

Delivering Low-Income Solar: Barriers and Opportunities

Juliana Williams and Jeff Cook
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Juliana Williams
Energy Markets and Policy Specialist



Jeff Cook
Renewable Energy Markets and Policy
Analyst

Feasibility Analysis of Using WAP and LIHEAP Funds for Solar Project

Project Roadmap



Literature
Review

FY22
Complete



Data
Collection

FY22 and FY23
In Progress



Stakeholder
Interviews

FY 22 and FY 23
In Progress



Stakeholder
Workshops

FY 22
Planned



Publication
of Results

FY 22 and FY 23
Planned

WAP and LIHEAP Solar Policies

WAP and LIHEAP Program Context for Solar

Characteristic	WAP	LIHEAP
Program structure	Formula grant	Block grant
Typical annual funding	~\$300-350 million	~\$2.5-4.5 billion
Typical annual households served	35,000	5-6 million
Bipartisan Infrastructure Law (BIL) funding	\$3.5 billion until spent	\$500 million over five years
Income eligibility	<200% of federal poverty level or categorical eligibility	<150% of federal poverty level or <60% of area median income, or categorical eligibility
Program goal	Reduce energy costs for low-income households by increasing the energy efficiency of their homes, while ensuring health and safety.	Keep families safe and healthy through initiatives that assist families with energy costs, associated with home energy bills, energy crises, and weatherization and energy-related minor home repairs.

WAP Policy for Solar

- [Energy Policy Act of 2005](#)
 - Authorized renewable energy systems (including solar) to be added as WAP measures, upon DOE approval.
- [10 CFR § 440.18](#): Adjusted Average Cost Per Unit (ACPU)
 - Limit on average cost of renewable energy improvements per project, adjusted annually. For PY 2022: \$3,929. This is part of the overall ACPU of \$8,009.
- [WAP Memo 035](#): Weatherization Leveraging
 - Guidance treatment of leveraged funds and buy down funds, including for use for solar measures.

WAP Policy for Solar

- [WAP Memo 024](#): The Use of Solar PV in the WAP
 - Identifies the process for including solar in WAP via pilot:
 - Request approval of solar as non-Appendix A material, per Weatherization Program Notice (WPN) 16-7, in Grantee's Annual Plan.
 - Project level Savings to Investment Ratio (SIR) ≥ 1.0
 - Submit sample analysis that includes solar PV as measure in energy modeling calculations (Guidance in WPN 19-4).
 - Complete the required National Environmental Policy Act (NEPA) impact assessment for the solar PV installations, if applicable.
 - Your Project Officer will guide you through NEPA requirements.
 - Request approval of individual solar PV installations.
 - Once pilot is successful, Grantee obtains programmatic approval of solar PV from DOE.

Alternate Mechanisms for Solar in WAP: E&I

- WAP Enhancement and Innovation Funding ([WPN 21-2](#))
 - The Consolidated Appropriations Act of 2021 directed DOE to fund Weatherization Enhancement and Innovation (E&I) through a competitive process.
 - Annual E&I funding is based on a percentage of total WAP appropriations. For 2021, the E&E allocation is \$18.6 million, with a 3-year award period.

Annual Appropriation	Innovation %	Total Innovation Funding
\$225 - 259 million	2%	\$4.5 - 5.2 million
\$260 - 299 million	4%	\$10.4 - 12 million
\$300 million or more	6%	\$18 - \$25 million

- One of the five award categories includes: Promote the deployment of renewable energy.
- E&I awards are not subject to the SIR or required to be approved materials in Appendix A.

Alternate Mechanisms for Solar in WAP: SERC

- Sustainable Energy Resources for Consumers (SERC) Grants ([WAP Memo 084](#))
 - The Energy Independence and Security Act of 2007 authorizes DOE to allocate up to 2% of appropriated funds to SERC grants, when total WAP allocated funds exceed \$275 million. \$12.3 million to be administered through Program Year 2022 grants.
 - SERC grants can be used for “*materials, benefits, and renewable and domestic energy technologies not currently covered*” in WAP, including solar.
 - Projects must address diversity, equity, and inclusion goals, and how the project benefits underserved communities.
 - SERC guidance on DOE NEPA review will be issued when awards are made. Technologies installed via SERC grants are not subject to the SIR or required to approved materials in Appendix A.

LIHEAP Policy for Solar

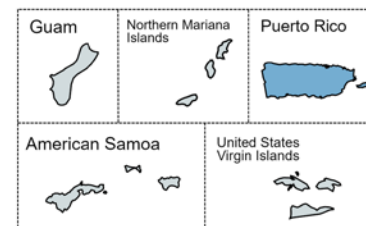
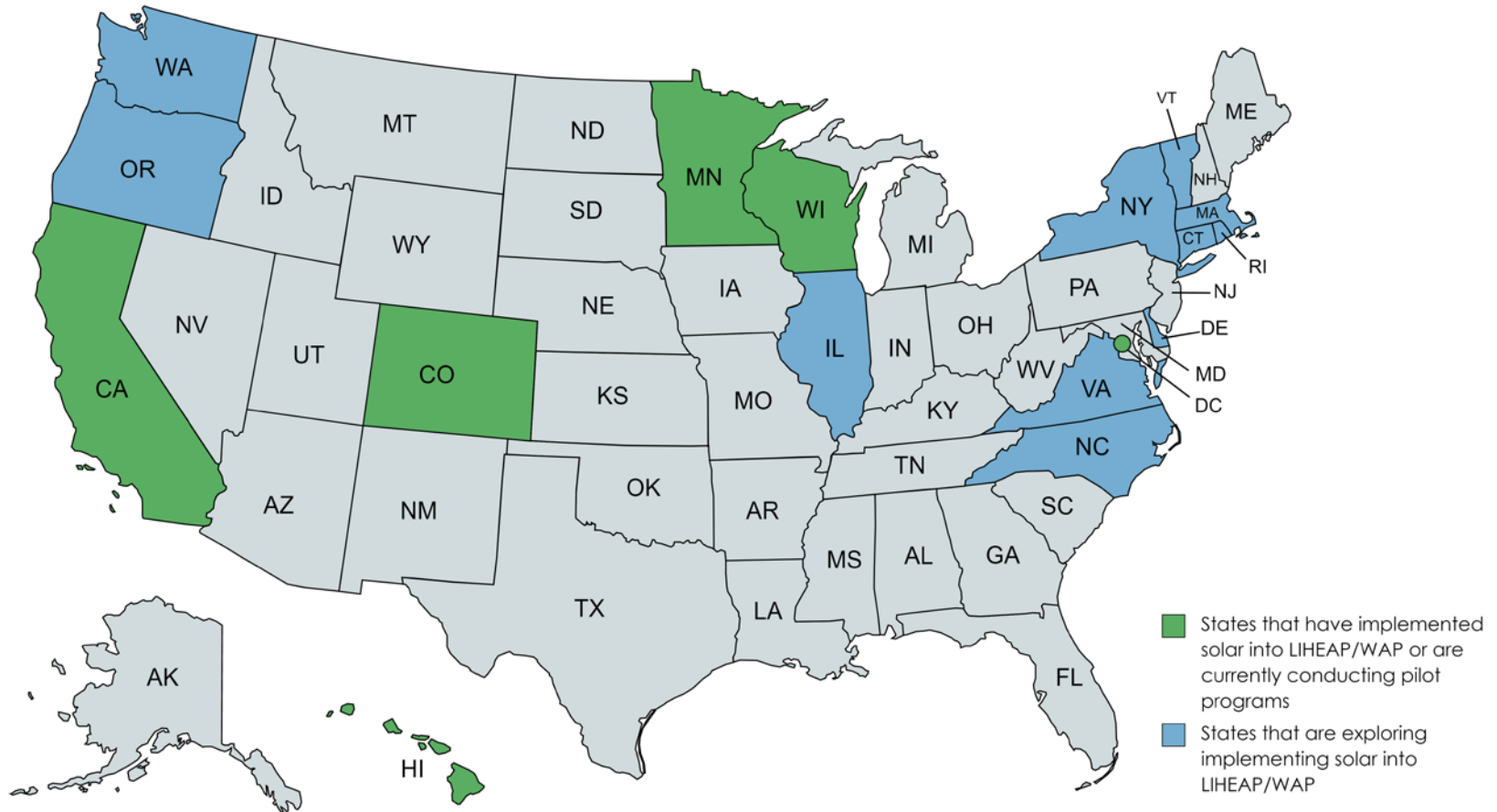
- [Low Income Home Energy Assistance Program \(LIHEAP\) Act of 1981 \(amended\)](#)
 - Allows Grantees to allocate up to 15% of funds to weatherization, or 25% if approved by waiver.
 - Prohibits use of funds for construction, except for weatherization or energy-related home repairs.
- [Energy Policy Act of 2005](#)
 - Authorizes LIHEAP funds to be used to “purchase renewable fuels.”
- [Assurance 16](#)
 - Allows grantees to set aside up to 5% of LIHEAP funds for energy education and guidance on reducing a household’s energy usage, including available solar options.

WAP and LIHEAP Interface

- As of 2022:
 - 30 states allocate 15% of LIHEAP funds to weatherization
 - 49 states and DC, Puerto Rico, and the Northern Mariana Islands allocate between 2-15% to weatherization
 - No states had received approval for more than 15%
- LIHEAP weatherization approval must identify:
 - The agency that will oversee LIHEAP-funded weatherization activities
 - The regulations that will apply to those funds: WAP regulations or LIHEAP regulations
 - The specific eligible weatherization measures, which may include solar.

Models of Solar in WAP and LIHEAP

Identified Grantees Implementing or Considering Solar in WAP or LIHEAP



Existing Program Design Types

1. Solar included as eligible WAP measure ([Colorado](#), [Minnesota](#))
2. Use of WAP or LIHEAP infrastructure to determine eligible low-income clients ([Leech Lake, MN](#); [NYSERDA](#); [California](#))
3. Solar included in non-DOE weatherization programs (Colorado, Delaware)
4. Solar included as eligible LIHEAP weatherization measure ([Minnesota](#))
5. LIHEAP funds used for community solar subscriptions ([NASEO/NEADA Inclusive Shared Solar Initiative pilot](#): DC, MN, WI)

Minnesota Case Example

- In 2019, Minnesota Department of Commerce (DOC) received approval from DOE for a WAP solar pilot.
 - Pilot leveraged utility funding from Xcel Energy to split solar measure costs roughly 1/3 from WAP and 2/3 from Xcel.
 - WAP agencies managed client enrollment in program and application of Xcel Solar*Rewards funds.
 - 15 homes received solar installation.
- In July 2021, Minnesota Energy Assistance Program (EAP) plan was amended to allow use of EAP funds for solar.
 - EAP funds require solar to pass $SIR \geq 0.75$, no ACPU limit
 - WAP funds require solar to pass $SIR \geq 1.0$, subject to ACPU limit. Allows for NEPA categorical exclusion.
 - Roughly 10-12 homes in queue for solar installation.

Implementing Solar in your Program

Join us on Jamboard!

<https://jamboard.google.com/d/1qLpihxUFs3rZgacxQ1zOuCtEIVXxGLrXwyGo5Z1nI2A/viewer>

Lessons Learned from the Field (Thus far)

Opportunities

- **Solar markets are expanding as costs decrease**
 - Community solar and rooftop solar markets and supportive policies are expanding across the country.
 - The price of solar equipment has dropped about 70% since 2009.
- **Solar can strengthen WAP and LIHEAP partnerships**
 - The need for leveraged funding encourages deeper partnerships between state agencies, implementing agencies, community organizations, foundations, utility companies, and tribal governments.
- **Workforce opportunities**
 - Expand skills of program staff, diversify funding sources to pay staff.
 - Local economic development with subcontractors, other partners.
- **WAP/LIHEAP funding opportunities**
 - Current opportunities to access additional funding via BIL, E&I, and SERC.

Program Design Considerations

- **Good communication is vital to a successful program**
 - Implementing solar takes a significant amount of time and planning
 - Organizations need staff committed to the process of implementing a pilot program, as well as a plan to maintain organizational knowledge.
- **Education and stakeholder engagement**
 - Engage and educate stakeholders early in the program design process
 - Incorporate diverse perspectives in program development, especially from underserved communities.
- **Establish attainable goals, accounting for program requirements and limitations**
 - Set realistic goals and make sure all involved parties have the same understanding of the pilot program and applicable policies
 - Ensure program staff understand applicable federal and state policies and regulations
 - Allow for buffer time for each step of program planning and implementation.

Program Design Considerations

- **Utility engagement and coordination is critical**
 - Implementing solar into LIHEAP/WAP is difficult to infeasible without partnering with utilities for funding and support.
- **There are many potential funding partners**
 - Utilities
 - Community solar organizations
 - Nonprofits and philanthropic organizations
 - State energy offices, other state agencies or funds.
- **Existing state and local policy influence solar viability**
 - State and local interconnection, net metering, and incentive programs vary nationwide.

We need to hear from you!

<https://forms.office.com/g/2CAaNsGiXi>

Share your perspective!

NREL is seeking responses from WAP and LIHEAP implementing organizations regarding your experiences considering solar via this 20-minute survey.

Provide your responses here:

<https://forms.office.com/g/2CAaNsGiXi>

We ask that you respond by July 15.

If you have any questions, please contact weatherization.support@nrel.gov. Thank you!

Questions?

www.nrel.gov

juliana.Williams@nrel.gov and jeff.cook@nrel.gov

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