Power to collect "public purpose funds" from their Oregon customers to support energy conservation, renewable energy and energy market transformation efforts. The Oregon Public Utility Commission ("OPUC") was authorized to direct the manner in which the collected funds would be spent.

Energy Trust, a 501(c)(3) non-profit, was formed to manage the investment of the bulk of these funds in energy efficiency, renewable energy and energy market transformation pursuant to a grant agreement with the OPUC. Energy Trust expects all Solar Electric Allies to be generally aware of the background and history of Energy

Trust and the Program, and to review the Energy Trust policies which can affect the Program's requirements.

More details on Energy Trust's history, mission, programs, and policies, as well as a copy of Energy Trust's grant agreement with the OPUC, by-laws, and strategic plan, are posted on the website. Please contact Energy Trust with questions.

1.2.2 Program purpose and design

The Solar Electric Program is one of Energy Trust's renewable energy offerings. Solar energy has the potential to be Oregon's greatest source of renewable energy generation. Its availability throughout the state offers the advantage of distributed generation by producing power at the point of use.

In order to develop the solar market across all sectors and gain long-term solar electricity generation to benefit the customers of Portland General Electric and Pacific Power in Oregon, Energy Trust has structured the Program to address the primary market barriers of cost, quality and awareness.

Energy Trust provides:

- cash incentives to eligible Program participants to reduce the above market costs associated with installing solar
- installation standards for systems applying for Program incentives to help promote system performance and longevity
- a network of trade ally installers who are familiar with the Program requirements
- industry support in the form of trainings and cooperative marketing assistance for active trade allies
- consumer outreach and education to help inform Oregonians about their solar options

1.2.3 Program Communications

Trade allies must use PowerClerk to submit and revise incentive applications. Unless otherwise noted, all project review, revision, and reservation communications from Program staff to Solar Electric Allies will be made by email and documented in PowerClerk. Program staff prefers to receive communications from Solar Electric Allies electronically.

Email:	The general inbox for solar staff is **solar@energytrust.org**.
Phone:	Call the number provided on your most recent incentive reservation letter or call the main Energy Trust office number at **503-493-8888** and ask for a Solar Program staff member.
Mailing Address:	Energy Trust of Oregon (Solar Program) 421 SW Oak St, Suite 300 Portland, OR 97204

Solar Electric Allies should have a thorough understanding of all Program documents. Please contact Energy Trust immediately if there are any questions about this Program Guide for Solar Electric Allies, the Solar Electric Installation Requirements, or any other related Program document.

Solar Electric Allies are also welcome to participate in Energy Trust's public meetings. The Renewable Energy Advisory Council, Conservation Advisory Council and the Energy Trust Board of Directors generally meet monthly. See the Energy Trust website for more meeting schedules and agendas.

1.2.4 Policy Overview

The following is an overview of some of the policies that directly affect the Program that Solar Electric Allies should be aware of. Complete copies of all Energy Trust's current Board of Director-approved policies are available for review in the "Library" on the Energy Trust website.

Confidentiality of Program participant information

Information submitted by Program participants under the Program is considered confidential.

Renewable Energy Certificates (RECs)

A Renewable Energy Certificate or REC represents the property rights to the environmental, social and other non-power attributes of renewable energy generation. RECs are the accepted legal instrument through which renewable energy generation and use claims are substantiated in the U.S. renewable energy market. RECs are measured in terms of their energy value and each REC equals 1 megawatt-hour of grid-tied renewable energy production. In order to receive Energy Trust incentives, solar system owners must agree not to sell or otherwise transfer any of the RECs that are generated by the System during the 20-year term as indicated by the solar incentive agreement application.

Above-market cost

Energy Trust is limited to providing funding for all or a portion of the "above-market costs of new renewable energy resources." Energy Trust developed a policy outlining an approach and methodology for determining a project's above-market costs. The incentives that Energy Trust makes available through the Program for solar electric systems are calculated by Energy Trust in accordance with this policy's requirements.

Self-Direction

Under the OPUC grant agreement, Energy Trust receives and invests a portion of the funds generated by the 3% public purpose charge collected from certain PGE and Pacific Power customers. Although payment of the public purpose charge is generally mandatory, Oregon law recognizes a special group of large electric energy users (those using over one average megawatt a year at a site)

who can "self-direct" a portion of their public purpose charge to fund electric energy efficiency and renewable energy investments at their own sites. If a site is certified for self-direction by the Oregon Department of Energy (ODOE), that "self-director" may receive self-direct credits from ODOE in exchange for purchasing RECs or green power for its site, or for directly investing in an ODOE-certified renewable energy project at its site. The self-director may then use these credits to reduce the renewable energy portion of the public purpose charge included in its electric bill. If a Program participant is currently self-directing, or decides to in the future, it can affect the amount of incentive funding they will be eligible to receive from the Program.

1.3 Project Eligibility

1.3.1 Pre-Screening for project eligibility

Solar Electric Allies are required to pre-screen projects to help determine eligibility for Program incentives. Final determination of eligibility for Program participation and incentives always rests with Energy Trust.

Electric utility

In order to be eligible for Energy Trust incentives, the solar electric system must be located on real property and must be grid-tied to a PGE or Pacific Power electric utility account. Floating homes and permanent mobile homes with eligible electric utility service are considered real property. RVs, sailboats or other portable applications are not allowed.

Definition of a Project

Residential: A residential solar electric project is defined by the design and installation of all solar electric system components, installed at the same time (within a reasonable construction timeline), intended to serve the residential load of one home. The incentive amount will be determined by multiplying the current incentive rate by the total new capacity installed for the project. The incentive amount will be subject to the current incentive cap and any applicable site cap.

Non-residential: A non-residential solar electric project is defined by the design and installation of all solar electric system components, installed at the same time (within a reasonable construction timeline), intended to serve the non-residential load of one structure or piece of equipment. The incentive amount will be determined by multiplying the incentive rate by the total new capacity installed for the project. For systems installed on multiple structures on contiguous property (e.g. campus, business park, etc.), the customer and ally may choose to aggregate the systems and treat them together as one larger project or may treat them as separate individual projects. For all project arrangements, the total incentive amount will be subject to the current incentive cap and any applicable customer cap.

Add-ons and expansions

Customers adding capacity to existing solar electric installations are eligible to apply for Program incentives if either (i) PV modules are added to an existing system that received an Energy Trust incentive, or (ii) an entirely new system is installed separate from the existing system. In both cases the expansion will be required to meet Energy Trust's Solar Electric Installation Requirements (available on the Energy Trust website) and will be subject to any additional Program caps that may apply. When working with a customer that has a previous installation or a pending application, Solar Electric Allies should contact the program to confirm details and discuss eligibility.

Additional Program caps to consider

Non-residential: The Program currently caps the total, aggregate amount of incentives available to a single non-residential customer for all solar electric project applications submitted by that customer within a specific utility territory during the calendar year.

> *This means that even if a non-residential solar electric project otherwise appears eligible for an incentive, the customer may only qualify for a reduced or no incentive if Energy Trust determines that the total incentives for all of the customer's combined applications during the year have exceeded this Program cap.*

The non-residential Program cap is utility specific and it is also refreshed each calendar year; so, applications for the same non-residential customer from a different utility, or from a previous year, would not apply towards the current years cap.

Residential: The Program currently caps the total, aggregate amount of incentives it will provide during a 5-year time period for all solar electric projects, including any system add-ons or expansions, located at a single residential site (i.e. on a per home basis). All incentives reserved or paid in the past five years associated with the residential site—even if to a previous homeowner—will be considered when calculating this Program cap.

> *This means that even if a residential solar electric project may otherwise appear eligible for incentives, if Energy Trust paid an incentive for a solar electric system located at that same residential site in the last five years, then the total amount of incentives available for the project will be subject to this Program cap and the customer may only qualify for a reduced or no incentive.*

Acceptable solar resource and resource assessment tools

Projects must meet minimum standards for solar resource to qualify for an incentive. Energy Trust uses Total Solar Resource Fraction (TSRF), an estimate of the combined losses from shading and non-ideal tilt and orientation, to determine if a project qualifies.

To verify TSRF for a proposed project, Solar Electric Allies must submit a shade report from an approved on-site analysis tool or an approved remote shade analysis tool. The TSRF requirement is dependent on which type of shade analysis tool is used and how the system is configured:

- For on-site tools that measure shading at specific locations, the point on the array with the lowest resource must have at least a 75% TSRF.
- For remote analysis tools that that calculate TSRF across the full array, the average TSRF must be 80% or higher.
- Projects may include modules with a TSRF below the minimums above if the modules are electrically isolated using micro inverters; however, those modules will not be eligible for program incentives.

Approved resource assessment tools are listed in the table below. Any updates to this list and instructions on reporting the required information are available on the website under *Approved Solar Resource Tools.*

Resource Tool	Type	Minimum TSRF requirement
Solmetric SunEye	On-site measurement	75% at point with lowest resource
Solar Pathfinder		
Energy Trust sun chart*		
Bright Harvest	Remote shade analysis	80% average across each array
Aurora		
Helioscope		
Other tools	*Please contact program for review and pre-approval.*	

*Conventional sun charts for Oregon cities may be used for calculating TSRF and are approved for submission with solar incentive applications. To request a location-specific sun chart, please submit a request to program staff.

Calculating Total Solar Resource Fraction (TSRF)

TSRF is an estimate of the combined effect of shading, tilt and orientation on a system's performance. Some resource tools output TSRF directly, while others output only the impact of shading. In that case, TSRF can be calculated by combining the shading losses with a Tilt and Orientation Factor (TOF).

TOF is the percent of solar resource available after factoring in losses due to sub-optimal tilt and/or orientation of the array. TOF values vary by location, and are included on the Energy Trust sun charts and listed on the Energy Trust

website under the Approved Solar Resource Tools section of the solar trade ally Forms & Resources page.

Shading	=	100% - annual loss caused by shading
TOF	=	100% - loss due to sub-optimal tilt and orientation
TSRF	=	Shading x TOF
Lowest TSRF	≥	75%, for an on-site evaluation
OR		
Average TSRF	≥	80%, for a remote shade evaluation

IMPORTANT: Solar Electric Allies should strive to be as accurate as possible during the solar resource assessment. If, upon verification, an installed project does not meet the TSRF requirement it can void the project's eligibility for Energy Trust incentive funding. If a solar resource estimate is dependent on a customer addressing any issues with trees or other shading barriers at the site property, Program staff strongly recommends that such impacts be remedied prior to moving forward with the installation. If a tree, or other obstruction, will be removed prior to construction and is subtracted from the solar resource assessment, written documentation explaining the plan of action must be provided with the application.

Self-direction

Customers that are large electricity users (using over one average megawatt 8,760,000 kWh per year—at a site) may be certified by the Oregon Department of Energy for “self-direction” of their renewable public purpose charge funds (see ***Section 1.2.4*** for more details about self-direction). If the customer is either (i) currently self-directing the renewable energy portion of the public purpose charge for its electric utility account(s) at the site, or (ii) is large enough that they may decide to do so in the future, then it can affect the amount of incentives Energy Trust can provide towards a submitted solar electric project.

Program allies should contact the Program to inquire about customer eligibility if they believe a customer site may be a large electricity user. Energy Trust staff can support trade allies in making the determination of whether a customer is eligible to or has elected to self-direct renewable funds. Energy Trust may also request additional information about a customer’s self-direct status when reviewing application submittals.

1.3.2 Determining type of project

Solar Electric Allies need to determine the type of project in order to (i) identify the correct incentive rate, (ii) provide an accurate incentive estimate, (iii) identify the appropriate incentive application to submit, and (iv) determine what additional documentation, if any, will need to be included with the application. Trade allies will select the appropriate type of project when applying for incentives through PowerClerk®, the online project management and tracking system used by the Program (See ***Part 4*** for more information on PowerClerk). Design allies do not use PowerClerk, but need to be aware of the following requirements in order to verify that the system owner meets basic eligibility qualifications.

Direct-Owned Residential - (Form 220R)

The owner of the solar electric system is the homeowner.

The power produced by the solar electric system will be net-metered to a utility account held by either the homeowner or a tenant.

Direct-Owned Commercial - (Form 220C)

The system owner is either (i) the owner of the site property, or (ii) a tenant who has received written permission from the property owner to install and operate the system at the site (requires submission of the Owner/Lessor Addendum).

The system owner is further identified as either a for-profit business or non-profit/government/school, and incentive rates may differ depending on the categorization.

The power produced by the solar electric system will be net-metered to a utility account held by either the property owner or a tenant.

Third Party-Owned Commercial - (Form 220T)

The system owner is a third party (i.e., not the utility customer) with a written agreement to deliver the solar electric system's power to a host who is either (i) the site property owner, or (ii) a tenant who has received written permission from the property owner to have the system installed and operated (requires submission of the Owner/Lessor Addendum).

Third Party-Owned Residential - (Form 220S)

The system owner is an eligible, pre-approved service provider with a written agreement to deliver solar-generated power to the homeowner.

The solar electric system will be physically located at the residence and net-metered to a utility account held by either the homeowner or a tenant.

Third Party-Owned Residential service providers must separately contract with Energy Trust prior to offering incentives to customers.

1.3.3 Providing information to the customer

Solar Electric Allies must give customers time to read and understand the terms and conditions of all incentive application forms before obtaining a signature. Solar Electric Allies must also explain, at a minimum, the topics listed below when providing an application to a customer for review. If a potential Program participant has questions about the incentive application or the process, have them contact the Program *before* they sign the application.

Solar resource information

Explain TSRF and the project's solar resource compared to optimal.

Performance estimate

Educate Program participants about the amount of energy the system should generate annually and the first-year monetary value of that energy so that they have a realistic expectation for performance and potential cost savings.

Incentive process

Explain Energy Trust's incentive rate, the incentive application and reservation process and that the system must be operational and receive final approval during the incentive reservation period. Explain who will be the recipient of the incentive payment (customer, trade ally or third party system owner, depending on the type of project – see ***Part 4***).

Ensure that the customer understands that incentive rates for a project are subject to change at any time prior to reservation, and that incentive reservations for qualifying projects are subject to funding availability, expiration periods and processing procedures. The final incentive may vary from the estimate included in the initial application depending on Energy Trust's verification of the actual system installed.

Required documentation on customer's invoice

Solar trade allies are required to provide customers the benefit of Energy Trust's incentive. The incentive shall be included as a line item on the customer's invoice and must be deducted from the total project cost the customer pays. Solar trade ally's enrollment status may be suspended or terminated if customers are not receiving the benefit.