

# **Pennsylvania Sunshine Guidelines for the Residential and Small Business Solar Program**



**pennsylvania**

DEPARTMENT OF ENVIRONMENTAL PROTECTION

7000-BK-DEP4245 5/2009

## **I. Introduction**

---

The Pennsylvania Sunshine Solar Program will provide \$100 million in rebates to help fund solar electric (solar photovoltaic) and solar hot water (solar thermal) projects for homeowners and small businesses in Pennsylvania. This program is authorized by section 306 of the Alternative Energy Investment Act, Act of July 9, 2008 Spec. Sess., No. 1, (P.L. \_\_, No. 1) (73 P.S. §§1649.101 *et seq.*)

## **II. General Provisions**

---

Funding will be deployed in the form of rebates for residential and small business projects. Rebates will be awarded on a first-come-first-served basis to approved applicants. Households may receive one solar photovoltaic (PV) rebate for up to 10 kilowatts (kW) of installed PV generating capacity plus one solar thermal rebate which is capped at \$2,000. A small business may only submit one PV and one solar thermal application at a time and must complete the project and rebate process prior to submitting another application. For purposes of this program, all small businesses under common ownership shall be considered a single small business applicant.

All rebate applications will require a non-refundable application fee. Residential applicants will submit a fee of \$100. Small business applicants will submit a fee of \$150. Residential applicants that have a household income of less than 60 percent of the state median income, as defined by Pennsylvania's Department of Public Welfare, will be eligible for an application fee waiver. (Click [here](#) for a listing of income guidelines.) In addition to the application fee, all applicants must provide proof of a minimum \$250 deposit with an approved solar installer. The applicant must also provide a project completion date within 12 months of the rebate reservation approval.

**Rebate funding will not reimburse for the costs associated with any roof repairs or battery backup systems.** This program is not intended to discourage PV systems with battery back-up, but the additional cost of the batteries will not be considered a reimbursable cost.

**This program will not be retroactive.** To ensure that all installed systems comply with the eligibility requirements of this program, applicants may not receive reimbursements for systems installed before the opening of the rebate program. Once program guidelines have been published, and the program begins accepting applications, applicants may begin incurring costs. **However, all costs incurred prior to receiving confirmation of a reservation are incurred at the applicant's risk.**

Please note that rebates and rebate applications are public documents and subject to disclosure to the public upon request.

## **III. Eligibility**

---

### **A. Eligible Applicants**

The following applicants are eligible for rebates:

**Residential Applicants:** Residential applicants must be Pennsylvania residents. The applicant must be the owner of the home where the project will be installed. All residential projects must be completed on the homeowner's primary residence. Vacation homes and investment properties will not qualify for funding as a residential project.

**Small Business Applicants:** Small business applicants must be a for-profit business located within Pennsylvania. To qualify for small business funding, the applicant must be a separate legal entity with no more than 100 full time employees. The term includes an agricultural producer of a farm commodity.

Applicants must not have any outstanding obligations to the commonwealth, including but not limited to outstanding taxes.

## **B. Eligible Projects**

### **1. PV systems must meet the following requirements:**

- a. The rebate program will cover residential PV systems rated no less than 1 kW and up to 10 kW. Larger residential systems may participate but will only receive rebates equivalent to the costs of the first 10 kW.
- b. The rebate program will cover small business PV systems rated no less than 3 kW and up to 200kW. Larger small business systems may participate, but will only receive rebates equivalent to the costs of the first 200 kW.
- c. PV components must be new equipment (with the exception of the utility grade meter described further below) and must be on the California Solar Initiative's list of eligible equipment. The design and installation must be in compliance with the Pennsylvania Uniform Construction Code (for more information, see: <http://www.dli.state.pa.us/landi/cwp/view.asp?a=310&q=210892>).
- d. The system installer must be on the Department of Environmental Protection's (DEP) list of approved installers as further described below.
- e. Solar shade analysis must be completed and a system performance calculation must show that the system will produce no less than 80 percent of the annual output of a system with optimal placement and orientation.
- f. Any new construction home that is including PV as part of, or simultaneously with, the initial construction process must be Energy Star qualified.

### **2. Solar thermal systems must meet the following requirements:**

- a. The program will cover residential and small business solar thermal systems excluding those that are used for heating swimming pools or hot tubs.
- b. Eligible residential solar hot water projects may receive a maximum rebate of \$2,000.
- c. Eligible small business solar hot water projects may receive a maximum rebate of \$20,000.
- d. Solar thermal systems must be new equipment, and solar collectors must be SRCC OG-100 rated or equivalent. The design and installation must be in compliance with the Pennsylvania Uniform Construction Code (for more information, see: <http://www.dli.state.pa.us/landi/cwp/view.asp?a=310&q=210892>).
- e. The system installer must be on the DEP list of approved installers as further described below.

- f. Solar shade analysis must be completed and a system performance calculation must show that the system will produce no less than 80 percent of the annual output of a system with optimal placement and orientation.
- g. Any new construction home that is including solar thermal as part of, or simultaneously with, the initial construction process must be Energy Star qualified.

All projects must be in compliance with all applicable laws.

Construction projects receiving state rebates and having a cost in excess of \$25,000 may be subject to Pennsylvania’s Prevailing Wage Act requirements. For information about the applicability of Prevailing Wage, applicants should contact the Pennsylvania Department of Labor and Industry at (717) 705-7256 or (800) 932-0665 or visit the Web site at [www.dli.state.pa.us](http://www.dli.state.pa.us). It is solely the responsibility of a rebate recipient to ensure the Act is followed if applicable.

#### **IV. Installer Requirements**

---

Applicants must use an installer who is on DEP’s approved list. All participating contractors or anyone working under their direction or control must:

1. Be in good standing as evidenced by favorable reports from three customer references and no negative report from the Better Business Bureau.
2. Maintain in full force at all times, Commercial General Liability Insurance with a bodily injury and property damage combined single limit of liability of at least one million dollars (\$1,000,000) for any occurrence.
3. Carry Workers Compensation Insurance for all employees of the company.
4. *Note: Contractors will be required to comply with the requirements of the Home Improvement Consumer Protection Act, Act 132 of 2008, as they become effective.*
5. *Note: Installers interested in participating in the program may obtain an application at [www.depweb.state.pa.us](http://www.depweb.state.pa.us), select “Energy Independence.”*

##### **A. PV Installer Requirements:**

To be approved, a solar PV installation company must employ at least one Qualified Employee on staff. A Qualified Employee is one who meets or exceeds one of the following requirements:

1. Is a certified North American Board of Certified Energy Practitioners (NABCEP) PV installer, **or**
2. Has completed an Interstate Renewable Energy Council (IREC) Institute for Sustainable Power Quality (ISPQ) accredited PV training program or a PV manufacturer’s training program and successfully installed a minimum of three PV systems.
  - a. If an installer has completed an IREC ISPQ accredited PV training program and met all other program requirements but not yet installed three PV systems, they may be accepted on a probationary basis.

##### **B. Solar Thermal Installer Requirements:**

To be approved, a solar thermal installation company must employ at least one Qualified Employee on staff. A Qualified Employee is one who meets or exceeds one of the following requirements:

1. Is a certified NABCEP solar thermal installer, **or**
2. Has completed an Interstate Renewable Energy Council (IREC) Institute for Sustainable Power Quality (ISPQ) accredited solar thermal training program or a solar collector manufacturer's training program and has significant experience including a minimum of three solar thermal installations.
  - a. If an installer has completed an IREC ISPQ accredited solar thermal training program and met all other program requirements but not yet installed three solar hot water systems, they may be accepted on a probationary basis.

## **V. Application Procedure**

---

The application procedure is a two-step process. First, the installer will submit a Pre-Approval Application to create a "reservation" on behalf of the homeowner or small business. The Pre-Approval Application will help to determine if the applicant is eligible for funding. The appropriate non-refundable application fee must be submitted with the Pre-Approval Application. Applications are available at [www.pasunshine.powerclerk.com](http://www.pasunshine.powerclerk.com).

If the reservation is approved, the homeowner or small business will have 12 months from the date of the reservation approval to complete the installation. Once the work is completed, the applicant may apply for reimbursement, under the second step of the process. Reimbursements will be made after the installation is complete. One 30-day extension may be requested, after which the funds would be released for other applicants. To request an extension, the applicant must submit a project status update and a reason for the delay in writing 14 business days prior to the expiration of the original reservation. If the project exceeds these time limits, the applicant may reapply to the program by starting the reservation process over.

Project details may not be altered after a reservation has been approved unless the department has provided a written approval for the alteration.

Upon project completion, the installer will be required to provide the homeowner or small business owner an Owner's Manual including the following minimum installation and operating documentation:

1. Name and address of the seller
2. System model name or number
3. Identification and explanation of system components
4. Single line drawing of system
5. Description of system operation
6. Description of system maintenance
7. Description of emergency procedures
8. Vacation or extended time away from the building procedures
9. Contractor's parts and labor warranty
10. Copies of manufacturer's warranties for all major system components
11. Manufacturer's users manuals

## **A. PV Application Procedures:**

The installer will submit a Pre-Installation Application Form and the following supporting technical documents:

1. Copy of the manufacturer's specification for the components selected for the installation.
2. Copy of project cost estimate, purchase order, or letter of intent.
3. Copy of Solar Pathfinder, Solmetric, or Wiley Asset analysis and calculations showing that a minimum of 80 percent of optimal PV production is expected from the system.
4. Copy of system schematic or line drawing.
5. Copy of plot plan illustrating the location of the PV array, inverter and point of interconnection on the property.
6. For rooftop installations, copy of roof diagram illustrating the following:
  - a. Roof dimensions (angle, length and width).
  - b. Location of PV modules on roof or other location.
  - c. Orientation and tilt of PV modules.

After the project is completed, the installer must submit a Post-Installation Reimbursement Application and also provide proof that the PV system meets the following requirements:

1. Systems were installed according to industry and code standards and as specified in the equipment manufacturer's manual.
2. Any applicable local government permits and zoning approvals have been obtained.
3. The installed system complies with the Pennsylvania Uniform Construction Code and all local laws and codes.

The Post-Installation Reimbursement Application will require the following supplemental materials:

1. Copies of Manufacturer's and Contractor's labor warranties. Equipment must carry the following warranties:
  - a. Inverters (5 years)
  - b. Panels (20 years)
  - c. Systems eligible for a rebate must be covered by a full five year warranty for PV systems in addition to any manufacturer's warranties on specific components. Coverage must include all parts and labor, plus the cost of removing, shipping and reinstalling or replacing a defective component. A warranty statement, included in the contract, will clearly state who is responsible for labor, material and shipment of defective parts.
2. PV interconnection and net metering paperwork must be completed and approved by utility. An applicant, whose entire home or small business is independent of the grid, may request an exception from this requirement which the department will evaluate on a case by case basis.
3. Project Completion Form signed by Applicant and Contractor.
4. Copies of all electrical, plumbing or building permit inspection approvals, where applicable.
5. Copy of final sales invoice.

## **B. Solar Thermal Application Procedures:**

The installer will submit a Pre-Installation Application Form including the following supporting technical documents:

1. Completed Pre-Installation Application Form and the appropriate supporting technical documents.
2. Copy of the manufacturer's specification for the SRCC OG-100 Certified collector selected for the installation.
3. Copy of project cost estimate, purchase order, or letter of intent.
4. Copy of Solar Pathfinder, Solmetric, or Wiley Asset analysis and calculations showing that a minimum of 80 percent of optimal solar hot water production is expected from the system.
5. Copy of system schematic or line drawing.
6. Copy of plot plan illustrating collector location on property.
7. For rooftop installations, copy of roof diagram illustrating the following:
  - a. Roof dimensions (angle, length and width).
  - b. Location of collectors or modules on roof or other location.
  - c. Orientation and tilt of collectors.

After the project is completed, the installer must submit a Post-Installation Reimbursement Application and also provide proof that the solar thermal system meets the following requirements:

1. Systems must be installed according to industry and code standards and as specified in the equipment manufacturer's manual.
2. Any applicable local government permits and zoning approvals must have been obtained.
3. Installed systems must comply with the Pennsylvania Uniform Construction Code and all local laws and codes.

The Post-Installation Reimbursement Application will require the following supplemental materials:

1. Copies of Manufacturer's and Contractor's labor warranties. Equipment must carry appropriate warranties as further described below:
  - a. Solar collector(s) (10 years)
  - b. Systems eligible for a rebate must be covered by a full three year warranty for solar water heating systems in addition to any manufacturer's warranties on specific components. Coverage must include all parts and labor, plus the cost of removing, shipping and reinstalling or replacing a defective component. A warranty statement, included in the contract, will clearly state who is responsible for labor, material and shipment of defective parts.
2. Project Completion Form signed by Applicant and Contractor.
3. Copies of all electrical, plumbing or building permit inspection approvals, where applicable.
4. Copy of product specification sheets.
5. Copy of final sales invoice.

## VI. Funding Amounts

For all solar photovoltaic (PV) projects and solar thermal projects, the program will offer rebates up to a maximum of 35 percent of the costs of project design, installation and equipment.

Residential applicants that have a household income of less than 60 percent of the state median income, as defined by Pennsylvania’s Department of Public Welfare, will be eligible for the maximum rebate level permitted under the Act (35 percent). Low-income applicants must verify that their income is 60 percent of the state median income. The gross income limits, based on household size for tax reporting purposes, can be found at [www.depweb.state.pa.us/pasunshine](http://www.depweb.state.pa.us/pasunshine) . Applicants who apply for low income solar assistance will be required to report and verify all earned and unearned income to determine eligibility. Sources of income verification include but are not limited to: tax returns (Federal or State); employer’s statement of past or anticipated earnings; statements documenting income. Verification documents must be included when submitting the solar application package.

All other applicants will qualify for funding at the rebate levels provided below, not to exceed 35 percent of the project costs.

Funding levels will automatically decline according to the following pre-determined steps:

### Residential PV Rebates

Step #	Megawatt (MW) in Step	Rebate Amount (\$/Watt)
1	10	2.25
2	10	1.75
3	10	1.25
4	10	0.75

### Small Business PV Rebates

Step #	Megawatt in Step	3-10 kW Rebate Amount (\$/Watt)	10-100 kW Rebate Amount (\$/Watt)	100-200kW Rebate Amount (\$/Watt)
1	5	2.25	2.00	1.75
2	5	1.75	1.50	1.25
3	5	1.25	1.00	0.75
4	5	0.75	0.50	0.25

### Residential and Small Business Solar Thermal Rebates

Step #	Number of Systems in Step	Rebate Amount
1	1,500	25%
2	1,500	20%
3	1,500	15%
4	1,500	10%

A running tally of completed projects will be kept on the rebate program’s web page so perspective applicants and solar developers will be able to project when the first step of installed solar will be reached and a decrease in the per-watt matching rebate funds will occur.



## **VII. Inspections and Reporting**

---

All applicants must allow inspection of the project at the department's request.

The first three installations completed under this program by a qualified installer will undergo an inspection. In addition, the department will perform random inspections of at least 10 percent of installations and will require certified installers' verification (via the rebate form) that the installation is complete and correctly operating.

All PV installations must, at a minimum, include a utility-grade kWh meter. These meters may be new or refurbished. Refurbished meters are available for purchase at <http://www.hialeahmeter.com/index.html>. Annual readings of this meter must be reported to the Department for a minimum of three years following completion of the project. The solar installer will be responsible for ensuring that the Department receives these readings. Missed readings may be cause for removal of a solar installer from the Department's qualified installer list.

Solar thermal installation performance data will be estimated using the Retscreen model. System installers will be required to provide the department with a Retscreen estimate for each installation.