

US EPA ARCHIVE DOCUMENT

GRID Alternatives: Solar Programs in Underserved Communities

Program Profile



Making Solar Energy Accessible to Everyone

The nonprofit GRID Alternatives partners with a variety of public, community, utility, and other organizations with a goal of helping low-income communities access the benefits of solar technology. Its model seeks to address common barriers to solar deployment in single-family, multifamily, and community solar settings, as well as to support solar job training for community members. As a result, thousands of low-income residents have been able to lower their energy costs and thousands more have received job training related to solar installations.

Through its strategic partnerships, GRID provides solar installations at no or reduced cost to low-income communities that often don't have access to solar technology. The approach ensures access by addressing cost, credit, and financing barriers; providing community engagement and education; offering options for people who don't own their roof; and addressing the split incentive between tenants and landlords. Participating households typically see their electricity bills drop by 50–90 percent, while multifamily housing providers can see savings of up to 30 percent.

The organization also provides hands-on job training experience to aspiring solar industry employees, including several partnerships that recruit job trainees from low-income communities. Nearly 30,000 people have participated to date, providing direct experience and networking opportunities.

GRID Alternatives currently operates in California; Colorado; Connecticut; Washington, D.C.; Maryland; New Jersey; New York; and Virginia, and in several tribal communities nationally. From its inception in 2001 through 2016, it installed nearly 8,000 solar power systems with a combined capacity of 28 megawatts (MW), providing a lifetime energy savings of more than \$222 million and avoiding nearly 615,000 metric tons of greenhouse gas emissions, equivalent to the annual energy-related emissions from almost 65,000 average American homes.¹

Fast Facts

Program scope: Free installation of solar electric systems for low-income families and job training services.

Communities served: Low-income residents in single-family and multifamily buildings, and low-income participants in community solar projects.

Funding: Funding comes from many sources, including states, federal tax credits, utilities, and donations from private corporations and individuals.

Key partners: Government agencies, community-based organizations, affordable housing providers, utilities, and job training organizations.

Promising practices: Consider community solar, eliminate/reduce up-front costs, address split incentives.





Making It Happen

GRID Alternatives launched during the 2001 California energy crisis with a goal of making solar photovoltaic technology practical and accessible for underserved communities. Combining funding, partnerships, and job training makes it economically feasible for GRID to bring the benefits of solar to low-income households. The key to this approach is to eliminate or significantly reduce costs to recipients, one of the main obstacles standing between low-income households and solar technology. The organization leverages a range of funding sources and in-kind donations to cover the costs of solar panels and other equipment, and integrates free hands-on training in its projects.

The program model addresses other common barriers as well. The model eases trust concerns by working with partners that already have established relationships with low-income communities, such as Habitat for Humanity and local housing agencies. In its multifamily housing projects, GRID overcomes the split incentive barrier by taking advantage of virtual net metering² where available to ensure that both tenants and building owners see reductions in their electricity bills. Its approach also fills eligibility gaps by making power from solar projects affordable for families who may not qualify for loans or leases, or cannot access federal tax incentives.

Expanding to Serve More Families

GRID Alternatives piloted its flagship Solar Affordable Housing Program in the San Francisco Bay area in 2004, and subsequently expanded to other parts of the state. In the process, it built a large network of partnerships, funders, and volunteers. In 2008, the California Public Utilities Commission (PUC) gave the organization a transformative boost by selecting it as the statewide program manager for the \$162 million Single-family Affordable Solar Homes (SASH) incentive program. SASH provides rebates to help low-income families cover the purchase and installation costs of solar energy systems. 5,200 California homeowners went solar under the first round of SASH funding, which ended in 2016 (the program is funded through 2021). GRID also installs solar power systems for California's Low Income Weatherization Program, with funding coming from proceeds from the state's auctions for carbon emissions allowances.

In 2012, GRID launched a national expansion of its rooftop solar work and later began developing community solar projects³ to serve low-income households where rooftop installations are not feasible. In 2015, the organization launched its first low-income community solar project near Grand Junction, Colorado, in partnership with the local electric utility. The utility provided land, interconnection to the grid, and a portion of project costs, and GRID's solar



industry partners donated equipment. The project included community member volunteers and job training opportunities. A total of 28 subscribers participate in the 100 kilowatt solar installation, with an average bill savings of nearly 41 percent. The Colorado Energy Office subsequently awarded GRID a \$1.2 million grant to pilot six to nine new projects that will total over 1 MW of installed solar capacity and reduce bills for at least 300 low-income families.⁴

Educating Clients and Training a Workforce

The model includes an education component that teaches clients about additional ways to reduce energy costs, such as energy efficiency upgrades and behavior changes. GRID Alternatives also acts as an energy-saving clearinghouse by educating and connecting eligible clients with existing government- or utility-run assistance programs, such as weatherization.

Another key component of the model is to provide a “classroom in the field” for solar job trainees in partnership with job training organizations around the country. Its initiatives target underserved communities, women, veterans, high school juniors and seniors, and other demographic groups. It also offers a one-year fellowship program in partnership with the Corporation for National and Community Service (AmeriCorps) that includes training and career development activities.

Key Partners

To accomplish its mission GRID Alternatives works with many organizations, agencies, and companies. Some of its largest projects involve partnerships with state and local governments to implement public programs. To minimize costs, it partners with solar equipment manufacturers that agree to donate solar panels and other equipment. To connect with low-income households and gain their trust, it partners with affordable housing agencies and organizations such as Habitat for Humanity. Utility partners help with program design and training of local workers. Community colleges and job training organizations connect potential job trainees with GRID.

Job Training to Build a More Diverse Solar Workforce

GRID launched the Realizing an Inclusive Solar Economy (RISE) initiative in 2015. RISE provides women and members of underserved communities with solar job training and job placement.

GRID recruits trainees through a large network of community partners and more than 70 job training organizations, provides them with on-the-job training, refers top candidates to employers, and maintains a resume bank.

During the first year of RISE, 1,814 minority volunteers participated, 398 of whom were women. Of 263 job placements that year, 131 were for people of color.⁵



Funding Sources

Multiple funding sources support GRID's solar installation projects and workforce development activities. A majority of the funding it receives is from state agencies (including the California Public Utilities Commission, the California Department of Community Services and Development, and the Colorado Energy Office) and private donations from foundations, corporate partners, and individual donors (including The JPB Foundation and the Wells Fargo Foundation). Solar equipment manufacturers such as Enphase and SunPower provide in-kind donations, equipment discounts, and system maintenance services. GRID also leverages the value of local Renewable Energy Certificates to help cover system costs,⁶ and accesses the Federal Investment Tax Credit through its unique third-party ownership model.

Achievements

Program results since 2001 include:

- Nearly 615,000 metric tons of CO₂ emissions avoided, equivalent to the annual energy-related emissions from nearly 65,000 average American homes.¹
- 8,000 solar power systems installed, with a combined capacity of more than 28 MW.¹
- \$222 million in long-term electricity cost savings for low-income households.¹
- 50–90 percent reductions in recipients' electric bills.⁷
- 30,000 volunteers and job trainees receiving solar training.¹

Replicability

GRID Alternatives designed its model to be broadly applicable and has successfully replicated it across the country in partnership with a variety of organizations. In particular, the approach of leveraging funding from a variety of sources and emphasizing workforce development can help make solar technology more accessible to low-income communities.



For More Information

- [GRID Alternatives Website](#)
- [Low Income Solar Policy Guide](#)
- [EPA Informational Resources on Energy Efficiency and Renewable Energy in Low-Income Communities](#)

¹ Program impact data reported on the [GRID Alternatives website](#). Accessed December 15, 2016. Equivalency calculated using EPA's [Greenhouse Gas Equivalencies Calculator](#).

² Under virtual net metering, electricity generated by solar panels on a multifamily building or a community solar installation feeds into the utility grid. The utility credits the kilowatt-hours generated to the building owner's and tenants' individual accounts, based on a pre-arranged allocation agreement.

³ Community solar is an emerging model that allows customers to buy, lease, or subscribe to a portion of a shared solar system that is located away from their home or business.

⁴ In order for a solar project stakeholder to make solar energy marketing or usage claims, the stakeholder must own and retain the associated Renewable Energy Certificates (RECs). Sale of or third-party ownership of the project's RECs can limit claims. In Colorado, the enabling legislation for community solar dictates that the participating utility retains ownership of the RECs. The environmental benefit of the community solar project is distributed across all ratepayers, while the low-income households receive economic benefits.

⁵ GRID Alternatives [presentation on job-training programs](#), March 2016.

⁶ The policies governing REC sales and ownership vary across GRID's operating area.

⁷ GRID Alternatives [Go Solar website](#). Accessed August 30, 2016.