

United States Government
Department of Energy

Memorandum

DATE: **January 17, 2017**

WAP Memorandum 024

REPLY TO

ATTN OF: **David Rinebolt, Weatherization Assistance Program Manager**
Weatherization and Intergovernmental Program Office



SUBJECT: **The Use of Solar PV in the WAP**

TO: **Weatherization Assistance Program (WAP) Network**

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The use of renewable energy systems within the Weatherization Assistance Program (WAP) was explicitly authorized by the 2005 Energy Policy Act, technology. Cost issues and the limited examples of deployment in low income programs presented barriers to implement such practices. Recently, costs have declined and deployment for the benefit of low income families has expanded. To help facilitate the integration of solar PV across the WAP network, the Department of Energy (DOE) will provide communication and technical assistance that clarifies the process for approval of the use of WAP funding for solar photovoltaics (PV) and outlines the regulatory requirements that must be met when incorporating the technology or other renewable systems. This Memorandum will serve to:

- Inform Grantees of existing regulations related to the integration of renewable technologies.
- Outline the DOE approval process for including renewable technologies within the WAP.
- Identify resources that will assist Grantees in the approval process.

Please note that this Memorandum is intended to highlight areas for detailed consideration by Grantees and is not meant as a comprehensive guide to the approval process or the development of a solar pilot program. Grantees must work with their DOE Project Officer to ensure that all materials required for approval and implementation of solar PV technologies and pilot programs with WAP funding are complete.

Solar PV Technology Approval

In order to integrate solar PV or other renewable technologies into the WAP, Grantees must follow the standard path for non-Appendix A technology approval as described in [Weatherization Program Notice 16-7](#). This includes demonstrating that the technology *can* achieve a Savings to Investment Ratio (SIR) of 1.0 or greater in the State, inclusion of the

technology in the Grantee's Annual Plan, and a demonstration that the Grantee can integrate the technology into its Energy Audit protocol such that a project-level analysis of the technology at an individual building can generate an accurate SIR calculation.

Approval Process

- A request must be submitted to your DOE project officer to include Solar PV as an approved measure into your program. The request must include a description of the proposal to deploy solar and also demonstrate the cost effectiveness of solar PV:
 - The analysis must be based on accurate inputs for your state.
 - The DOE Solar SIR tool can be used for this analysis (see the "Resources" section below).
- Submit a sample analysis that includes solar PV as a measure in your energy modeling calculations to DOE for review and approval.
- Complete the required National Environmental Policy Act (NEPA) impact assessment for the solar PV installation, which can be coordinated with the DOE Project Officer.
- Request to approve solar PV can be made at any time, but the intention to implement a Solar Pilot Program should be included in your Annual Plan Submission to DOE.

Pilot Project Considerations

Once a Grantee has received DOE approval to use solar PV in their program, the next step in actually deploying the technology in the field is developing a pilot project. The pilot process will allow DOE to provide technical assistance and oversight during this nascent phase of solar PV integration. WAP believes that this is a vital step in ensuring that the technology is applied appropriately, cost effectively, and that all regulations are followed. When solar PV is integrated into the WAP, existing WAP regulations will necessitate that Grantees provide information or analysis to ensure full compliance with WAP rules. Some of these needs are:

- Accurate cost data and justification.
- Developing a method for incorporating solar PV into the Grantees energy audit tool. DOE recommends Grantees consult with NASCSP on developing the methodology in order to share best practices.
- Leveraged or buy-down funding rules when offsetting the cost of solar with outside funds.
- Project-level SIR analysis that ensures that each client is receiving the cost savings benefits required by WAP.
- Measure lifespan issues such as panel maintenance and inverter lifespan that can impact the overall SIR.
- Community Solar issues such as client benefit allocation that impact how an individual client received the energy savings benefits of the project.
- The rate for Solar Renewable Energy Credits (S-RECs) and the timeframe during which the rate is locked.

- Whether the buyback rate under state net metering rules will be consistent over the life of the measure.
- Historic Preservation
- Multifamily financing considerations such as multi-year project financing and the WAP.

It is important for Grantees to have a thorough understanding of these issues before considering and or undertaking a pilot project. If a Grantee currently lacks the technical expertise to address these points accurately, it is imperative that this expertise is acquired via training or the assistance of an outside consultant before submitting a request to DOE. DOE will be working to develop technical resources for use by Grantees in the coming months. Once completed these will be distributed for Grantee use. However, no amount of technical assistance by DOE can substitute for technical knowledge at the Grantee level.

Resources:

- **Solar PV SIR Calculator**

WAP has worked with the DOE SunShot office to develop an online Solar PV SIR calculator that will allow Grantees to produce a defensible analysis of the potential cost effectiveness of Solar PV within their territory to submit to DOE for approval. Links to the analysis tool and a blog posting providing more details are below:

<http://www.nrel.gov/solar/assets/docs/sir.xlsx>

<https://energy.gov/eere/articles/new-analysis-shows-national-potential-solar-power-low-income-communities>

- **Code of Federal Regulations References Related to Renewable Energy Systems**
§440.18 Allowable expenditures.

(b) The expenditure of financial assistance provided under this part for labor, weatherization materials, and related matters for a renewable energy system, shall not exceed an average of \$3,000 per dwelling unit.¹

- **§440.21 Weatherization materials standards and energy audit procedures.**

(c)(1) A system or technology shall not be considered by DOE to be a renewable energy system under this part unless:

- (i) It will result in a reduction in oil or natural gas consumption;
- (ii) It will not result in an increased use of any item which is known to be, or reasonably expected to be, environmentally hazardous or a threat to public health or safety;
- (iii) Available Federal subsidies do not make such a specification unnecessary or inappropriate (in light of the most advantageous allocation of economic resources); and

¹ The average cost of a renewable energy system is subject to an annual cost of living adjustment. In 2017, the limit is \$3,598.

(iv) If a combustion rated system, it has a thermal efficiency rating of at least 75 percent; or, in the case of a solar system, it has a thermal efficiency rating of at least 15 percent.

(2) Any manufacturer may submit a petition to DOE requesting the Secretary to certify an item as a renewable energy system.

For further questions related to the subject of this Memorandum, please contact your DOE Project Officer.