

















ENERGIZE YOUR IMPACT

How Foundations Can Accelerate Solar for LMI-Serving Community Institutions





ABOUT THIS REPORT

This report was produced as part of the Scaling Up Solar for Under-Resourced Communities Project. This project, led by the Clean Energy States Alliance (CESA), seeks to accelerate the development of solar projects for three distinct subsets of the low- and moderate-income (LMI) solar market: single-family homes, manufactured homes, and community institutions, including multifamily affordable housing.

For the community institutions track, the project team has worked with philanthropic foundations, lenders, and community service organizations to inventory and analyze models for philanthropic investment that accelerate the deployment of solar and solar plus battery storage (solar+storage) in a wide range of community institutions, including multifamily affordable housing, community centers, senior care facilities, educational facilities, and health centers. This report explores the strategies that philanthropic foundations have used and can use to bring the many benefits of solar and battery storage to the communities that they support.

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Clean Energy States Alliance



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Introduction

here are daunting obstacles to making solar feasible and financially attractive for low- and moderate-income (LMI) households and communities in the United States. To overcome these challenges and ensure that LMI households secure meaningful benefits from solar development requires action on the part of many players, including foundations. Indeed, foundations can play an important role in supporting equitable access to solar, and they have, in recent years, increased their financial support to prioritize energy equity and environmental justice.

In this report, the Clean Energy States Alliance (CESA) highlights the strategies that foundations have used to support the deployment of solar and solar+storage (S+S) for community institutions, including multifamily affordable housing, community centers, senior care facilities, educational facilities, and health centers in LMI communities. Each strategy includes a list of main advantages and challenges.

The strategies can broadly be divided into three groups: (1) those that directly reduce costs, such as grants, regranting, or donations of solar panels; (2) those that facilitate access to funding and growth for developers and support market building, such as loans, loan guarantees, and equity investments; and (3) those that help customers or otherwise affect the demand-side of the value chain, such as technical assistance funds or capacity-building programs.

The goal of this report is not to argue for the superiority of one intervention model over another. In fact, it will likely require utilizing a mix of these strategies to successfully deploy solar and S+S at scale in LMI communities. Instead, the report aims to inform foundations about models that can be replicated and adapted to bring solar and S+S to the nation's LMI communities that will most benefit from it.

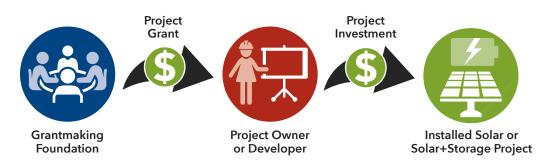
In researching this topic, the authors conducted literature reviews and interviews with foundations and investment recipients, such as lenders and project developers. We identified eight intervention models that foundations have used to scale up solar and S+S (see Models 1-8, pp. 7-14). The report explores these models through case studies of specific foundation initiatives that support solar and S+S projects in LMI communities.

1 For an overview of the LMI solar arena, including the roles of different stakeholder groups, see Warren Leon et al., "Solar with Justice: Strategies for Powering Up Under-Resourced Communities and Growing an Inclusive Solar Market," CESA.org, December 2019, https://www.cesa.org/resource-library/resource/solar-with-justice/

The Models

his report introduces eight models for foundations to support solar and solar+storage (S+S) in LMI community institutions, as well as related case studies. In this section, we describe these philanthropic intervention models, i.e., high level descriptions of the parties, the financial flows between them, and the tools used in relation to supporting the installation of solar or S+S assets. Each model is accompanied with a list of advantages and challenges. The following section will provide examples of the implementation of each of these models via case studies.

MODEL 1 Project Grant



In Model 1, the Grantmaking Foundation provides a project grant to the Project Owner or Developer who then uses the funding support for the installation of solar or solar+storage project(s).

Advantages:

- Traditional grant-making model that involves few parties
- Low overhead costs
- Installed project benefits the owner of the system

- Does not allow a return on investment
- Usually supports only one or single group of projects
- Once the grant funding is expended, the money is gone

MODEL 2 Regranting Foundation or Intermediary



In Model 2, the grantmaking foundation provides funding to an intermediary or regranting foundation(s) to provide smaller project grants to community-based organizations (CBO) in low- and moderate-income communities to support the installation of solar or solar+storage project(s).

Advantages:

- Allows larger foundations to reach a greater number of small organizations, including CBOs, through an intermediary
- Regranting foundation assumes administrative tasks for the grant

- Does not allow a return on investment
- Once the funding is expended, the money is gone

MODEL 3 Donation of Equipment



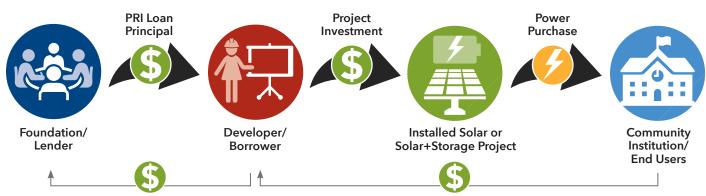
In Model 3, the foundation provides a nonprofit organization with solar panels, technical assistance, and small grants to support solar installations maximizing economies of scale from bulk purchasing, thus lowering the cost of projects. By donating solar panels, the foundation also fosters a strong relationship with the grantee and a greater commitment to the project's success.

Advantages:

- Provides partial funding for solar projects to be installed by nonprofits lowering the overall cost of the project
- Uses economies of scale to procure solar panels at a cheaper cost for nonprofits
- Makes financing solar projects more accessible by reducing the amount of capital that needs to be borrowed or fund-raised from other sources
- Supports nonprofits in developing the project through technical assistance grants
- Deepens the buy-in of nonprofits and their connection to solar projects by providing tangible assets
- Leverages nonprofits to promote solar education in the communities they serve

- Does not allow a return on investment
- Once the funding is expended, the money is gone

MODEL 4 PRI Loan to Social Impact For-Profit Entity



Loan Principal and Interest Over Time

Low-Cost Electricity PPA Payments Over Time

In Model 4, the foundation provides program-related investment (PRI) funding as a loan to a for-profit project developer focused on developing solar or solar+storage project(s) at health centers or other community institutions in low-income communities. The developer owns the technologies and sells the electricity to customers at a lower cost through a power purchase agreement (PPA). The customers make payments to the project developer for the electricity provided.

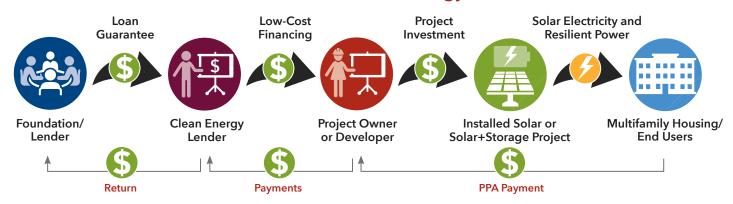
Advantages:

- Loan allows for return on investment and for recycling of foundation funding in additional projects
- Reduces the cost of capital for the projects by offering concessionary rates for the most expensive parts of the funding process
- Allows foundation to support multiple end users over time without having to administer a program
- Project structure is similar to known market structures and can facilitate attracting other market actors
- Customers receive the benefit of solar/S+S system without requiring purchase that may be out of reach and receive resilience benefits from batteries

Challenges:

 More complicated structure that requires financing knowledge, and extensive research to understand the borrower's business model and risks

MODEL 5 Loan Guarantee to Clean Energy Lender



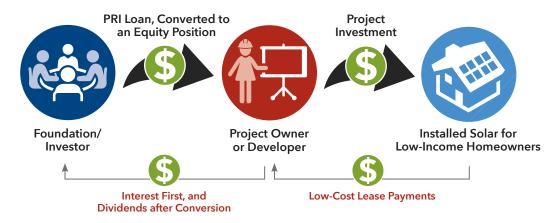
In Model 5, the foundation provides a loan guarantee to a mission-focused energy lender to offer lower-cost financing for solar or solar+storage project(s) in low-income communities. With the guarantee, financial risk is lowered for the lender so lower-cost loans can be offered to the borrower (the project owner or developer).

Advantages:

- Provides a lender with credit-risk mitigation to offer capital to benefit a community institution, while not deploying foundation funds
- Sends market signals that these projects can be profitable
- Supports demand generation if offered together with operating grants, allowing the lender to start developing a pipeline of projects

- More complicated structure that requires financing knowledge
- Without specific funding dedicated to marketing, does not address projects pipelinebuilding challenges

MODEL 6 Equity Investment in Mission-Focused For-Profit Entity



In Model 6, the foundation provides a convertible loan to a mission-focused clean energy provider of solar and energy efficiency in low-income communities to allow the company to grow. Upon conversion of the loan into equity, the foundation receives a minority equity stake and a seat at the board of the developer's company, ensuring that energy justice efforts are sustained.

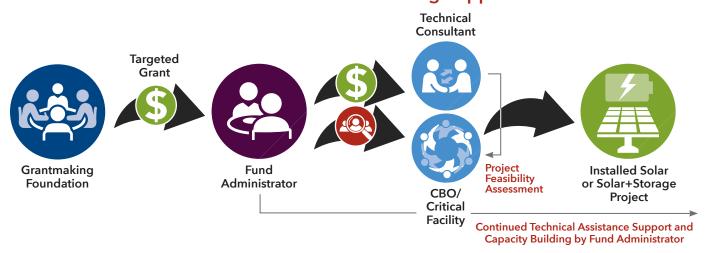
Advantages:

- Through philanthropic investment, supports innovative clean energy developer with a loan before mainstream investors are comfortable with the business model
- Allows the business to serve underserved families while building its track record
- With a conversion of the loan into an equity stake, the foundation can continue to advance its mission of social investing and addressing climate change, and act as a "checks and balances" board member to ensure the social mission of the company remains central to its operations and investments

Challenges:

 Being a board member, even as a minority investor, requires considerable time, effort, and resources by the foundation

MODEL 7 Technical Assistance Funding Support



In Model 7, the foundation provides grant funding to a fund administrator to offer technical assistance and small grants for community organizations to conduct feasibility assessments on proposed resilient solar+storage installations at critical community facilities in underserved communities. The assessments provide predevelopment information to assist in decisionmaking and fundraising.

Advantages:

- Supports smaller organizations by offering resources that enable project development in underserved communities
- Provides technical assistance awards during the critical first stages of the solar+storage development process
- Supports the engagement of a trusted third-party technical services provider to perform a preliminary technical and financial feasibility analysis to determine the sizing, cost, and benefits of solar+storage
- Offers a workable pathway to build project pipelines in underserved communities over time

- Requires hands-on management by a trusted fund administrator to manage the program
- Is slow to scale as project pipelines take time to build

MODEL 8 Capacity Building and Program Support

Unrestricted Project or **Operating Support** Unrestricted **Project Funding** Leadership Installed Solar Grantmaking Nonprofit Local Capacity Building/ Training, Education, and Foundation Development or Solar+Storage Project **Maintenance Costs** Developer **Project**

In Model 8, the foundation provides multi-year unrestricted grant funding to a nonprofit developer to support the installation of solar projects for underserved customers. Funding can be used for needs defined by the recipient, such as to develop solar projects, provide job training, capacity building, project education, or project maintenance to ensure success for the solar installation and create benefits for the local community. In addition, the foundation provides leadership development for the nonprofit developer to deepen its impact.

Advantages:

- Unrestricted grants offer financial support for needs that were squarely defined by the recipient of the funding, allowing local voices to guide the way the funding is utilized
- Prioritizes building capacity and leadership within the grantee organization for effective grantmaking
- Grows solar in underserved and/or under-invested communities
- Builds network within grantee organizations through cohorts

- Trade-off between the level of customization of leadership development programs and scale
- Slow to grow
- Requires dedicated staff



Case Studies

he following eight case studies presented in this section illustrate how each of the eight models identified previously have been implemented by foundations. The investment strategies to support solar and solar+storage (S+S) development in LMI communities include the following:

- 1. Costs reduction strategies, such as grants, regranting, or donations of solar panels
- 2. Market building and financial access strategies, such as loans, loan guarantees, and equity investments
- 3. Demand-side strategies, such as technical assistance funds or capacity-building programs

In practice, foundations use multi-pronged approaches, often utilizing more than one of these models at once. The authors have made editorial choices to ensure that each case study illustrates a specific model, and, to the extent possible, limited the scope of the case studies to the areas relevant to a specific model for clarity. Other strategies, when used by a foundation within a case study are mentioned but are not examined in detail.

MODEL 1 CASE STUDY: PROJECT GRANT

The Honnold Foundation and Coalfield Development Corporation

Project Grant



Intervention Model	Project Grant. In Model 1, the grantmaking foundation provides a project grant to the Project Owner or Developer who then uses the funding support for the installation of solar or solar+storage project(s).
Case Study Example	In this case study, a foundation followed the traditional approach of offering a support grant for a project. The foundation offered \$100,000 in grants and also partnered with the project developer and the project owner to offer on-site job training.
Grantmaking Foundation	Honnold Foundation
Grant Recipient	Project Developer. Coalfield Development, a community-based nonprofit (501c3) dedicated to sustainability, innovation, and labor-based opportunity-building in central Appalachia, aims to incubate and invest in social enterprises, remove employment barriers, foster community revitalization projects, and design and scale programs in emerging sustainable sectors. ²
Type of Support	Project Funding
Foundation Background	The Honnold Foundation is a small foundation founded in 2012, initially with support from the Tides Foundation. Incorporated in 2018, it does not have an endowment. Funds raised, between \$2,000,000 to \$2,500,000 per year, get expended immediately, primarily through grants.

- 2 Coalfield Development, "About Us," coalfield-development.org, https://coalfield-development.org/about-us/(accessed November 4, 2022).
- 3 The Honnold Foundation, "About," honnoldfoundation.org, https://www.honnoldfoundation.org/about#about-hero (accessed November 4, 2022).

Foundation Background continued	The Honnold Foundation's vision is "a world where marginalized communities lead the transition to renewable energy, with the resources they need to adapt and thrive. We believe in solar as a proven, environmentally sound solution to global energy poverty, and we award grants to community organizations whose projects are innovative, equity-focused, and have the potential to shift the narrative on what's possible for energy access worldwide."
	Over 700 applicants from 90 different countries applied for this grant and eight organizations were selected. For additional information about the Honnold Foundation and its recent programs and models, see Model 8 on page 45.
Key Partners	 Solar Holler, a benefit corporation solar installer, and the first solar energy company headquartered in West Virginia SunWealth, an impact-driven clean energy investor with stated LMI access and inclusion and workforce development priorities
Project Start Date	2020
Project Location	Huntington, West Virginia
Technologies Installed	Solar
Outcomes	 Through this project, the Honnold Foundation and Coalfield Development were able to: Fund and deploy 122-kilowatt solar PV system for a community center at the West Edge Factory Create opportunities for eight trainees and 50+ staff for on-site job training Contribute to the creation of job opportunities in the solar industry for former coal miners

Project Details

Coalfield Development acquired an old factory, the West Edge Factory, which it renovated over time. The West Edge facility houses a community and social innovation center, or "living learning lab," in which social enterprises are incubated. The space includes the headquarters of Solar Holler, a solar design and installation company; a wood shop; an apparel print shop; and greenhouses, as well as a creative art venue and community meeting spaces.

As a community hub, installing solar was meaningful not only for clean energy development, but also for education and the training of residents.

As a nonprofit, Coalfield Development was not able to leverage federal tax credits to install solar.⁴ They reached out to the Honnold Foundation for funding to support the installation

4 Note that under the Inflation Reduction Act, nonprofits are now able to access tax credits in the form of "direct payments." However, nonprofits will still have to do significant structuring to be able to utilize the direct pay option. For instance, they will likely need grants to fund the initial investment and to bridge the time between when the investment has to be made and the time when direct pay can be received from federal agencies. In addition, nonprofits can still choose other ways to leverage tax credits through tax equity partnerships.

The new solar array serves as a teaching tool to showcase solar workforce training opportunities and a new economic model in a town at the heart of the clean energy transition, with limited resources and high unemployment."

costs of a solar array for the West Edge building. The \$100,000 grant from the Honnold Foundation helped offset the costs for acquiring 122 kilowatts of solar panels. The project was completed in 2021 with an additional \$84,000 investment from SunWealth.⁵

The West Edge site renovation and the solar installation by Solar Holler provided on-site job training for 15 people. Coalfield Development had an existing partnership with Solar Holler through Rewire Appalachia⁶ on solar job training, which allowed staff to receive training on solar installation and solar design at Coalfield Development's facilities and enabled Solar Holler to benefit from the development of a pipeline of skilled workers in the region.

Likewise, Solar Holler provides extensive job training to Coalfield Development. Beyond the installation, the new solar array serves as a teaching tool to showcase solar workforce training opportunities and a new economic model in a town at the heart of the clean energy transition, with limited resources and high unemployment.

In addition to the grant, the Honnold Foundation hosted multiple capacity-building workshops on other non-technical skills; the foundation provides workshops to all their grantees to consolidate relevant skill sets.

Websites and Web-Based Resources

Honnold Foundation

https://www.honnoldfoundation.org

- Coalfield Partner Page: https://www.honnoldfoundation.org/partner/coalfielddevelopment-corporation
- Coalfield Development Partner Overview: https://www.honnoldfoundation.org/s/ Coalfield-Development-Corp-Partnership-Overview_Revised-5_14.pdf

Coalfield Development Corporation

https://coalfield-development.org

- Announcement: https://coalfield-development.org/coalfield-development-chosenfor-solar-energy-grant-through-the-honnold-foundation/
- 5 Live system monitoring for the solar array is available at: https://monitoringpublic.solaredge.com/solaredge-web/p/kiosk?quid=cd0d2bfc-66be-41d2-bb59-77ea4643548b&locale=en_US
- 6 In 2019, Solar Holler acquired Rewire Appalachia. This wholly-owned subsidiary of Coalfield Development has been dissolved since it was acquired and Coalfield Development now has a minority share in Solar Holler.

MODEL 2 CASE STUDY: REGRANTING

Bezos Earth Fund and The Solutions Project

Regranting Foundation or Intermediary



Intervention Model	Regranting . In Model 2, the grantmaking foundation provides funding to an intermediary or regranting foundation(s) to provide smaller project grants to community-based organizations in low- and moderate-income communities to support the installation of solar or solar+storage project(s).
Case Study Example	In this case study, a large foundation, the Bezos Earth Fund, provided major funding to another foundation, The Solutions Project, to serve as an intermediary and distribute relatively small grants to grassroots organizations in LMI communities. Several foundations have provided such funding to The Solutions Project over the past decade. The largest such award, from the Bezos Earth Fund, was \$43,000,000 in 2020.
Granting Foundation	Bezos Earth Fund
Grant Recipient	Intermediary. The Solutions Project, a nonprofit, created in 2013 "with the belief that clean energy benefits the social good and increases racial equity." Its programs were launched in 2015 with a fund for climate justice solutions, to collaborate with and provide support to grassroots organizations in disadvantaged communities across the country.
Type of Support	Program Funding
Foundation Background	The Bezos Earth Fund was created by Jeff Bezos in 2020 with a commitment of \$10 billion to be disbursed as grants to address climate and nature within the current decade.
Project Start Date	2020
Project Location	Nationwide
Technologies Installed	Solar, Others

Outcomes

The strategy of providing funding to an intermediary organization, like The Solutions Project, allows the Bezos Earth Fund to:

- Effectively reach grassroots organizations and build trust among those organizations
- Deploy large amounts of funding to small organizations without assuming the administrative burden of the grants' administration

The Solutions Project will unfold over the coming years, but it is already building the capacity and impact of the 129 organizations it works with.

The Bezos Earth Fund Award

The Bezos Earth Fund seeks to disburse funding as grants within the current decade to address climate and nature. Environmental justice is one of seven program areas, and the Fund has awarded \$301,000,000 with 43 grants. One of the largest was the \$43,000,000 grant to The Solutions Project over three years "to accelerate the transition to 100 percent clean energy and equitable access to healthy air, water, and land." That unrestricted grant allowed The Solutions Project to expand its operations and grantmaking.

In making the award, the Bezos Earth Fund recognized the following:

- Addressing environmental justice requires support for local CBOs that are closest to
 the problems and are able to best represent the interests and desires of their communities, though only a very small percentage of environmental grantmaking has historically
 gone to grassroots organizations focused on climate justice.
- The Bezos Earth Fund did not have the internal capacity to administer a large number of grants to grassroots organizations.
- The Solutions Project was well-positioned to make awards to grassroots CBOs and work with those organizations to increase their capacity.

The Solutions Project's Approach

For foundations that do not have climate justice as primary a focus, The Solutions Project offers an avenue to reach disadvantaged communities through its extensive network of grassroots organizations. The Solutions Project has used the funding it received from the Bezos Earth Fund and other foundations to make awards to grassroots organizations across the country. The awards are usually between \$30,000 and \$50,000 annually but have been as much as \$100,000. To date, The Solutions Project has provided support to and is working with 129 organizations.

The grants provided by The Solutions Project are unrestricted and are designed to give the grassroots organizations flexibility and the ability to grow. As a staff member of The Solutions Project pointed out, "We are able to move money in smaller amounts or to

⁷ The Solutions Project, "A Recognition of our Movement's Ability to Imagine and Create the Future we Want," the solutions project.org, https://thesolutionsproject.org/who-we-are/our-funders/bezos-earthfund (accessed March 3, 2023).

We are able to move money in smaller amounts or to smaller organizations doing what philanthropy might see as smaller projects, but that are critical."

The Solutions Project

smaller organizations doing what philanthropy might see as smaller projects, but that are critical."

In addition to funding support, The Solutions Project offers capacity building assistance, including media training, storytelling training, and advice on human resources and other issues. The Solutions Project sees itself as investing in relationships with its grantees and works to build trust in both directions.

Because the grants are unrestricted, grantees are not required to use them for solar. But many grantees have used some of the funding for that purpose, including PUSH Buffalo in New York, Soulardarity in Michigan, and Thunder Valley Community Development Corporation in South Dakota.

The Solutions Project also takes steps to amplify the grassroots voices of the organizations it funds and to ensure local stakeholders have a seat at the table when important decisions are being made.

Websites and Web-Based Resources

Bezos Earth Fund Environmental Justice Program

https://www.bezoseartHonnold Foundationund.org/our-programs/environmental-justice

The Solutions Project

https://thesolutionsproject.org

MODEL 3 CASE STUDY: DONATIONS

Couillard Solar Foundation and RENEW Wisconsin

Donations of Solar Panels and Direct Technical Assistance



Intervention Model	In-Kind and Asset Donations. In Model 3, the foundation provides a nonprofit organization with solar panels, technical assistance, and small grants to support the installation of solar projects by maximizing economies of scale from bulk purchasing, thus lowering the cost of projects. By donating solar panels, the foundation also fosters a strong relationship with the grantee and a greater commitment to the project's success.
Case Study Example	In this case study, a small foundation, the Couillard Solar Foundation, provided a nonprofit organization with funding to administer a program offering solar panels, technical assistance, and small grants to other nonprofits in Wisconsin. The nonprofit also assisted potential solar owners in leveraging the grants to help pay for the costs of the solar installations.
Grantmaking Foundation	Couillard Solar Foundation
Grant Recipient	Nonprofit organizations seeking to go solar in Wisconsin
Type of Support	Program Funding
Foundation Background	The Couillard Solar Foundation is a small foundation that promotes the expansion of solar energy in Wisconsin through partnerships. "Our mutual goal is to enable nonprofits across Wisconsin, schools, churches, service and other community organizations, to join the renewable energy revolution."
	The Couillard Solar Foundation offers grants and education services. It is run by a volunteer board and has one paid staff member.

⁸ Couillard Solar Foundation, "About the Couillard Solar Foundation," couillardsolarfoundation.org, https://couillardsolarfoundation.org/about-us (accessed March 7, 2023).

Key Partner	RENEW Wisconsin, a renewable energy advocacy nonprofit, manages the grant programs offered by the Couillard Solar Foundation.
Project Start Date	2017
Project Location(s)	Wisconsin, statewide
Technologies	Solar
Outcomes	Through the Solar for Good program, RENEW Wisconsin and the Couillard Solar Foundation were able to:
	 Provide partial funding for solar projects to be installed by nonprofits lowering the overall cost of the project
	Use economies of scale to procure solar panels at a cheaper cost for nonprofits
	 Make financing solar projects more accessible by reducing the amount of capital that needs to be borrowed or fund-raised from other sources
	Support nonprofits in developing the project through technical assistance grants
	Support nonprofits in fundraising additional funds to cover the remainder of the cost
	 Deepen the buy-in of nonprofits and their connection to solar projects by providing tangible assets
	Leverage nonprofits to promote solar education in the communities they serve

The Solar for Good program started in 2017 when entrepreneur Cal Couillard donated funds to the nonprofit RENEW Wisconsin (RENEW) to administer the program. The initial grant to RENEW covered both RENEW's expenses to administer the program as well as funds to be regranted to nonprofits as RENEW staff saw fit. As an advocacy nonprofit, RENEW's work had primarily focused on policy and regulatory work, advocacy, and intervening in cases and dockets with the Wisconsin Public Service Commission and the Wisconsin legislature.

In 2019, Couillard created a new foundation, the Couillard Solar Foundation. The Foundation was created to better organize the flow of funds to the program and to make it more sustainable in the long term.

Any nonprofit organization located in and serving Wisconsin can apply for a grant; however, the nonprofits must own or control the property on which solar panels are to be installed and must also commit to participating in education campaigns about the benefits of solar power.

Once a nonprofit is ready to move forward with the solar installation, RENEW either provides them with up to 50 percent of the solar panels required for the project in the

⁹ The Couillard Solar Foundation also provides resources for a similar program called Solar on Schools. Solar on School and Solar for Good operate very similarly, but Solar on Schools specifically targets public schools in

form of free, donated solar modules, or in the form of a cash grant of \$150 per kilowatt of solar energy installed, up to a maximum of \$10,000 or \$20,000 depending on the size of the project.

RENEW's Distributed Renewable Energy Program Director Sam Dunaiski explained that the main idea behind panel donations as the primary grant award was motivated by economies of scale. "If someone came and asked for a bottle of water, you could give them a dollar to buy a bottle, or you could go buy 100 bottles at a much lower cost per unit. Founder Cal Couillard thought that this was a way of providing a more generous award to folks." According to Dunaiski, after calculating the cost of panels awarded to nonprofits in the latest round, the value to nonprofits averaged over \$30,000, representing a significant cost saving for all involved.

On the other hand, the cash grant funds were made available in 2020, following a gift from First Unitarian Society of Madison through the Array it Forward initiative. If the recipient prefers to utilize a cash grant, RENEW will pay the solar costs after interconnection.

RENEW typically runs two rounds of grants per year, and receives about 20 applications per round, of which about 18 are typically approved. Since 2017, RENEW has allocated over 100 grants to 151 organizations, so that over \$1,000,000 in grants have been disseminated and \$1,700,000 have been allocated.

The program, however, is not intended to support the whole cost of a solar project and RENEW encourages grantees to leverage funds utilizing other sources, including public financing, but also traditional financing. The reduced cost (or size as the case may be) of the system that needs financing allows nonprofits to access financing more easily at a cost they can afford.

In addition to providing funding, RENEW offers support and guidance to grantees throughout the fundraising process and during the solar installation process. RENEW generally requires that additional fundraising be finalized within six months of the award and that the installation be finalized within 12 months. Small technical assistance grants are also available to organizations that need help with solar site assessments or engineering reviews.

There's something physically tangible that they see they got from the foundation. It's not just a check. We always felt that being able to see those physical panels was a better way to connect the organization to that project."

Sam Dunaiski, RENEW Wisconsin

Donating panels may seem surprising, but according to Dunaiski it also creates a more lasting relationship with grantees and a greater commitment to the project's success. "There's something physically tangible that they see they got from the foundation. It's not just a check. We always felt that being able to see those physical panels was a better way to connect the organization to that project."

Through Solar for Good, until 2022, the Couillard Solar Foundation and RENEW had provided \$1,160,000 in grant funds or in donated modules, leading to almost \$10,000,000 in solar projects, and 4.4 megawatts of solar capacity.

Websites and Web-Based Resources

Solar for Good Homepage

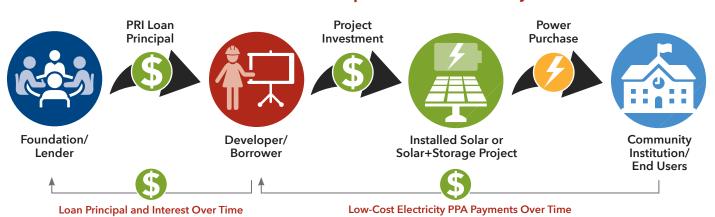
https://www.renewwisconsin.org/solarforgood/

- Solar for Good Memorandum of Understanding for Grantees: https://www.renewwisconsin.org/wp-content/uploads/2018/03/2018-Solar-for-Good-MOU-Sample.pdf
- Couillard Solar Foundation Projects Page: https://couillardsolarfoundation.org/ csf-projects

MODEL 4 CASE STUDY: PRI LOAN

The Kresge Foundation and Collective Energy

PRI Loan to Social Impact For-Profit Entity



Intervention Model PRI Loan. In Model 4, the foundation provides a program-related investment (PRI) as a loan to a for-profit project developer focused on developing solar or solar+storage project(s) at community institutions in low-income communities. The developer owns the technologies and sells the electricity to the end user at a lower cost through a power purchase agreement (PPA). The end user makes payments to the project developer for the electricity provided. **Case Study Example** In this case study, a large foundation, the Kresge Foundation, offered a \$2,000,000 PRI loan (a six-year term at two percent and billed quarterly) to a social impact for-profit company dedicated to offering solar and S+S solutions as a resilience tool to community health centers in order to accelerate the company's growth and its impact on underserved communities. The Kresge Foundation also offered a \$1,000,000 loan guarantee to Capital Fund, a Community Development Finance Institution (CDFI) that specializes in providing financing to community health centers. 10 The case study explores the loan. For more details on the loan guarantee model, please refer to Case Study 5 on page 32. Foundation/Lender The Kresge Foundation **Borrower** Project Developer. Collective Energy Company, LLC, a private-sector social impact developer, focuses on developing and funding solar and S+S systems for health centers in low-income communities **Type of Support Program-Related Investment Lending**

¹⁰ According to the Kresge Foundation's website, the loan from Capital Fund will "provide Collective Energy with long-term debt, which will help to provide the permanent/take-out financing for projects developed with Kresge's related PRI capital."

The Kresge Foundation, founded in 1924 and located in Detroit, Michigan, focuses on "building and strengthening pathways to opportunity for people with low incomes in America's cities, seeking to dismantle structural and systemic barriers to equality and justice." Kresge invests about \$160,000,000 annually through eight programs and practices. It awards both single and multi-year grants for general operating support, projects, and planning through its programs, and uses impact investing tools through its Social Investment Practice. The Environmental Program has an explicit focus on climate change mitigation and seeks to make communities "stronger, more equitable, and more resilient." Kresge's Social Investment Practice uses "the full spectrum of capital tools to address the financial barriers that confront communities of color and other underserved communities." The Environmental Program has an explicit focus on climate change mitigation and seeks to make communities "stronger, more equitable, and more resilient." The Environmental Program has an explicit focus on climate change mitigation and seeks to make communities "stronger, more equitable, and more resilient." Kresge's Social Investment Practice uses "the full spectrum of capital tools to address the financial barriers that confront communities of color and other underserved communities." The Environmental Program has an explicit focus on climate change mitigation and seeks to make communities "stronger, more equitable, and more resilient."
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address the financial barriers that confront communities of color and other under- served communities." ¹³ These tools include program-related investments loans, equity investments, strategic deposits, and unfunded guarantees.
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From 2015 to 2020, Kresge deployed \$350,000,000 through this impact investing pool, and leveraged an additional \$1,000,000,000 investment into its program areas through partnerships with other organizations including banks, foundations, CCDFIs, and mission-aligned intermediaries. ¹⁴
 Virect Relief, a nonprofit humanitarian organization focused on emergency medical assistance
 National Association of Community Health Centers, a national nonprofit working "to promote efficient, high quality, comprehensive health care that is accessible, culturally and linguistically competent, community directed, and patient centered for all."
Project Start Date 2022
Project Location(s) Arizona, California, Pennsylvania, Puerto Rico
Technologies Installed Solar and Solar+Storage

14 Id.

¹¹ The Kresge Foundation, "Foundation Overview," kresge.org, https://kresge.org/sites/default/files/library/com1012-foundation-overview-20.pdf (accessed September 9, 2022).

¹² The Kresge Foundation, "The Kresge Foundation Environment Program," kresge.org, https://kresge.org/wp-content/uploads/ENV1008-ENV-BRO-23.pdf (accessed September 9, 2022).

¹³ The Kresge Foundation, "Social Investment Practice," kresge.org, https://kresge.org/our-work/social-investment-practice (accessed September 9, 2022).

Outcomes

The Kresge Foundation and Collective Energy's approach:

- Reduced the cost of capital for the projects by offering concessionary rates for the most expensive parts of the funding process
- Provided no-upfront cost access to resilient power systems to health centers in low-income communities through PPAs
- Set into motion additional capital investment and catalyzed the building of a pipeline of solar+storage projects on health centers
- Offered an opportunity to invest the Foundation's funds more than once before repayment is required

Solar+Storage as a Resilience Tool for Health Centers

Community health centers in underserved communities are especially vulnerable to grid failures. Sensitive medical equipment and refrigerated medicine are among the first victims of brownouts or blackouts brought about by poor grid management or natural disasters, which are increasing in frequency and scope due to climate change. Solar and S+S technologies can be used successfully to bring resilient power to health centers in the face of grid interruption, but the high upfront cost of batteries and lack of technical expertise can make these technologies hard to access.

Indeed, the initial capital investment for resilient S+S systems can be higher than that of a fossil-fuel generator. However, the S+S system can pay itself off over time from energy savings, while a fossil fueled backup generator would not. Once installed, the operating costs are lower as battery systems do not require the purchase of fuel or routine testing and maintenance. In cases where installed systems do not yield immediate reductions in energy costs for the health centers, the primary draw for the S+S project is energy resilience benefits that can save lives, refrigerate medicines, and power medical equipment during power outages.

Direct Relief's Grants to FQHCs for Solar+Storage

To alleviate the impacts of blackouts on health centers, Direct Relief, the fifth largest charity in the United States, launched the *Power for Health Initiative* in 2021. This initiative provided \$10,000,000 in grant funding to support resilience projects for Federally Qualified Health Centers (FQHCs)¹⁵ in areas impacted by natural disasters. ¹⁶ FQHCs are set up in medically underserved communities and are backed by federal dollars to provide care to anyone, regardless of ability to pay. This approach allowed 24 health centers to develop solar and S+S assets.

Direct Relief has a long history of working with FQHCs and has primarily focused on providing charitable medicine and medical supplies. It has provided direct grants to the site owners to pay the installation contractor—in addition to providing significant support

- 15 You can learn more about FQHCs here: https://www.fqhc.org/what-is-an-fqhc
- 16 Half of this funding came from Direct Relief and half from philanthropic donors.

to the FQHC to select the installer, develop system designs, and pay other pre-development costs—or has paid the Engineering Procurement and Design (EPC) firm to carry out that work.¹⁷

Although the approach was very successful for the health centers that received the grants, the funds, once expended as grants, could only be used once.

Collective Energy's Private Sector Approach Meets Kresge's PRI

Collective Energy was started by Direct Relief former Vice President of Emergency Response and New Initiatives Andrew MacCalla to accelerate the impact of this work. As a mission-focused, private-sector firm, Collective Energy can design, develop, and fund S+S installations with a single focus on FQHCs. The business model involves utilizing tax equity, using power purchase agreements (PPAs), and developing pipelines of S+S installations at health centers. To facilitate the funding of these S+S projects, in 2022, the Kresge Foundation extended a term loan of \$2,000,000 to Collective Energy to fund the construction of solar and S+S projects on FQHCs. Unlike one-time grants, this loan provided a source of "recyclable" dollars that the foundation could reuse to scale its impact.

As per MacCalla, S+S project costs on FQHCs vary widely, ranging from as low as \$200,000 for small projects to as high as \$1,200,000, with an average project costing about \$400,000. Due to the pacing of the investment and the structure considered (explained further below), the Kresge Foundation's construction loan allows Collective Energy to invest in about five or six S+S projects at a time. Specifically, the loan principal is drawn to fund 70 to 80 percent of the cost of construction. At the "mechanical completion" stage of the project, i.e., before the final 20 to 30 percent payment is made to the installer, the S+S projects are sold to an asset management special purpose vehicle (SPV), held in part by Collective Energy and in part by tax equity investors.

Utilizing Tax Equity to Benefit the Investor and the Mission

The tax equity deal is a standard yield-based partnership flip structure that benefits both an entity with no way to gain from tax credits (such as a non-taxed entity, like a school or nonprofit before the Inflation Reduction Act was enacted in 2022) and an entity that can profit by accessing tax credits. In this case, the S+S system installed at the FQHC is owned by the SPV in which the tax equity investors hold a majority of the membership and receive all of the tax benefits and associated depreciation benefits until the project reaches a certain yield; after that, the partnership "flips" so that Collective Energy holds a majority stake in the SPV for the remainder of the life of the asset.

This has several advantages for Collective Energy, for the project, and for investors. First, the market is accustomed to developers selling projects at the mechanical completion stage, and the familiarity of the structure should eventually allow Collective Energy to bring scale to its operations. As Collective Energy's operations reach scale, the projects can be sold all at once in a portfolio to a tax equity partnership through a dedicated

¹⁷ There are tax implications to choosing one or the other of these strategies, which are outside of the scope of this report.

fund—a common industry practice—so that, in an ideal scenario, a \$2,000,000 investment from the Kresge Foundation could (initially) yield about \$2,600,000 in project value.

Second, in this model, the tax equity investors invest once the construction risks are greatly reduced. The potential investors know all there is to know about the site, and at that stage the system has been successfully completed. This lowers the risk for them and thus lowers the cost of capital for the project, benefitting the FQHC. In solar projects, construction and development financing (debt) are usually the most expensive parts of the capital stack and also the riskiest. Tax equity investors will typically provide enough funding for 30-40 percent of that cost ¹⁸ with the rest being provided as "back-leverage debt" by a third-party lender. ¹⁹ The Kresge Foundation loan, offered at concessionary rates through a PRI within Kresge's Social Investment Practice, was catalytic in this case because it allowed the developer to bypass the most expensive stages of the finance process and it de-risked the private-sector's investment.

Third, the sale of the loan instruments, paired with flexible repayment terms, allows the loan funds to be immediately reinvested into new projects. In this instance, though interest accrues on the loan from drawdown, the repayment is not due for another five years, which gives Collective Energy enough lead-time to either find additional philanthropic funders, or to build a track record to attract private-sector investors more easily. This recycling of available capital is critical to fund projects in underserved regions of the country's public health network. In this example, the initial \$2,000,000 investment made by the Kresge Foundation continues to help finance yet more clean energy projects.

The Use of Power Purchase Agreements

A PPA is a financial arrangement in which a third-party developer owns, operates, and maintains the solar or S+S system, and a host facility (in this case the FHQC) agrees to site the system on its property and purchase the electricity from the system owner at an agreed upon price. From the FQHC's point of view, the landscape is greatly simplified as they sign a 20-year PPA with Collective Energy, with the option to purchase the system

The Kresge Foundation's construction loan allows Collective Energy to invest in about five or six Solar+Storage projects at a time."

- 18 Note: This percentage could be increased depending on the implementation of new tax credit adders available under the 2022 Inflation Reduction Act.
- 19 Back-leverage debt is debt that is used to fund an equity investment by a sponsor (Collective Energy) into the holding company that owns an interest in a tax equity partnership structure. It sits junior to the tax equity investors in terms of repayment.
- 20 Demand charges are fees typically charged to industrial and commercial customers based on their highest electric consumption during a billing period. They vary based on location.

after the tax equity investors have exited after five years. As stated above, the biggest hurdle for health centers to acquiring S+S systems is the initial cost, which a PPA approach can help mitigate. The primary advantage for the health centers in entering a PPA is to gain access to the resilience benefits of S+S systems without advancing any funds. From the investors' perspective, FQHCs make excellent customers and reliable payees as they are federally funded.

PPAs for resilient S+S systems are most beneficial in locations with high electricity costs, high demand charges,²⁰ and frequent power disruptions, like in California, where planned blackouts have been used by PG&E to manage fire risk, or Florida, Puerto Rico, or Texas, which have had weather-related outages in recent years.

Resilience Benefits

The ability of a health center to provide services during a power outage is critical. Collective Energy seeks to maximize solar production on the available roof space, so that solar production offsets the on-site electricity consumption by the health center. However, health centers are large electricity consumers, requiring solar systems ranging from 30 kilowatts to 350 kilowatts in capacity. Battery storage systems are then sized to provide full back-up power as measured by the highest annual peak electricity demand on the site, sustained for four hours. Based on the size of the solar system to which storage attaches, this could mean the ability to provide from 8 to 60 hours or more of power in the event of a power failure. Foundation funding that enables more FQHCs to access electricity from resilient S+S systems during emergencies will save lives and allow health centers to serve the community when they are most needed.

Websites and Web-Based Resources

Kresge Foundation Social Investment Practice website

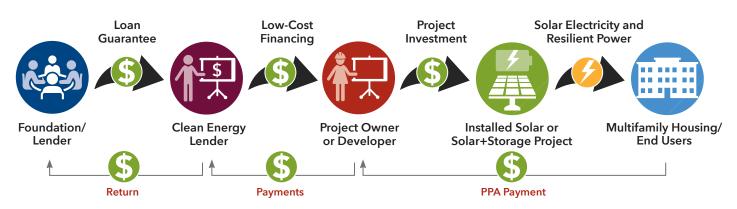
https://kresge.org/our-work/social-investment-practice/

- Social investment practice brochure and 2021 investment summary: https://kresge.org/ wp-content/uploads/SIP1000-SIP-BRO-2022.pdf
- Environment program brochure: https://kresge.org/wp-content/uploads/ENV1008-ENV-BRO-21.pdf

MODEL 5 CASE STUDY: LOAN GUARANTEE

The Kresge Foundation and NYCEEC

Loan Guarantee to Clean Energy Lender



Intervention Model	Loan Guarantee. In Model 5, the foundation provides a loan guarantee to a mission-focused energy lender to offer lower-cost financing for solar or solar+storage project(s) in low-income communities. With the guarantee, financial risk is lowered for the lender so lower-cost loans can be offered to the borrower (the project owner or developer).
Case Study Example	In this case study, a large foundation, the Kresge Foundation, offered a guarantee to a mission-driven lender for up to \$3,000,000 to protect against losses in loans that the lender underwrites for S+S customers/borrowers. Utilizing these guaranteed loans allowed the borrower to access financing and to install S+S systems on low-income community institutions. The loan guarantee was offered for 14 years, including a two-year origination period. ²¹ In addition, the foundation offered the lender a capacity grant of \$170,000 to develop the pipeline of projects that could utilize the guarantee.
Foundation/Guarantor	The Kresge Foundation
Guarantee Beneficiary	Clean Energy Lender. New York City Energy Efficiency Corporation (NYCEEC) is a 501(c)(3) mission-driven lender focused exclusively on energy efficiency and clean energy in buildings. NYCEEC is based in New York City but lends throughout the Northeast and Mid-Atlantic regions. NYCEEC's loans help buildings invest in energy efficiency and clean energy to save money, improve the environment, and build sustainable communities. Partnering with lending institutions, policymakers, and philanthropies, NYCEEC is working to build green financing markets and solve the challenge of climate change.

²¹ Note that the original origination period was extended to provide flexibility to the lender due to COVID-19.

Type of Support	Program Funding
Foundation Background	See Case Study 4 on page 26.
Key Partner	Clean Energy Group, a national nonprofit organization that served as strategic and technical advisor to the Kresge Foundation in designing the guarantee
Project Start Date	2019
Project Location(s)	New York, statewide
Technologies	Solar and Storage

In 2019, the Kresge Foundation announced a \$3,300,000 effort, the "Financing Resilient Power" initiative, to advance the market development of solar PV plus battery storage or solar+storage (S+S) in underserved communities. The Financing Resilient Power initiative—developed with the nonprofit Clean Energy Group (CEG)—represented the first time a US foundation committed to use both its grantmaking (by providing capacity-building and technical assistance grants for organizations and projects) and program-related investments (loans and loan guarantees for enabling private investment) in a comprehensive strategy to bring solar and S+S technologies to affordable housing and critical community facilities.²²

NYCEEC was the first lender selected to participate in the financing initiative in 2019. The financing partnership consisted of three innovative elements:

- 1. \$3,000,000 in loan guarantee to NYCEEC to reduce credit risk for solar+ storage project investments
- 2. \$170,000 in capacity grants to NYCEEC to accelerate their ability to finance solar+storage projects, build project pipelines, and actively engage in information sharing
- \$120,000 in technical assistance grants to enable eligible project owners and developers to assess the technical and financial aspects of new solar+storage projects, offered through partner CEG

CEG also worked with the Kresge Foundation to develop the Financing Resilient Power Initiative and managed the initial stages of the effort in partnership with NYCEEC.

In 2021, the NYCEEC loan guarantee was utilized for the first time to finance an innovative affordable housing project in Geneva, NY. The Solar Village Company, a New York-based developer founded in 2016 to focus on new multifamily homes, needed funding for the Geneva Solar Village. The Geneva Solar Village is expected to include 75 units of affordable housing built to net-zero energy standards in three buildings. The development will incorporate solar and battery storage to offset emissions, lower energy costs, and provide resilient backup power to keep essential loads up and running during power outages.

²² Robert Sanders, "Financing Resilient Power Fact Sheet," cleanegroup.org, https://www.cleanegroup.org/wp-content/uploads/Financing-Resilient-Power.pdf (accessed March 7, 2023).

The project's excepted total costs amounted to about \$15,300,000, with about \$13,000,000 received from other sources and \$1,800,000 received as incentives. NYCEEC provided a \$440,000 loan as bridge financing, until permanent financing was received. The term of the loan was 1.5 years. While the amount of the loan was small, the transaction was catalytic as the timing of the NYCEEC loan allowed the transaction to close by covering necessary pre-development costs.

For foundations, the use of guarantees can be advantageous for several reasons. First, a loan guarantee appears as a reserve liability against an endowment, but no funds are transferred until such time as a demand for payment is made under the loan guarantee. This means that funds that are not technically deployed can be used as leverage to pursue the charitable purposes of a foundation in the near term. The foundation's endowment continues to earn market rate returns on the reserved funds until, and if, demand for payment is made under a specific guaranteed loan transaction.

Second, once a payment is made, it takes the form of a program-related investment (PRI), i.e., it counts, as grants do, toward the charitable distributions that foundations must make on an annual basis. The "risk" for the foundation is to have to deploy the funds in just the same way a grant would be deployed to meet its programmatic needs.

"The magic of guarantees is that you can achieve and scale near-term impact without spending any money," said Kresge Foundation Portfolio Director and Social Investment Officer Joe Evans. "The reality for most foundations is that they do not have cash on hand. Even large foundations like Kresge use lines of credit to pay current expenses because of the illiquid nature of their assets. Using a guarantee for a foundation is a way to rent our balance sheet," Evans added.

Kresge's guarantee provided NYCEEC with a 50 percent payment guarantee for loans made to S+S projects. If the project could not cover NYCEEC's portion of the borrower's debt service, then Kresge would pay up to 50 percent of the project debt service to keep Geneva Solar's loan payments current, substantially reducing the risk of a payment default to NYCEEC that provided capital for the loan.

Unlike traditional guarantees, drawdown did not automatically lead to the acceleration of the debt and the liquidation of assets. NYCEEC CEO Curtis Probst explained, "If you work in underserved communities and you accelerate a loan, you risk damaging your borrower's credit profile and their relationships with other lenders. That's something we take very seriously and, as a general design principle for borrowers working in LMI communities, we need flexibility. We try to come up with a payment plan. We may extend the loan. We work to develop additional sources of refinancing."

The cumulative payments made by Kresge, however, would not exceed 50 percent of the original amount of the S+S portion of the project loan, for which Kresge assumes the first-loss position. The term of the NYCEEC loan guarantee was 14 years including an initial two-year origination period.²³ There was no minimum or maximum guaranteed loan amount.

Geneva Solar Village is expected to be one of the first developments in the northeast US to use advanced energy management to integrate solar, energy storage, critical load management, and electric vehicle charging – all while serving low- and moderate-income communities."

The upper bound of a limited guarantee coverage (i.e., the percentage of the principal that a guarantee is designed to cover) can provide important signals to the market; it can let other financiers know that the transaction is not a huge risk. "A 100 percent guarantee would signal that the extensive coverage is the only way a transaction could close, which does not provide scalability benefits," said Evans. Further, the percentage can be greatly reduced for lenders that have larger pipelines as opposed to one-off transactions.

A guarantee such as this one is not offered for free to a lender. Kresge charged a fee, which, although minimal, could increase the overall cost of a transaction. However, "the counterfactual is that the project simply does not happen," Evans said. Probst also explained that lenders could pass on the cost of the fee to the end-borrower, but that was not necessary in this transaction due to the operating grant also provided by Kresge. As of the date of writing, no default occurred and the guarantee amounts did not have to be called.

According to NYCEEC, with this loan, Geneva Solar Village is expected to be "one of the first developments in the northeast US to use advanced energy management to integrate solar, energy storage, critical load management and electric vehicle charging, all while serving low- and moderate-income communities."²⁴

But a guarantee is not a panacea, warned Probst. "Sometimes you just need an old-fashioned grant. The borrower may have debt limitations. It may have limited capacity to pay back a loan. It may need technical assistance," he added. For Evans and Probst, both credit access and risk mitigation are critical, but demand generation is equally so. "Financing is not the only barrier to scaling solar in communities. There are more issues with demand generation. The guarantee is the easy part," Probst concluded.

²⁴ NYCEEC, "NYCEEC Deal Spotlight Geneva Solar Village," nyceec.com, https://nyceec.com/wp-content/uploads/2021/07/NYCEEC-Geneva-Solar-Deal-Spotlight_compressed.pdf (accessed March 7, 2023).

Websites and Web-Based Resources

Kresge Foundation Case Study

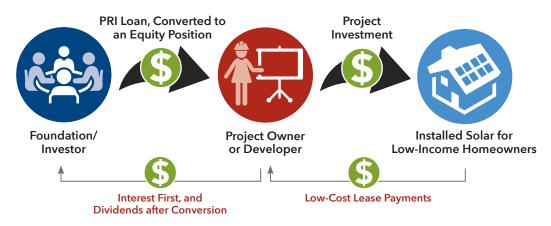
https://kresge.org/wp-content/uploads/NYCEEC-final.pdf

- Kresge Foundation 2020 Announcement: https://kresge.org/news-views/kresge-partners-announce-3-3-million-effort-to-advance-solarstorage-in-underserved-communities/
- Kresge Foundation 2020 News Summary: https://kresge.org/news-views/mission-money-markets-expanding-solarstorage-solutions-to-communities-on-the-front-lines-of-climate-change/
- Clean Energy States Alliance (2019) Solar with Justice report, ch.6: https://www.cesa.org/resource-library/resource/solar-with-justice/

MODEL 6 CASE STUDY: EQUITY INVESTMENT

The Kresge Foundation and PosiGen

Equity Investment in Mission-Focused For-Profit Entity



Note from the authors: There are few examples of foundations investing in equity. This case study is not specific to solar on community institutions. Kresge's investment in residential solar for-profit company offers useful information for foundations seeking to replicate the model within the community institutions sector.

Intervention Model	Equity Investment. In Model 6, the foundation provides a convertible loan to a mission-focused clean energy provider of solar and energy efficiency in low-income communities to allow the company to grow. Upon conversion of the loan into equity, the foundation receives a minority equity stake and a seat at the board of the developer's company, ensuring that energy justice efforts are sustained.
Case Study Example	In this case study, a large foundation, the Kresge Foundation, offered a three-year convertible loan of \$5,000,000 at eight percent interest to a for-profit developer at a time when capital was needed for the organization to grow. The capital allowed the developer to expand its solar lease model and facilitated investment from additional mainstream investors in the company, thus enabling more solar or energy efficiency upgrades to be made available in underserved communities. The loan was then converted to a minority equity investment that allowed the foundation to remain the voice of the mission on the board.
Foundation/Investor	The Kresge Foundation
Investee	Clean Energy Developer. PosiGen is a national, private-sector residential solar and energy efficiency company focused on bringing rooftop solar to low-income communities. It was incorporated in New Orleans, Louisiana in the wake of Hurricane Katrina.

Type of Support	Project
Foundation Background	For information about the Kresge Foundation, please refer to Case Study 4 on page 26
Project Start Date	2020 with conversion in 2021
Project Locations	Louisiana, Connecticut, and New Jersey
Technologies	Solar
Outcomes	 Supported PosiGen with a loan before mainstream investors were fully comfortable with its model and allowed the business to serve LMI families throughout the country while building its track record Continued to act as a "check and balance" board member after the loan was converted into equity to ensure the social mission of the company remained central to its operations and investments

In what Kresge Foundation Portfolio Director and Social Investment Officer Joe Evans calls a "modern version of redlining," the growth of the solar industry has left behind a large number of communities. Customers with poor or non-existent credit scores, in whole or in part due to systemic racism, are not able to access or afford the financing that solar companies make accessible to other customers.

The for-profit solar company PosiGen was created to serve LMI communities in the wake of Hurricane Katrina in New Orleans. Between 2015 and 2020, PosiGen installed about 16,000 residential solar energy systems throughout Louisiana, New Jersey, and Connecticut. And unlike the majority of solar companies, PosiGen does not use credit scores as the basis to offer its products but underwrites them to customers' energy savings instead. This means that it bets its financial future on the value of the savings promised to customers from the installed solar.

The approach allowed the company to grow while serving customers that had previously been left out of solar the market. Attracted by the promise of financial inclusion to the communities that the Kresge Foundation seeks to serve and uplift, in 2020, Kresge offered a program-related investment (PRI) loan to PosiGen. The investment was a collaboration between Kresge's Social Investment Practice and Environment Program.

The loan allowed Posigen to expand and build a track record to attract mainstream investors. Unlike a traditional PRI loan, however, this one was convertible into equity. Equity investments by foundations in solar companies are rare, but according to the IRS, "A private foundation's acceptance of an equity position in conjunction with making a loan does not necessarily prevent the investment from qualifying as a PRI." 26

²⁵ Benjamin Healey, "Solar for All ... Especially Now," July 2020, https://cbey.yale.edu/sites/default/files/2020-07/Yale%20CBEY_Look%20to%20the%20States_071620_Healey.pdf (accessed March 7, 2023).

²⁶ Internal Revenue Service, "Program-Related Investments," irs.gov, https://www.irs.gov/charities-non-profits/private-foundations/program-related-investments (accessed March 7, 2023).

It can be useful to management if there is somebody else with an observer seat on a board that can be a squeaky wheel on the mission side, to remember the reason we're all here."

Joe Evans, The Kresge Foundation

According to Evans, a key decision in this type of investment is when to convert the loan into equity, which Kresge did in December 2021. The rights of a lender and those of a minority shareholder are very different, he explained. "As a lender you tend to have more power than as a minority shareholder." As a lender, Kresge had a say on some of the new debt that the company was taking on to grow the business. But when new investors came in with significant experience in the solar industry and financial backing, and Kresge's position changed to that of an equity investor, the foundation assumed more of an oversight role in the board room. The management of the for-profit entity can have a very strong commitment to its social purpose and its focus on serving communities of color and low-income families, but tensions can sometimes arise when the returns that investors expect might be tempered by the mission of the organization. "It can be useful to management if there is somebody else with an observer seat on a board that can be a squeaky wheel on the mission side, to remember the reason we're all here," Evans said.

While equity investment did not present any particular financial or process-based challenges for the Social Investment Practice, there are a few concrete challenges to executing the strategy well. First and foremost, unlike other PRIs that foundations might be more familiar with, there is no plan for an exit once a foundation becomes a shareholder. While the foundation can sell its shares, since the benefit of holding equity for the foundation is primarily to have an inside view into the company, the success of this strategy necessarily requires a more permanent outlook on the investment. Second, staffing can make scaling the approach difficult. "It's a lot of work to have a board seat, even an observer seat, and to make an honest job of it," Evans noted. Scaling would likely mean hiring people whose sole job is to manage these investments and attend board meetings.

Websites and Web-Based Resources

Social Investment Practice Case Study

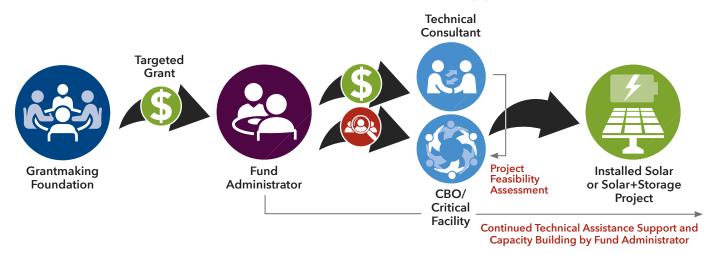
https://kresge.org/wp-content/uploads/PosiGen_final.pdf

- Social Investment Practice Brochure and 2021 Investment Summary: https://kresge.org/ wp-content/uploads/SIP1000-SIP-BRO-2022.pdf
- Environment Program Brochure: https://kresge.org/wp-content/uploads/ENV1008-ENV-BRO-21.pdf

MODEL 7 CASE STUDY: TECHNICAL ASSISTANCE FUNDING

The Kresge Foundation, Surdna Foundation, and Clean Energy Group

Technical Assistance Funding Support



Intervention Model	Technical Assistance Fund. In Model 7, the foundation provides grant funding to a nonprofit organization to offer technical assistance and small grants for community organizations to conduct feasibility assessments on proposed resilient solar+storage installations at critical community facilities in underserved communities. The assessments provide predevelopment information to assist in decisionmaking and fundraising.
Case Study Example	In this case study, the Kresge Foundation granted \$120,000 to Clean Energy Group's Resilient Power Project to launch a technical assistance fund (TAF), and provide technical assistance and engage technical consultants on behalf of community organizations. The TAF has funded over \$1,000,000 in technical assistance awards over the past nine years with support from several foundations including the Kresge Foundation, Surdna Foundation, the Nathan Cummings Foundation, and others. The foundations have also supported the TAF's internal operations to provide on-going technical assistance to awardees.
Grantmaking Foundations	The Kresge Foundation and Surdna Foundation
Technical Assistance Recipients	Community Institutions. TAF recipients are nonprofits, affordable housing developers/providers, community-based organizations, or municipalities interested in pursuing resilient power systems and located in or serving low-income communities, environmental justice communities, and communities of color.
Type of Support	Program Funding

Foundations Background	For background about the Kresge Foundation, please refer to Case Study 4 on page 26. Surdna Foundation is a large foundation founded in 1917 with a vision of "a just, equitable, and sustainable society in which all individuals can reach their full potential and all communities can thrive." Surdna Foundation supports social justice reform, healthy environments, inclusive economies, and thriving cultures across the United States. It seeks to "dismantle the barriers that limit opportunity to create more prosperous, culturally enriching, and sustainable communities." Surdna Foundation utilizes grants, mission-related investment, and program-related investments to pursue its work focused on equal opportunity access, transforming inequitable systems, prioritizing empowerment of communities most affected by racism, classism, and sexism, and investing in organizational capacity.
Key Partner	Clean Energy Group (CEG) receives the initial funding as the program administrator and manages the TAF. CEG is a leading national nonprofit advocacy organization that works to provide technical assistance, independent analysis, and policy support to address climate mitigation, adaptation, and energy justice. CEG collaborates with partners across private, governmental and nonprofit sectors to accelerate the equitable deployment of innovative clean energy technologies and the implementation of inclusive clean energy programs, policies, and financial tools.
Project Start Date	2014
Project Location(s)	Nationwide
Technologies	 Solar + Storage Energy Efficiency Microgrids Combined Heat and Power
Outcomes	 Utilizing this approach, the Kresge Foundation, Surdna Foundation, and CEG were able to: Support resilient power development in low-income, environmental justice, and communities of color by offering technical assistance during the critical first stages of the solar+storage development process Provide technical assistance awards, typically ranging from \$5,000 to \$15,000 for a single facility, to cover the cost of engaging a trusted third-party technical services provider to perform a preliminary technical and financial feasibility analysis to determine the sizing, cost, and benefits of resilient solar+storage

²⁷ Surdna Foundation, "Our Organization," surdna.org, https://surdna.org/our-organization (accessed March 13, 2023).

Relatively small technical funding awards could allow communities to complete the predevelopment activities that would, in turn, enable them to seek funding or financing, and to find contractors."

Solar+Storage for Community Resilience

Resilient power–solar PV paired with battery storage–can both provide life-saving backup power in the event of an outage and provide economic benefits during times of regular grid operations. Clean Energy Group created the TAF with support from the Kresge Foundation in 2014 to advance resilient power development in low-income communities, environmental justice communities, and communities of color, by providing small grant funding, one-on-one technical support, and otherwise assisting and connecting the recipient organizations to each other and to experts who can assist them.

Clean Energy Groups and others identified a knowledge and funding gap for communities that were interested in, and would benefit from, solar+storage but did not have the resources to get projects started. "After Hurricane Sandy in 2012, states started putting out grants for resilience, but grant opportunities required that communities already know what they needed. Those that needed the systems the most didn't have the in-house expertise or the budget to explore options, and were unable to apply," CEG President Seth Mullendore explained.

Relatively small technical funding awards could allow communities to complete the predevelopment activities that would in turn enable them to seek funding or financing, and to find contractors. "You can't do fundraising without real, hard numbers," CEG Project Director Abbe Ramanan added.

Assessment Work

The technical and economic feasibility assessment work undertaken for communities varies depending on their needs. However, all assessments are meant to provide recipients with the tools to make informed decisions about the size and scope of the resilient power system they intend to pursue. Before and throughout the assessment process, CEG works with each organization to understand what resilient power is and how it can benefit their facility, as well as answering any questions they have throughout the process.

A landscape assessment can provide organizations such as municipalities and affordable housing providers with basic information about a portfolio of sites to assess the best candidate for resilient S+S, while a deeper feasibility assessment compares the technical and economic feasibility of various resilient power options for a specific facility. Primarily, the feasibility assessment helps communities understand the differences between

pursuing multiple scenarios, such as solar alone, solar with battery storage with a focus on economic returns, and solar with battery storage to meet resilience goals. CEG and technical services providers work with organizations to help think through and define these various scenarios and goals.

While economic returns and resilience benefits are not always in opposition, CEG and the third-party consultant engaged for the feasibility assessment by communities provide critical background information in addition to the economic and system information that informs sizing and costs. "For these small nonprofits, it's important that there is someone on their side, ensuring that they're not being sold something they don't need," Ramanan says, highlighting the continuing support that CEG offers to understand different configurations and the technical and economic tradeoffs of each design, in addition to the grant themselves.

Technologies and Beneficiaries

Solar and storage are not the only technologies and interventions allowed under the TAF; they can be paired with other clean resilient power technologies such as fuel cells, combined heat and power, and energy efficiency measures. While traditional generators may be considered as part of a resilient power system, TAF-supported projects must be primarily powered by clean onsite distributed generation with potential to support critical community-serving loads through islanding, the process of disconnecting a circuit (such as a building) from the grid while allowing solar panels and/or storage to continue providing power. Projects that are not serving as sources of reliable backup power are also considered for TAF support if these projects deliver clear economic benefits to low-income residents or to community facilities providing an essential public service.

Clean Energy Group Project Director Marriele Mango's further states, "Resilient power is essential to supporting community-based organizations in their efforts to maintain critical services through a power outage – but it also can result in economic returns and set a precedent for investment in, and local ownership of, clean energy resources in underserved communities." TAF grants directly serve low-income populations and/or BIPOC communities, and have been used for municipal facilities, affordable housing providers (both nonprofit and private), institutions of faith, first responders (such as police and fire), health clinics, and community facilities such as community centers, food pantries, nonprofit service providers, and cooling centers.

Results

So far, the grants have supported the work of 110 affordable housing and nonprofit community organizations across 27 states, the District of Columbia, and Puerto Rico. The grant awards have resulted in the completion of 44 resilient S+S projects in low-income communities and communities of color, with many more projects working toward implementation. Historically, about half of the grant recipients have been affordable housing providers.

The TAF awards, which pay for the assessment work done by third parties, are typically \$8,500 per project, although they may range from \$5,000 to \$15,000. Once completed, organizations can utilize the assessment report to seek financing, apply for grant support, or engage a developer.

By using an intermediary to both administer small size grants and support communities through the process, the foundations put their funding to use in kickstarting the development process of S+S systems for underserved communities, which otherwise would be entirely locked out of the wealth creation opportunities that clean energy enables. "Community-based organizations have a difficult time accessing the funding support needed to explore the resilient power process, primarily due to capacity limitations. Yet these organizations would benefit the most from reliable and renewable backup power. CEG's TAF program reaches organizations that have, thus far, been left out of the clean energy movement and supports them in reaching their resilient power goals," Mango concludes.

Websites and Web-Based Resources

Clean Energy Group Technical Assistance Fund (TAF) website

https://www.cleanegroup.org/ceg-projects/resilient-power-project/technical-assistance-fund

• TAF Featured Installations: https://www.cleanegroup.org/wp-content/uploads/ Featured-Installations-Handout.pdf

MODEL 8 CASE STUDY: CAPACITY INVESTMENT

The Honnold Foundation and **Native Renewables**

Capacity Building and Program Support





Foundation

Grantmaking

Foundation





Leadership Development



Nonprofit Project Developer

Honnold Foundation







Installed Solar or Solar+Storage **Project**



Local Capacity Building/ Training, Education, and Maintenance Costs

Intervention Model Operating Grant and Capacity Building Program. In Model 8, the foundation provides multi-year unrestricted grant funding to a nonprofit developer to support the installation of solar projects for underserved customers. Funding can be used for needs defined by the grant recipient, such as to develop solar projects, provide job training, capacity building, project education, or project maintenance to ensure success for the solar installation and create benefits for the local community. In addition, the foundation provides leadership development for the nonprofit developer to deepen its impact. **Case Study Example** In this case study, a small foundation, the Honnold Foundation, awarded \$300,000 in grants to a nonprofit developer led by members of the Navajo (Dine) and Hopi tribes and serving customers on the Navajo and Hopi reservations. A first \$100,000 one-year grant was followed by a \$200,000 two-year grant in unrestricted funds to support the needs of the developer and reach its underserved customers. Part of the funding was used for local workforce development. Leaders from the nonprofit developer enrolled in a leadership development program to receive support tailored to their needs as they deployed the funding. The cohort-based leadership program is expected to last three years.

Recipient	Native Renewables is a nonprofit organization founded in 2016 by two experts in electrical trade and mechanical engineering to bring solar power to 15,000 homes on the Navajo reservation. "Our mission is to empower Native American families to achieve energy independence by growing renewable energy capacity and affordable access to off-grid power. Our vision is to not only provide solar power to homes on the Navajo and Hopi reservations that are 'off the grid' but also educate Native communities about solar and renewable energy." Native Renewables is led by a five-person team, all members of the Navajo (Dine) and Hopi tribes. 29
Type of Support	Unrestricted Funding and Capacity Building Program
Foundation Background	For general information about the Honnold Foundation, please refer to Case Study 1 on page 16. In 2022, the Honnold Foundation invested about \$2,000,000 into 20 projects. It awards both single and multi-year grants for general operating support, projects, and planning through its programs. In 2022, the Honnold Foundation started the Levine Impact Lab to focus more systematically on capacity building for nonprofit leaders.
Project Start Date	2021
Project Locations	Navajo and Hopi Reservations
Technologies	Solar and Solar+Storage
Outcomes	 Through this approach, the Honnold Foundation: Offered financial support for needs that were squarely defined by the recipient of the funding, allowing local voices to guide the way the funding is utilized Prioritized building capacity and leadership within the grantee organization Grew solar in underserved and/or under-invested communities

Since its founding, Honnold Foundation has primarily operated through grants meant to support solar energy installations. In 2021, Honnold Foundation awarded \$100,000 in grants to Native Renewables, primarily to support off-grid solar installations for homes on the Hopi and Navajo Nation, as well as for the building of innovative solar financing models for Hopi and Navajo residents, who otherwise would not be able to afford the upfront costs of even a heavily discounted solar installation.

Communities within the Navajo and Hopi nations enjoy excellent solar resources while also counting high rates of homes with no electricity access, leading some to rely on polluting and dangerous fuels. With the first grant, Native Renewables installed solar systems on six homes.

²⁸ Native Renewables, "Who We Are," nativerenewables.org, https://www.nativerenewables.org/who-we-are (accessed November 4, 2022).

²⁹ Native Renewables, "Our Team," *nativerenewables.org*, https://www.nativerenewables.org/who-we-are/our-team (accessed November 4, 2022).

Unlike more traditional philanthropic models, the Honnold Foundation's funds are not restricted to operations or projects and can be used for puposes co-defined with the grantee."

Unlike more traditional philanthropic models, the Honnold Foundation's funds are not restricted to operations or projects and can be used for purposes co-defined with the grantee. While the majority of the funds do go toward solar installations, funds can also be used for other needs, including salaries, contractors, capacity building and job training, or even office supplies. "Whatever your organization needs to thrive, we're happy to fund that," explained Kate Trujillo, the Honnold Foundation's deputy director.

With Native Renewables, the grantee identified workforce development needs, and part of the grant went to support a paid workforce development program for four Navajo and Hopi technicians. The Foundation website reports that: "Technicians install the systems, educate families on usage and basic maintenance, and commit to annual maintenance check-ins for seven years." 30

The following year, the Honnold Foundation awarded Native Renewables a two-year grant of \$200,000. Trujillo further explained that one of the reasons that Native Renewables was funded was its holistic approach. "Solar isn't the end, it's the means to the end. And that end is community development and a community thriving with using their own solutions. So oftentimes that looks like a solar installation plus some job training, plus some education, plus some maintenance training, all of these things that are layered on top of one another."

In line with this strategy, the Honnold Foundation launched the Levine Impact Lab in 2022 (the Levine Lab) to further support marginalized communities. The Levine Lab invests in grassroots leadership by building the Honnold Foundation's grantees' capacities. All participants in the Levine Lab are the Honnold Foundation's current or past grantees and have in the past requested capacity building. Through the lab, grantees receive access to resources, including "unrestricted funding, network-building, fundraising and marketing, government relations, recruiting and HR, business planning, strategic goal setting, board composition, and financial management." 31

The Levine Lab, funded through a three-year, multi-million-dollar contribution from venture capitalist Peter Levine, aims to bring peers from grantees into cohorts for a three-year period. Each of the four organizations in the first cohort may bring two of its leaders into the Lab. The resources availed to each organization, like Native Renewables, are co-defined with the Honnold Foundation staff and the team builds a support plan to be delivered by the Honnold Foundation staff or external consultants, if internal expertise is not available. Needs vary across organizations. For instance, as per Trujillo, Dr. Suzanne

30 Id.

³¹ Levine Impact Lab, "Frequently Asked Questions," *levineimpactlab.org*, https://levineimpactlab.org/faq (accessed November 4, 2022).

Singer, Native Renewables Executive Director, brought deep expertise in engineering but requested assistance with organizational development, building a team and organizational culture, budgeting, public relations, and networking.

The three years of the Levine Lab are thematically laid out, with an initial focus on foundational skill sets, such as the basics of human resources, and on individual and organizational needs assessments, including executive coaching, and goal setting. During the second year, the focus will shift to individualized planning and pairing with mentors along with individualized trainings.

In the final year of the program, the capstone is anticipated to bring the grantee's leaders together with the mentors to put the skills they have learned into practice through a project in their organization, such as a new program, a new strategic plan, or even a theory of change.

The program will be delivered through a hybrid approach, mixing in-person convenings with online resources, and requiring up to 10 hours per month from the cohort, outside of a few in-person, all-day convenings.

In addition to the participation in the Levine Lab program, organizations like Native Renewables will receive annual grants, of an amount yet to be determined at the time of writing.

Websites and Web-Based Resources

Honnold Foundation Levine Impact Lab Launch Announcement https://www.honnoldfoundation.org/news/launching-the-levine-impact-lab

 Honnold Foundation's Native Renewables Impact Spotlight Webpage: https://www.honnoldfoundation.org/partner/nativerenewables



Conclusion

his report highlights the strategies that can be utilized by foundations to accelerate the uptake of solar and S+S in LMI community institutions. The goal is to provide foundations with a starting point to explore new investment models that will bring both clean energy and its accompanying economic, health, and resilient power benefits to communities in need of these technologies. If you have questions about the models, case studies, or the report, feel free to contact the authors Vero Bourg-Meyer (Vero@cleanegroup.org) and Warren Leon (Wleon@cleanegroup.org) at the Clean Energy States Alliance.



CESA works with state leaders, federal agencies, and other stakeholders to develop and promote clean energy programs and markets, with an emphasis on renewable energy, energy equity, 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.

