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Sustainable Solar Education Project

Final Project Report

Nate Hausman
Clean Energy States Alliance

SUSTAINABLE SOLAR EDUCATION PROJECT



**SOLAR ENERGY
TECHNOLOGIES OFFICE**
U.S. Department Of Energy





SUSTAINABLE SOLAR EDUCATION PROJECT

About the Sustainable Solar Education Project: Since the project's launch in March of 2016, the Sustainable Solar Education Project provided information and educational resources to help states and municipalities ensure distributed solar electricity remains consumer friendly and benefits low- and moderate-income households. The project developed a series of program guides, webinars, interactive webinar discussions, and in-person training for government officials on topics related to strengthening solar equitability, improving consumer information, and implementing consumer protection measures. The project concluded in August 2018. It was managed by the Clean Energy State Alliance (CESA) and funded through the U.S. Department of Energy Solar Energy Technologies Office through its Solar Training and Education for Professionals program. More information about the project can found at www.cesa.org/projects/sustainable-solar.



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Project Title: Training for State Officials to Make Solar More Inclusive, Affordable, and Consumer Friendly

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Recipient: Clean Energy States Alliance, Inc. (CESA)
50 State Street, Suite 1
Montpelier, VT 05602

Website (if available) www.cesa.org

Award Number: DE-EE0007321

Cost-Sharing Partners: Keyes & Fox, LLP
National Renewable Energy Laboratory (NREL)
PaulosAnalysis

PI: Warren Leon
Phone: 978-317-4559
Email: wleon@cleanegroup.org

Submitted by: Maria Blais Costello
(if other than PI) Manager of Program Administration
Phone: 802-223-2554 x 203
Email: maria@cleanegroup.org

DOE Project Team: Technology Manager – Shubha Jaishankar
Project Officer – Christian Philipsen
Grants Management Specialist - Clay Pfrangle
Contracting Officer – Diana Bobo

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Executive Summary

This project supported the sustainable growth of the distributed solar market by providing information and training to state and municipal officials to help ensure that distributed solar electricity remains consumer friendly and benefits low- and moderate-income households. Our project's official name was "Training for State Officials to Make Solar More Inclusive, Affordable, and Consumer Friendly," but we publicly referred to it as "the Sustainable Solar Education Project." The project started March 1, 2016 and ran through July 2018. The first year of the project centered around research, development, and production of a series of guides for state and municipal officials on topics related to solar consumer protection and equitability. The final year and a half was focused on providing in-person training on project issues and disseminating project resources to reach our target audience.

The project produced and disseminated a suite of resources for states and municipalities on topics related to strengthening solar equitability, improving consumer information, and implementing consumer protection measures. Among other accomplishments during the course of the project, we:

- Produced 26 editions of our project's monthly electronic newsletter
- Published six guides and one report on topics related to solar consumer protection and solar equitability:
- Released three short videos for solar consumers in partnership with the George Washington University Solar Institute.
- Conducted 30 project webinars, including a series of webinars and follow-on discussions on different aspects of low- and moderate-income solar program design.
- Held three full-day, in-person trainings for state officials.
- Presented at numerous meetings and conferences of solar stakeholders and national associations of state officials.

As a result of this project, states and municipalities across the country are better equipped to ensure that solar remains consumer friendly and benefits low- and moderate-income households. Our project's accomplishments are detailed in the following report.

Project Accomplishments

The narrative below describes project accomplishments as they relate to particular tasks outlined in the work plan.

Task One of our work plan focused on developing and refining the project's outreach and education strategy. At the outset of the project, we assembled a project advisory committee comprised of 12 individuals representing key stakeholders from across the country to review project outputs and to help us reach our intended audience. We held two meetings of the advisory committee (one in person and one via conference call) and maintained communications with the committee throughout the project.

Throughout the project, CESA conducted outreach to many different state or local government-based organizations, including Council of State Governments, the National Association of Attorneys General, the National Association of Regulatory Utility Commissioners, the National Association of State Energy Offices, the National Council of State Legislatures, the American Planning Association, ICLEI – Local Governments for Sustainability, the International City/County Management Association, the National Association of Regional Councils, and the National League of Cities. We also shared information about the project with various environmental, consumer, low-income, and solar industry advocacy groups, including the American Solar Energy Society, the Coalition for Community Solar Access, GRID Alternatives, the Interstate Renewable Energy Council, the National Energy & Utility Affordability Coalition, the National Association for the Advancement of Colored People, Solar Energy International, and the Solar Foundation.

Early in the course of the project, we decided to produce a free monthly electronic newsletter with updates on project activities, and news and resources from around the country related to solar consumer protection and solar equitability. By the end of the project, over 3,600 people were subscribed to the newsletter's distribution list.

Task Two of our project work plan called for the publication of a series of project guides. CESA published six guides on topics related to solar consumer protection and equitability under the project:

- *Solar Information for Consumers: A Guide for States*
- *Publicly Supported Solar Loan Programs: A Guide for States and Municipalities*
- *Standards and Regulations for Solar Equipment, Installation, and Licensing & Certification: A Guide for States and Municipalities*
- *Solar+Storage for Low- and Moderate-Income Communities: A Guide for State and Municipalities*
- *Bringing the Benefits of Solar Energy to Low-Income Consumers: A Guide for States and Municipalities*
- *Consumer Protection for Community Solar: A Guide for States*

All of the guides were thoroughly researched and were reviewed by members of our advisory committee. Because these guides were published as a series, they all shared the same basic design elements. CESA engaged project partners Keyes & Fox, the National

Renewable Energy Laboratory, and Paulos Analysis on the preparation of three of the project guides ([Standards and Regulations for Solar Equipment, Installation, and Licensing & Certification](#), [Publicly Supported Solar Loan Programs](#), and [Bringing the Benefits of Solar Energy to Low-Income Consumers](#), respectively).

In addition to the series of six project guides that we published, we produced a project report on [state solar contract disclosure requirements](#). We provided a draft of the report to participants at our [solar consumer protection workshop](#) in May 2018. The feedback we received on the draft report at the workshop helped to frame the recommendations in the final report.

Task Three of the work plan focused on providing information to state and municipal officials and other stakeholders on project issues. In addition to our monthly project [newsletter](#) and our project workshops (see Task Four), we used [videos](#), [webinars](#), and conference presentations as forums to train state and municipal officials and other solar stakeholders on issues related to solar consumer protection and solar equitability.

Videos

- CESA released three short videos for solar consumers, which were produced by George Washington University Solar Institute for our project. The videos were designed to provide unbiased solar information and to be used by agencies, organizations, and consumers. Various state organizations, including the New Hampshire Public Utility Commission and the Rhode Island Commerce Corporation, linked to or embedded the free videos on their websites.
 - [Rooftop Solar Financing 101](#)
 - [Choosing a Solar Installer](#)
 - [Will Solar Panels Save You Money?](#)

Webinars

CESA conducted two project overview webinars—one on [residential solar financing](#) and one on [solar consumer protection](#)—and a webinar on each of the six project guides:

- [Solar Information for Consumers](#)
- [Publicly Supported Solar Loan Programs](#)
- [Solar Equipment, Installation, and Licensing & Certification](#)
- [Solar+Storage for Low- and Moderate-Income Communities](#)
- [Bringing the Benefits of Solar Energy to Low-Income Consumers](#)
- [Consumer Protection for Community Solar](#)

CESA conducted a variety of other project webinars on topics related to solar equitability:

- [DOE's Solar in Your Community Challenge](#)
- [Low-Income Solar, Part 1: Lessons Learned from Low-Income Energy Efficiency Programs](#)
- [Low-Income Solar, Part 2: Using the Tools of Low-Income Energy Efficiency Financing](#)
- [Crowd-Financing Solar for Nonprofits Serving Low-Income Communities](#)

- [Community Solar for Low- and Moderate-Income Consumers](#)
- [Utility-Driven Solar Projects for Low-Income Customers](#)
- [Principles and Policies for Low- and Moderate-Income Solar, Part 1](#)
- [Colorado's Low-Income Community Solar Demonstration Project](#)
- [Principles and Policies for Low- and Moderate-Income Solar, Part 2](#)
- [Financing Solar Projects for Public and Affordable Housing](#)
- [Solar+Storage for Public and Affordable Housing](#)
- [Promising Solar PV Financing Strategies for Low- and Moderate-Income Customers](#)
- [Income Trends of Residential Solar Adopters](#)
- [Electricity Affordability Metrics for the U.S.](#)

Conference and Meeting Presentations and Panels

Throughout the project, CESA and its project team partners presented on topics related to solar consumer protection and solar equitability at meetings and conferences of solar stakeholders and national associations of state officials, including:

- CESA conducted two project-related sessions—one on states' role in solar consumer protection and one on state solar programs for low-income residents and communities—at the [CESA spring 2016 membership meeting](#).
- Under the project, Bentham Paulos, who authored a project guide titled *Bringing the Benefits of Solar to Low-Income Consumers*, presented on a panel on low-income solar program design at a Sustainable Communities Leadership Academy in Chicago, Illinois in November 2016.
- CESA staff presented on low- and moderate-income solar access during two sessions at Renewable Energy Vermont's 2016 Conference.
- CESA presented on a panel on making the clean energy transition accessible for low-income earners at a conference for Vermont town energy committee members in December 2016.
- CESA presented on solar consumer protection during a virtual meeting of the National Association of State Utility Consumer Advocates' distributed energy resources committee in March 2017.
- CESA presented on a panel on solar policy consideration for low-income households at the [National Energy and Utility Affordability Coalition's Annual Meeting](#) in Orlando, Florida in June 2017.
- CESA presented on community solar consumer protection to a virtual meeting of the Solar Market Pathways (SMP) community solar affinity group in August 2017.
- Through our Sustainable Solar Education Project, Jenny Heeter from the National Renewable Energy Laboratory presented on low-income community solar design at the [American Solar Energy Society national solar conference](#) in October 2017 in Denver, Colorado.
- CESA conducted a project-related session on low-income solar programs at the [CESA spring 2018 membership meeting](#).

- CESA will present on the resources produced under the Sustainable Solar Education Project on a low-income solar policy call hosted by Vote Solar in August 2018.

Task Four of the work plan involved targeted training for state officials on project issues. Under this task, we planned and held three full-day, in-person trainings:

- A workshop for state officials on bringing the benefits of solar to low- and moderate-income residents in Washington, D.C. on June 14, 2017.
- A workshop on solar for public and affordable housing in Denver, Colorado on October 17, 2017.
- A workshop on solar consumer protection in Chicago, Illinois on May 17, 2018.

For each of these workshops, CESA conducted an application process to ensure we had an appropriate group of participants. We posted workshop materials and conducted post-workshop evaluations for each.

We also conducted a series of webinars and follow-on discussions on different aspects of low- and moderate-income solar program design.

- Income Verification for Low-Income Solar Programs
- Follow-Up Discussion on Income Verification for LMI Solar Programs
- Approaches for Involving Low-Income Communities with Solar
- Connecticut's Low- and Moderate-Income Solar Customer Segmentation Analysis
- Follow-Up Discussion on Customer Acquisition for LMI Solar Programs
- Using Weatherization Assistance Program (WAP) Funds for Low-Income Solar
- Using Low Income Home Energy Assistance Program (LIHEAP) Funds for Low-Income Solar
- Follow-Up Discussion on Using Federal Low-Income Energy Assistance Programs for Solar

Related webinars in this series occurred during consecutive weeks and were followed by a facilitated webinar conversation for state and municipal officials to discuss the featured topic with webinar panelists.

Below is a table showing our project's accomplishments as they relate to each of the project milestones outlined in our work plan.

Milestones and Timetable	Summary of Milestone	Status
1.3.1 Budget Period 1, Quarter 1	Commitments from 4 state-based associations to assist with project's information-sharing	Completed: International City/County Management Association, Council of State Governments National Association of Regional Councils, National Association of Attorneys General, National Association of State Energy Offices, and National Council of State Legislatures all stated a willingness to share relevant event notifications and other project-related materials with their

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		members.
1.3.2 Budget Period 1, Quarter 1	Commitments from 3 national associations of state officials to hold a session a one of their meetings and promote our work	Dismissed: Forging partnerships with national associations of state officials proved to be more challenging than anticipated. Some national associations of state officials that we approached declined to enter into formal partnerships with us. The Council of State Governments agreed to partner with CESA, but the Department of Energy disallowed the partnership. When we raised these issues at the end of the first quarter, the Department of Energy dismissed this requirement.
1.4.1 Budget Period 1, Quarter 2	Commitments from 4 stakeholder groups to share project information	Completed: We have shared information about our project with the Interstate Renewable Energy Council, the National Association for the Advancement of Colored People, Consumers Union, Solar Energy Industries Association, and Vote Solar. All of these organizations indicated a willingness to share materials related to our project with their membership. A representative from Consumers Union and from the Solar Energy Industries Association sit on our project's advisory committee.
1.5.1 Budget Period 1, Quarter 2	Prioritize Issues/Tasks/ Evaluation Metrics for Y1	Completed: We conducted an in-person meeting of the advisory committee on June 3, 2016 in Minneapolis. During the meeting, the advisory committee discussed our project work plan, priorities, strategies for outreach and recruitment, and program guide content.
1.5.2 Budget Period 2, Quarter 5	Prioritize Issues/Tasks/ Evaluation Metrics for Y2	Completed: We conducted a conference call meeting of the advisory committee in October 31, 2017. During the call, we discussed project outputs and the advisory committee provided input on the spring training workshop we were planning.
1.6.1 Quarterly	Produce project management timelines	Completed: At the outset of our project, we developed a project management timeline table for our project using Microsoft Project

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		software. We continued to maintain this timeline table to plan and track project outputs from Quarter 1 through Quarter 6 of the project when the majority of our project outputs had been completed. We provided screenshots of our project management timeline table quarterly during that period.
2.2.1 Budget Period 1, Quarter 2	Draft outline of guides 1-2	Completed: CESA submitted draft outlines for guides on (1) designing publicly supported loan programs to drive residential solar deployment; and on (2) programs and policies to bring the benefits of solar to low- and moderate-income customers.
2.2.2 Budget Period 1, Quarter 3	Produce program guides 3-4	Completed: CESA submitted draft outlines for guides on (3) solar equipment, installation, and licensing & certification; and (4) solar+storage for low- and moderate-income communities.
2.2.3 Budget Period 1, Quarter 3	Draft outline of additional guide(s)	Completed: CESA submitted a draft outline for a guide on consumer protections for community solar.
2.3.1 Budget Period 1, Quarter 3	Design template of program guides	Completed: CESA worked with a graphic designer to develop a design template for the Sustainable Solar Education Project guide series. CESA submitted the design template to the U.S. Department of Energy and received feedback on it.
2.4.1 Budget Period 1, Quarter 3	Produce program guides 1-2	Completed: CESA produced two guides in Quarter 3: <i>Solar Information for Consumers: A Guide for States</i> and <i>Publicly Supported Solar Loan Programs: A Guide for States and Municipalities</i> .
2.4.2 Budget Period 1, Quarter 4	Produce program guides 3-4	Completed: CESA produced two guides in Quarter 4: <i>Standards and Requirements for Solar Equipment, Installation, and Licensing and Certification: A Guide for States and Municipalities</i> and <i>Solar+Storage for Low- and Moderate-Income Communities: A Guide for States and Municipalities</i> .
2.4.3 Budget Period 2, Quarter 5	Produce additional guide(s)	Completed: CESA produced two guides in Quarter 5: <i>Bringing the Benefits of Solar to Low-Income Consumers: A Guide for States and</i>

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		<i>Municipalities and Consumer Protections for Community Solar: A Guide for States.</i> CESA produced an additional report on solar consumer protection during the project: <i>State Solar Contract Disclosure Requirements and Related Consumer Protection Measures.</i>
2.5.1 Budget Period 1, Quarter 4	Distribute program guides 1-2	Completed: CESA widely disseminated the two guides it produced in Quarter 3 to state and municipal officials and other solar stakeholders.
2.5.2 Budget Period 2, Quarter 5	Distribute program guides 3-4	Completed: CESA widely disseminated the two guides it produced in Quarter 4 to state and municipal officials and other solar stakeholders.
2.5.3 Budget Period 2, Quarter 6	Distribute additional guide(s)	CESA widely disseminated the additional guides it produced in Quarter 5 as well as our project report on state solar contract disclosure requirements to state and municipal officials and other solar stakeholders.
3.1.1 Budget Period 1, Quarter 3	Overview webinars held	Completed: CESA conducted an overview webinar on residential solar financing on June 22 and an overview webinar on solar consumer protection on December 8.
3.2.1 Budget Period 1, Quarter 6	Program guide webinars held	Completed: CESA conducted a webinar on each of the six project guides it released: <ul style="list-style-type: none"> - Solar Information for Consumers—November 17, 2016 - Publicly Supported Solar Loan Programs—January 12, 2017 - Solar Equipment, Installation, and Licensing & Certification—February 9, 2017 - Solar+Storage for Low- and Moderate-Income Communities—March 16, 2017 - Bringing the Benefits of Solar Energy to Low-Income Consumers—April 18, 2017 - Consumer Protection for Community Solar—June 22, 2017
3.4.1 Budget Period 2, Quarter 8	4 presentations/sessions at meetings	Completed: CESA conducted two project-related sessions—one on

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	<p>of national associations completed</p>	<p>states’ role in solar consumer protection and one on state solar programs for low-income residents and communities—at its spring 2016 membership meeting_CESA presented on solar consumer protection during a virtual meeting of the National Association of State Utility Consumer Advocates’ distributed energy resources committee in March 2017. CESA conducted a project-related session on low-income solar programs at its spring 2018 membership meeting.</p>
<p>3.5.1 Budget Period 2, Quarter 8</p>	<p>2 presentations/sessions at solar stakeholder conferences completed</p>	<p>Completed: CESA presented project-related sessions at numerous meetings of solar stakeholders, including:</p> <ul style="list-style-type: none"> - Under the project, Bentham Paulos, who authored CESA’s project guide titled <i>Bringing the Benefits of Solar to Low-Income Consumers</i>, presented on a panel on low-income solar program design at a Sustainable Communities Leadership Academy in Chicago, Illinois in November 2016. - CESA staff presented on low- and moderate-income solar access during two sessions at Renewable Energy Vermont’s 2016 Conference. - CESA presented on a panel on making the clean energy transition accessible for low-income earners at a conference for Vermont town energy committee members in December 2016. - CESA presented on a panel on solar policy consideration for low-income households at the National Energy and Utility Affordability Coalition’s Annual Meeting in Orlando, Florida in June 2017. - CESA presented on community solar consumer protection to a

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		<p>virtual meeting of the Solar Market Pathways (SMP) community solar affinity group in August 2017.</p> <p>- Through the project, Jenny Heeter from the National Renewable Energy Laboratory presented on low-income community solar design at the American Solar Energy Society national solar conference in October 2017 in Denver, Colorado.</p>
3.5.2. Budget Period 2, Quarter 8	Post-meeting evaluation summaries provided	<p>Completed: Session summaries were provided to the U.S. Department of Energy through the project's quarterly reports. Estimated session attendance numbers were provided in our annual metrics reports.</p>
4.1.1 Budget Period 1, Quarter 3	Prepare draft course syllabus and syllabuses for trainings	<p>Completed: CESA prepared agendas for all three of the in-person training workshops held under this project. Workshop agendas were posted and shared for each. CESA received U.S. Department of Energy approval to structure its online course as a webinar series with interactive follow-on discussions to reach more city and state officials and to enable greater engagement with the subject matter. CESA prepared a series of five webinars and three follow-on discussion discussions on aspects of low- and moderate-income solar program design. A description of each webinar/discussion in this series, along with a link to register, was posted in advance.</p>
4.1.2 Budget Period 1, Quarter 3	Draft post-training evaluations prepared	<p>Completed: CESA prepared and conducted post-training evaluations for each of the three full-day, in-person training workshop it conducted.</p>
4.3.1 Budget Period 2, Quarter 7	Online course completed	<p>Completed: CESA received U.S. Department of Energy approval to structure its online course as a webinar series with interactive follow-on discussions to reach more city and state officials and to enable</p>

		<p>greater engagement with the subject matter. CESA conducted the following webinars and discussions on aspects of low- and moderate-income solar program design in fulfillment of this milestone:</p> <ul style="list-style-type: none"> - Income Verification for Low-Income Solar Programs—October 13, 2017 - Follow-Up Discussion on Income Verification for LMI Solar Programs—October 19, 2017 - Approaches for Involving Low-Income Communities with Solar—November 30, 2017 - Connecticut’s Low- and Moderate-Income Solar Customer Segmentation Analysis—December 5, 2017 - Follow-Up Discussion on Customer Acquisition for LMI Solar Programs—December 14, 2017 - Using Weatherization Assistance Program (WAP) Funds for Low-Income Solar—January 11, 2018 - Using Low Income Home Energy Assistance Program (LIHEAP) Funds for Low-Income Solar—January 16, 2018 - Follow-Up Discussion: Using Federal Low-Income Energy Assistance Programs for Solar—January 25, 2018 <p>Materials from this webinar and discussion series were posted to CESA’s website.</p>
<p>4.3.2 Budget Period 2, Quarter 8</p>	<p>Three in-person training sessions completed</p>	<p>CESA completed three full-day, in-person training workshops under this project. CESA conducted application process to ensure an appropriate group of participants for each workshop:</p> <ul style="list-style-type: none"> - On June 14, 2017, CESA conducted a workshop for state officials on bringing the benefits of solar to low- and moderate-income residents in Washington, D.C. - On October 17, 2017, CESA

		held a workshop on solar for public and affordable housing in Denver, Colorado. - On May 17, 2018, CESA conducted a workshop on solar consumer protection in Chicago, Illinois.
4.3.3 Budget Period 1, Quarter 4	Annual summary report on training attendance, materials distribution, and evaluation metrics prepared	Completed: CESA prepared and submitted a summary report of attendance and distribution results for project outputs for Budget Period 1.
4.3.4 Budget Period 2, Quarter 8	Annual summary report on training attendance, materials distribution, and evaluation metrics prepared	Completed: CESA prepared a final summary report of attendance and distribution results for all project outputs.

As an addendum to this report, we have produced a summary of attendance and distribution results of project outputs.

Project Deviations and Challenges

Forging partnerships with national associations of state officials proved to be more challenging than we anticipated. Some national associations of state officials that we approached declined to enter into formal partnerships with us. The Council of State Governments agreed to partner with CESA, but the U.S. Department of Energy disallowed the partnership. When we raised these issues at the end of the project's first quarter, the U.S. Department of Energy dismissed this requirement. Booking sessions and presentations at meetings and conferences of associations of state and municipal officials also proved to be difficult because of timeframes and topical constraints, but we were able to fulfill our milestone in this area.

Although most of the topics for the guides were published as we had envisioned, the topic of one of the guides changed during the course of the project. Initially, CESA planned to release a guide on residential property assessed clean energy (R-PACE) program design considerations. Because of concerns about the evolving regulatory landscape for R-PACE and R-PACE's ability to securely serve low-income homeowners, we decided to shift the topic of this guide to focus on consumer protections for community solar participants.

One of the project's milestones called for CESA to develop and administer an online course to be taken by 25-50 state officials. In an effort to reach even more government officials and to enable greater engagement with the subject matter, CESA proposed structuring this online course as a webinar series with interactive follow-on discussions. The U.S. Department of Energy approved CESA's request, and CESA arranged and conducted a webinar and discussion series between October 2017 and January 2018 on particular aspects of low- and moderate-income solar program design. Related webinars in this series occurred during consecutive weeks and were followed by a facilitated webinar conversation

for officials to discuss the featured topic with webinar panelists. The series consisted of five webinars with three follow-on discussions.

The scope of our project and its outputs expanded over the course of the project in a few key areas:

- To help us expand the project's reach, we decided to produce a free monthly electronic newsletter, which we had not originally contemplated. The newsletter included updates on project activities, and news and resources from around the country related to solar consumer protection and solar equitability. By the end of the project, we had produced a total of 26 editions of the newsletter and had over 3,600 people subscribed to its distribution list.
- We conducted many project webinars that were not part of the project's original scope of work. Our project milestones called for us to produce 2-4 project overview webinars and 4-7 webinars on the guides we released, but we ended up conducting a total of 30 project webinars on topics related to solar equitability or consumer protection, including two project overview webinars, six project guide webinars, and a series of webinars and follow-on discussions.
- In partnership with the George Washington University Solar Institute, we released three short videos for solar consumers—Rooftop Solar Financing 101, Choosing a Solar Installer, and Will Solar Panels Save You Money?. The videos were not part of our original project work plan, but they came about when we learned that GW Solar Institute had received a STEP award to produce videos to help other awardee teams share solar information with their target audiences. We made the three videos GW Solar Institute produced for our project publicly available.
- We produced a report on state solar contract disclosure requirements. We did not propose this report in our project's work plan, but as the project evolved, we determined that state solar contract disclosure requirements were important for us to address. We therefore published and disseminated a report on this topic accordingly in addition to the series of project guides.

Outputs, Publications and Presentations

We produced the following materials under this project:

- We published 26 editions of our project newsletter.
- We published six guides and one report under the Sustainable Solar Education Project:
 - *Solar Information for Consumers: A Guide for States*
 - *Publicly Supported Solar Loan Programs: A Guide for States and Municipalities*
 - *Standards and Regulations for Solar Equipment, Installation, and Licensing & Certification: A Guide for States and Municipalities*
 - *Solar+Storage for Low- and Moderate-Income Communities: A Guide for State and Municipalities*
 - *Bringing the Benefits of Solar Energy to Low-Income Consumers: A Guide for States and Municipalities*
 - *Consumer Protection for Community Solar: A Guide for States*
 - *State Solar Contract Disclosure Requirements*
- We released three short videos for solar consumers (developed in partnership with the George Washington University Solar Institute):
 - *Rooftop Solar Financing 101*
 - *Choosing a Solar Installer*
 - *Will Solar Panels Save You Money?*
- We conducted 30 webinars.
 - *Residential Solar Financing*—June 22, 2016
 - *Solar Information for Consumers*—November 17, 2016
 - *Solar Consumer Protection*—December 8, 2016
 - *Publicly Supported Solar Loan Programs*—January 12, 2017
 - *Solar Equipment, Installation, and Licensing & Certification*—February 9, 2017
 - *Solar+Storage for Low- and Moderate-Income Communities*—March 16, 2017
 - *Bringing the Benefits of Solar Energy to Low-Income Consumers*—April 18, 2017
 - *Consumer Protection for Community Solar*—June 22, 2017
 - *DOE's Solar in Your Community Challenge*—January 10, 2017
 - *Low-Income Solar, Part 1: Lessons Learned from Low-Income Energy Efficiency Programs*—March 23, 2017
 - *Low-Income Solar, Part 2: Using the Tools of Low-Income Energy Efficiency Financing*—March 30, 2017
 - *Crowd-Financing Solar for Nonprofits Serving Low-Income Communities*—May 25, 2017

- Community Solar for Low- and Moderate-Income Consumers—June 1, 2017
 - Utility-Driven Solar Projects for Low-Income Customers—June 8, 2017
 - Principles and Policies for Low- and Moderate-Income Solar, Part 1—October 6, 2017
 - Income Verification for Low-Income Solar Programs—October 13, 2017
 - Follow-Up Discussion on Income Verification for LMI Solar Programs—October 19, 2017
 - Colorado’s Low-Income Community Solar Demonstration Project—October 26, 2017
 - Principles and Policies for Low- and Moderate-Income Solar, Part 2—November 17, 2017
 - Approaches for Involving Low-Income Communities with Solar—November 30, 2017
 - Connecticut’s Low- and Moderate-Income Solar Customer Segmentation Analysis—December 5, 2017
 - Follow-Up Discussion on Customer Acquisition for LMI Solar Programs—December 14, 2017
 - Using Weatherization Assistance Program (WAP) Funds for Low-Income Solar—January 11, 2018
 - Using Low Income Home Energy Assistance Program (LIHEAP) Funds for Low-Income Solar—January 16, 2018
 - Follow-Up Discussion on Using Federal Low-Income Energy Assistance Programs for Solar—January 25, 2018
 - Financing Solar Projects for Public and Affordable Housing—February 15, 2018
 - Solar+Storage for Public and Affordable Housing—February 22, 2018
 - Promising Solar PV Financing Strategies for Low- and Moderate-Income Customers—March 1, 2018
 - Income Trends of Residential Solar Adopters—May 2, 2018
 - Electricity Affordability Metrics for the U.S.—June 14, 2018
- We held three full-day trainings:
 - A workshop for state officials on bringing the benefits of solar to low- and moderate-income residents in Washington, D.C.—June 14, 2017
 - A workshop on solar for public and affordable housing in Denver, Colorado—October 17, 2017
 - A workshop on solar consumer protection in Chicago, Illinois—May 17, 2018
 - We presented on project topics at various meetings and conferences of solar stakeholders and national associations of state officials:
 - Conducted two project-related sessions—one on states’ role in solar consumer protection and one on state solar programs for low-income residents and communities—at its spring 2016 membership meeting.

- Presented on a panel on low-income solar program design at a Sustainable Communities Leadership Academy in Chicago, Illinois in November 2016.
- Presented on low- and moderate-income solar access during two sessions at Renewable Energy Vermont's 2016 Conference.
- Presented on a panel on making the clean energy transition accessible for low-income earners at a conference for Vermont town energy committee members in December 2016.
- Presented on solar consumer protection during a virtual meeting of the National Association of State Utility Consumer Advocates' distributed energy resources committee in March 2017.
- Presented on a panel on solar policy consideration for low-income households at the National Energy and Utility Affordability Coalition's Annual Meeting in Orlando, Florida in June 2017.
- Presented on community solar consumer protection to a virtual meeting of the Solar Market Pathways (SMP) community solar affinity group in August 2017.
- Presented on low-income community solar design at the American Solar Energy Society national solar conference in October 2017 in Denver, Colorado.
- Conducted a project-related session on low-income solar programs at its spring 2018 membership meeting.

Materials produced under our project can be accessed through CESA's Sustainable Solar Education Project's webpage page at <http://cesa.org/projects/sustainable-solar/>.



Clean Energy States Alliance
 50 State Street, Suite 1
 Montpelier, VT 05602
 802.223.2554
 cesa@cleanegroup.org
 www.cesa.org

Clean Energy States Alliance (CESA) is a national, nonprofit coalition of public agencies and organizations working together to advance clean energy. CESA members—mostly state agencies—include many of the most innovative, successful, and influential public funders of clean energy initiatives in the country.

CESA works with state leaders, federal agencies, industry representatives, and other stakeholders to develop and promote clean energy technologies and markets. It supports effective state and local policies, programs, and innovation in the clean energy sector, with an emphasis on renewable energy, power generation, financing strategies, and economic development. CESA facilitates information sharing, provides technical assistance, coordinates multi-state collaborative projects, and communicates the views and achievements of its members.

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