District of Columbia Solar for All

Program Profile

Reducing Energy Bills through Locally Generated Solar Energy

Solar for All (SfA) was launched in 2016 by Mayor Muriel Bowser, and is administered by the District of Columbia (DC) Department of Energy & Environment (DOEE) to bring the benefits of solar energy to low- to moderate-income families either through solar installation at a single family residence or through community solar participation. Since 2018, the DC Sustainable Energy Utility has operated the solar procurement process for SfA for DOEE. The program was established to support DC's Renewable Portfolio Standard (RPS) goals to achieve 100 percent renewable energy by 2032 and 15 percent of energy from local solar by 2041.

When SfA installs solar panels on eligible single-family homes, and other sites that will serve community solar subscribers, the solar installer or their designee receives solar Renewable Energy Certificates (RECs) for the energy generated. RECs are part of the compensation for the installation, along with the ability to monetize the federal tax credit(s) and an incentive payment for capacity installed.

For single family recipients, participants own the panels and can expect to see their energy costs reduced by about half through the system generation, which is reflected on their bill according to the District's net metering rules. If participants move, the solar array remains on the house and benefits are transferred to the new homeowner or tenant.

Fast Facts

Program scope: Rooftop and community solar energy projects to reduce both energy costs and carbon emissions.

Communities served: Low- and moderate-income renters and homeowners.

Funding: District of Columbia Renewable Energy Development Fund (REDF).

Key partners: DC Sustainable Energy Utility, Solar United Neighbors, Groundswell, GRID Alternatives Mid-Atlantic, Solarize DC.

Promising practices: No-cost solar project installations, program codified in law, collaborative program development, prioritize developing community trust.

Community solar is offered to low-income families that can't install systems on their home, including renters and homeowners whose rooftops are shaded or need repairs. DOEE serves as the subscriber organization for the electricity generated by any community solar systems, and—through the local utility Pepco's community solar portal—credits the community solar subscribers' electric bills with their share of the monthly solar generation. Recipients can expect to save around $500 annually, or again about half of their electricity costs.

Washington, DC residents are categorically eligible to participate in SfA if they receive certain forms of government assistance. They can also income-qualify if their household income is below 80 percent of the area median income (AMI). The goal for SfA is to provide the benefits of solar energy to 100,000 low-income households and reduce their electricity bills by 50 percent by 2032, which is based on the target set in legislation establishing the District's RPS.[1] DOEE and the Department of Employment Services have also established a sub-program in SfA called Solar Works DC, which trains District residents aged 18 or older in solar installation through a 6- to 12-week program.

Community History

The District of Columbia is the nation's capital and home to around 679,000 people, nearly 60 percent of whom are renters.[2] As of 2020, approximately 14 percent of households in the District have a high energy burden (i.e., above 6 percent of household income is needed to pay for energy costs), while 21 percent of Black households and 19 percent of Hispanic households in the greater metropolitan area experience a high energy burden.[3]

Under Congressional control for much of the 20th century, DC neighborhoods became largely segregated through restrictive covenants that barred Black homeownership in parts of the city and restricted Black access to public utilities. Redlining occurred as banks and the federal government withheld investment based on the racial composition of certain neighborhoods.[4] Ultimately, redlining in DC limited the ability of communities of color to build wealth, which has contributed to the issue of disproportionate energy burden. Through SfA, the District achieves energy equity as well as greenhouse gas emissions reductions by enabling critical energy savings for the households that need it the most.

Community Engagement

Before launching the program, DOEE established a Solar for All Task Force of 13 solar professionals in the private and nonprofit sectors—including solar development, affordable housing, District agencies, and green workforce—to provide program design and implementation recommendations. Recommendations from the task force informed the final 2017 implementation plan, which became the framework for SfA. DOEE also released a Request for Information to solicit ideas from community members on developing a long-term

[1] DC Law 21-154. Renewable Portfolio Standard Expansion Amendment Act of 2016.
[2] U.S. Census Bureau Quick Facts.
[3] Energy Burdens in Washington, D.C. American Council for an Energy Efficient Economy, September 2020.
[4] Segregating Where We Live. DC History Center.

solar program in the District. Additionally, DOEE held regular community engagement meetings during program planning to gather feedback from the community.

DOEE primarily leverages the networks of District agencies and institutions, such as the University of the District of Columbia (UDC),[5] to reach a diverse mix of private and nonprofit stakeholders across a variety of industries. The use of these networks allowed DOEE to build effective outreach channels that engaged relevant community entities for community solar hub installations and low-income homeowners.

Outreach to participants has changed over time. Initially, DOEE did a direct mail campaign to participants of the District's other utility assistance programs. While this method brought in thousands of residents into the program, it has a relatively low take-up rate as many residents ignore unsolicited mail, so DOEE has looked for more efficient methods of signing up residents. DOEE set up information booths at government benefit centers, which helped build trust among residents. Program staff found that in general people can be distrustful of free programs. The program was able to overcome this by tapping into residents' existing relationships with government service providers. DOEE has also started attaching the SfA application to other utility assistance program applications that are more well-known and widely used, which has been helpful in marketing SfA and bringing in program participants into more than one program through one application. This saves residents from the "time tax."[6]

Key Partners

DOEE's SfA program built a diverse team of partners, including:

- DC Sustainable Energy Utility (DCSEU) – An implementer of energy efficiency and renewable energy programs in the District, led by the Sustainable Energy Partnership and under contract to the Department of Energy & Environment (DOEE).
- Groundswell – A nonprofit organization with a mission to build community power and develop and manage community solar programs that connect clean power with economic empowerment.
- GRID Alternatives Mid-Atlantic (GRID) – A nonprofit organization that provides no-cost solar installations and solar job training in the District of Columbia, Maryland, Virginia, and Delaware.

[5] UDC Ranked #14 Public HBCU, Top 25 HBCU by U.S. News and World Report, 2024.
[6] Annie Lowrey, 2021. The Time Tax.

- Pepco – An electricity provider that provides electric service to 894,000 customers in Maryland and the District of Columbia.
- Authorized vendors – Solar developers or contractors that implement the program. These change year to year, but have included Groundswell as well as Solar United Neighbors; Neighborhood Solar Equity; Enterprise Community Partners; New Columbia Solar; PEER Consultants, P.C.; New Partners Community Solar; and Urban Ingenuity.
- Solarize DC – A community-based outreach initiative to bring solar power to District residents in their homes and businesses throughout the city; it is a partnership between DOEE and EnergySage, a company that aims to empower people to switch to clean energy with trusted educational resources, calculators, and marketplaces.

DOEE works with two primary partners to administer the direct installation and community solar aspects of the SfA program: DCSEU and Groundswell, respectively. Income-eligible DC residents in single-family homes apply to DCSEU to get solar systems installed directly on their roofs, whereas income-eligible residents in multifamily buildings, or whose roofs are not suitable for solar, apply to receive community solar directly through DOEE. Groundswell, which has up until this year been funded by a grant from DOEE, has provided engagement and management support to the SfA community solar subscribers. Groundswell is a partner with DOEE to continue in this role in the future if new funds become available. Pepco provides the credits for community solar on subscribers' energy bills after DOEE provides Pepco the subscriber information through its subscriber management portal.

DOEE has also partnered with other organizations to create tools and programs that are complementary to SfA. Solarize DC is an outreach initiative, created by DOEE in partnership with EnergySage, that is hosted on an online platform to help District residents learn about and compare their solar options. In 2017, DOEE partnered with the Department of Employment Services (DOES) to launch Solar Works DC, a solar job training program designed to prepare District residents for careers in solar and related industries. In the first year of implementation, GRID Alternatives Mid-Atlantic received a $950,000 grant from DOEE and DOES to operate the year-round program. Trainees participated in a 6- to 12-week job training program in which they gain hands-on experience, develop career skills (e.g., interviewing), earn CPR and OSHA certifications, and prepare to earn a North American Board of Certified Energy Practitioners (NABCEP) Photovoltaic Associate Credential. After participating, GRID provided support for up to six months to help the participant find a job. DOEE has shifted the program since the early work with GRID Alternatives to working with the local International Brotherhood of Electrical Workers (IBEW) on an apprenticeship training program that provides a long-term pathway to

careers doing electrical work in a variety of green trades to provide even more pathways to employment for program participants beyond just working on solar systems.

Funding Mechanism

SfA is funded primarily through the Renewable Energy Development Fund (REDF),[7] which was initially established by the District's Renewable Energy Portfolio Standard Act of 2004.[8] REDF is financed by compliance fees paid by electricity suppliers under the District's RPS, which requires all electricity suppliers in the District to purchase a certain portion of their supply from renewable energy sources. Suppliers that do not meet this requirement pay a penalty known as an Alternative Compliance Payment.

A challenge with this financing mechanism is that it does not provide a steady source of funding. Since it is market-based, the fund fluctuates from year to year. Given that SfA operates on a first-come, first-served basis, with fulfillment dependent on funding availability, this can significantly impact how many residents can be served. However, the program has access to other funding sources such as federal funds designated through the Mayor's office. Additionally, SfA has received technical assistance through the U.S. Department of Energy, Clean Energy State Alliance, and the National Renewable Energy Laboratory.

Program Impact

Since program inception, SfA has installed over 37 MW of new solar generation capacity, serving nearly 10,000 low-income District households.[9] In its first year, the program installed nearly 1 MW of solar generation, serving 161 low-income district residents.[10] In Fiscal Year 2020, the program was able to scale up to over 10 MW of solar generation, serving over 4,000 households.[11] The program has set a target to add at least 2,000 households

> "When you first hear of solar programs you think, 'It's out of my financial reach.' So the fact that it isn't and it's available to me now is great. I feel like by having solar I'm really doing something that helps the environment."
>
> **- Barbara, 2019 DCSEU Solar for All recipient**

[7] 34–1436. Renewable Energy Development Fund.
[8] D.C. Law 15-340. Renewable Energy Portfolio Standard Act of 2004.
[9] Thomas Bartholomew, D.C. Department of Energy & Environment, 2023. Personal Communication.
[10] FY 2018 Solar for All Annual Report.
[11] FY 2020 Solar for All Annual Report.

per year.[12] Additionally, the sub-program Solar Works DC, which was a 7- to 12-week pipeline program that trained participants for entry-level green jobs in solar and related industries, had trained 385 people as of August, 2023[13] Of those residents trained, the program was able to place 104 in solar industry careers. Given this relatively low placement rate, DOEE has established a new training program under Solar for All, Green Trades DC (GTDC). GTDC is a technical training program that aims to recruit and train District residents ages 18 and over for careers as journey-level electricians to help the District meet its solar, energy efficiency, and sustainability goals. It has both a 12-month electrical pre-apprenticeship program and a 48-month apprenticeship program that District residents are eligible for, and both have starting pay at $24.50/hr. Currently through GTDC, over 150 residents are being trained as electrical pre-apprentices and apprentices. Program participants can receive wraparound services to support them on their path to becoming journey-level electrical workers. GTDC has been administered thus far by the local IBEW, and DOEE is again soliciting for an implementing grant partner for 2024.[14]

Barriers and Challenges

DOEE has faced several barriers and challenges during program implementation:

- **Customer acquisition.** DOEE and its grantees have grappled with attracting and maintaining a pipeline of eligible solar benificiaries. To better retain existing participants, DOEE does not require participants to sign up for the program every year to avoid losing participants who may forget to fill out the paperwork.
- **Site access** is a continuous challenge faced by SfA that has driven installation delays. Securing access commitments from building owners is critical to meeting the goals of SfA and ensuring the benefits continue to accrue to low- and moderate-income households for the life of the solar power system.
- **Solar interconnection.** The solar interconnection process can be time-intensive, which has created delays for SfA.
- **The COVID-19 pandemic.** COVID-19 negatively impacted the solar REC market, which made program implementation difficult. COVID-19 also complicated participant recuitment by halting in-person gatherings and events.
- **Timely and accurate allocation of benefits to the community.** Issues with Pepco's community solar portal created a months-long delay in the administration of community

[12] Thomas Bartholomew, 2023. Personal Communication.
[13] Solar Works DC program creates jobs and can reduce expenses for low-income households. StreetSense Media, November, 2020.
[14] DOEE Request for Applications - Green Trades DC Technical Training Program.

solar credits. DOEE continues to work in partnership with Pepco to address this issue to ensure that all SfA subscribers receive their full allocation of benefits. Pepco has processed credits into SfA subscriber accounts to make up for missed credits.

- **Trust among community members.** The delay in benefits eroded trust among community members. To rebuild trust, DOEE filed an official complaint against PEPCO.
- **Securing developable space for solar projects in a city.** DOEE had difficulties securing developable space in DC due to high land values. DOEE has been able to use roof space as a solution, but the transaction process to lease roof space takes time.
- **Master-metered apartment buildings.** DC has many master-metered apartment buildings, and residents of these buildings cannot receive a bill credit. DOEE has tried different models to pay these people, such as cash payments and amenities such as shuttle buses to the grocery store and security guards for buildings. DOEE is still working to determine the best payment method for these participants.

Recommendations from the Field

- **Codify program in law.** DC codified the SfA program into its RPS, which guarantees that the program will be funded.
- **Enlist governmental support.** The support of a key governmental unit, such as the mayor's or governor's office, can greatly help a program.
- **Understand the local utility's context.** Utility markets are highly regional and specific to the local context, which should inform program design.
- **Build a relationship with local utilities.** Having a good working relationship with utilities will make program implementation smoother.
- **Build relationships and trust with key community partners.** Leverage stakeholder groups and existing programs, and build relationships with trusted community partners.
- **Build trust with the community.** Four DOEE employees who are all from DC have been working for the SfA program since 2018. Community members now know, recognize, and trust these employees. Additionally, DOEE advertises this program at government benefit centers to add credibility to the program.
- **Attach new programs to existing well-known programs.** DOEE attracted new participants by combining the application for the SfA program with those for existing, high-demand utility assistance programs.
- **Build an adequate billing system.** For a solar REC program, ensure the billing system is set up and works before beginning the program.
- **Provide program flexibility.** DOEE is implementing SfA in multiple phases to ensure the program is sufficiently flexibile to adapt to market changes and overcome barriers.

- **Ensure consumer protection.** DOEE works closely with social and environmental justice advocates and other community stakeholders, including the solar industry, to implement SfA in a way that educates consumers on the benefits of solar and protects them from potential bad actors[15] in the clean energy space.

For More Information

- DC Solar for All website
- Solar Initiatives in DC

[15] In 2018, 2019, and 2021 the Massachusetts Attorney General's Office issued reports finding that residential consumers in the state paid competitive electric suppliers $426 million more than they would have paid for electricity from their utility from July 2015 to June 2020. The reports also found that low-income consumers are more likely to purchase electricity from competitive suppliers and are more likely to be charged higher rates. Massachusetts Office of the Attorney General, 2024. Competitive Electric Supply.