



OFFICE OF THE SECRETARY
2020 FEB 12 PM 2:51

MURIEL BOWSER
MAYOR

FEB 12 2020

The Honorable Phil Mendelson
Chairman
Council of the District of Columbia
1350 Pennsylvania Avenue NW, Suite 504
Washington, DC 20004

Re: Fiscal Year 2019 Solar for All Annual Report

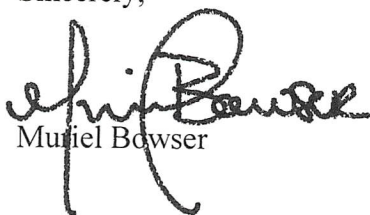
Dear Chairman Mendelson:

Pursuant to the Renewable Portfolio Standard Expansion Amendment Act of 2016, effective October 8, 2016, (D.C. Law 21-154; DC Code § 8-1774.16; 63 DCR 10138) which established the District of Columbia's Solar for All Program (Solar for All), the Department of Energy and Environment (DOEE) is pleased to submit the enclosed Solar for All Annual Report for Fiscal Year (FY) 2019.

This report describes the progress that has been made in FY 2019 toward achieving the benchmarks established by DOEE's Solar for All Implementation Plan, provides the number and capacity of solar energy systems installed under Solar for All and the number of District residents benefiting from those systems, and presents the expenditure of funds allocated to Solar for All.

Please feel free to contact Deputy Director Taresa Lawrence at (202) 671-3313 to discuss any questions you have regarding the FY 2019 Solar for All Annual Report.

Sincerely,


Muriel Bowser

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Department of Energy and Environment

Renewable Portfolio Standard Expansion Amendment Act of 2016 & Solar for All Annual Report

October 1, 2018 – September 30, 2019

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GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

The Honorable Phil Mendelson
Chairman
Council of the District of Columbia
1350 Pennsylvania Avenue NW, Suite 504
Washington, DC 20004

RE: Solar For All Annual Report for Fiscal Year 2019

Dear Chairman Mendelson,

As we complete the first three years of our Solar For All program, I want to take this opportunity to highlight some of the great progress we have made in expanding access to clean solar energy for low- and moderate-income District residents. We are seeing unprecedented impacts from climate change both in our region and across the globe, and those impacts are often experienced most acutely by our most vulnerable communities. That's why the DC Department of Energy and Environment (DOEE) is working to ensure our efforts to address the District's contributions to climate change are equitable across all eight Wards, meeting Mayor Bowser's commitment to provide a fair shot for all District residents regardless of income to enjoy the benefits of solar.

In Fiscal Year 2019, the Solar For All program provided the benefits of solar energy to approximately 8,600 households and installed nearly 7 megawatts (MW) of solar. This is a tremendous start to meeting the goal of serving 100,000 households with the benefits of solar by 2032. That progress will continue in Fiscal Year 2020, as we are on track to install approximately 7 additional MW of solar. This includes the 2.65 MW Oxon Run solar site, which will be the largest community solar installation in the District. Altogether, this additional 7 MW of solar will provide roughly 2,750 households with credits on their electric bills. These credits total approximately \$500 annually.

To realize these accomplishments, DOEE has worked diligently to secure site access for solar projects, develop effective and efficient program processes, educate and conduct outreach with potential program customers and solar installers, and ensure residents successfully receive the benefits of solar. I am very proud of the work DOEE has accomplished through Solar For All, and as the program continues to grow, I look forward to serving more District residents with the benefits of clean solar energy and addressing residents' energy burdens.

Sincerely,

Tommy Wells
Director

cc: Councilmembers for the District of Columbia

INTRODUCTION

Pursuant to the Renewable Portfolio Standard Expansion Amendment Act of 2016, the Department of Energy and Environment's (DOEE) Solar for All Program Annual Report to the Council of the District of Columbia (Council) covers the period from October 1, 2018 through September 30, 2019.

This report describes the progress that has been made toward achieving the benchmarks established by DOEE's Solar for All Implementation Plan, provides the number and capacity of solar energy systems installed under the Solar for All program, provides the number of low-income households served by the Solar for All program, and presents the expenditure of funds allocated to the Solar for All program.

BACKGROUND

The Renewable Portfolio Standard Expansion Amendment Act of 2016 (the Act), effective October 8, 2016 (D.C. Law 21-154; 63 DCR 10138), established the District of Columbia's Solar for All program. Pursuant to the Act, Solar for All is funded by the Renewable Energy Development Fund (REDF), (D.C. Official Code § 34-1436). The REDF is a special purpose revenue fund to be used for promoting solar energy projects in the District; it is funded through compliance fees paid by electricity suppliers as required by the District's Renewable Energy Portfolio (RPS) standard. Those compliance fees are also designed to create a market for Solar Renewable Energy Credits (SRECs) as purchasing SRECs is the alternative for electricity suppliers to paying the compliance fee required by the RPS. SRECs are earned based on the amount of solar power generated by a solar project in the District, and they are regulated by the DC Public Service Commission (PSC).

Funding from the REDF pursuant to the Act is to expand the District's solar capacity; increase the amount of solar generated within the District; and provide the benefits of locally-generated solar energy to low-income households, small businesses, nonprofits, and seniors. Solar for All's specific targets are to provide the benefits of solar energy to 100,000 low-income households (defined in the Act as households at or below 80% of Area Median Income) and to reduce their electricity bills by 50% (based on the residential rate class average electricity bill for 2016) by December 31, 2032. Although there are not currently 100,000 low-income households who pay

their electric bill, the Solar For All program has explored means of providing benefits to those households other than credits on an electric bill.

Pursuant to section 3(b) of the Act (D.C. Official Code § 8-1774.16(f)), DOEE is required to submit an annual report on the expenditure of the funds allocated to Solar for All, the progress made toward achieving the benchmarks established in DOEE's Solar for All Implementation Plan (D.C. Official Code § 8-1774.16 (e)(1)(C)), and the number of solar energy systems installed under this program in the previous fiscal year.

SOLAR FOR ALL PROGRAM

SOLAR FOR ALL INNOVATION AND EXPANSION GRANT PROJECTS

DOEE is implementing Solar for All in five three-year phases to ensure the program is sufficiently flexible to adapt to market changes and overcome barriers. The initial implementation phase (FY 2017-2019) focused on researching and developing solutions necessary to complete large-scale projects in subsequent implementation phases. This phase achieved these goals through Solar for All Innovation and Expansion Grants, and strategic external and interagency partnerships.

In July 2019, the District's Solar for All Program was highlighted as a pioneering example of a comprehensive city-wide low-income solar program at the 2019 Better Buildings Summit sponsored by U.S. Department of Energy. DOEE and New Partners Community Solar hosted a tour of a downtown rooftop solar facility in the heart of the city to demonstrate how residents of the District are benefiting from solar energy and the city's innovative strategy.

(<https://betterbuildingsinitiative.energy.gov/beat-blog/2019-building-tours-dc-solar-all>)

DOEE awarded nine Innovation and Expansion Grants, chosen based on the applicants' ability to meet the baseline eligibility criteria, establish clear plans for addressing core barriers, and the demonstrated innovation evidenced by their grant applications. Grantees represent both nonprofit and for-profit entities, and the grantees are also engaging many District-based businesses as teaming partners.

- **Community Preservation and Development Corporation (CPDC)** installed 1 megawatt (MW) of solar systems on 12 affordable housing properties managed by CPDC located in Wards 5, 6, 7 and 8 of the District. This installation of solar systems benefits approximately 2,200 housing units. The benefits provide new resident services, new building improvements, and other shared amenities for residents. This project has been completed.
- **New Partners Community Solar Corp.** installed and interconnected 316 kilowatts (kW) of solar systems on commercial and multifamily rooftops, resulting in free, 25-year community solar subscriptions for at least 135 low-income households. The project has included innovative uses of rooftop space on Class-A downtown office buildings, including wall-mounted panels, panels integrated with a green roof, and bi-facial panels that utilize sunlight from above and

below. The project also included the District's first solar plus battery storage for resiliency in an affordable housing building.

- **Open Market ESCO** installed and interconnected 651 kW of solar systems on Winn Companies' Atlantic Terrace property in Ward 8 in December, 2017. The energy produced by 548 kW of this solar installation will benefit income-qualified households in the District through no-cost community solar subscriptions. The project has been fully subscribed with 151 households and District residents have been receiving credits through the Solar for All program for almost a year.
- **Solar United Neighbors of D.C.** (Community Power Network), implemented a single family co-op model project that began in 2017. In FY 2019, Solar United Neighbors signed contracts with 73 income-qualified homeowners. The first system was installed in early November 2018 and the final solar installation was completed in September, 2019. The 73 homeowners own the solar installation from the beginning and should have their electricity bills reduced by half.
- **Urban Energy Advisors** (Urban Ingenuity) built solar energy systems on affordable, multifamily buildings throughout the District. Urban Energy Advisors installed 779 kW, serving up to 271 income-eligible households at 17 sites across the District with credits on their electric bill for 100% of the power produced at the sites. All of the sites have been completed and the residents have been receiving the benefits since January, 2019.
- **Groundswell's** Shared Power Project developed 326 kW of solar capacity across the District. The Shared Power Project will allocate 100% of the electricity generated to benefit at least 93 low-income households with community solar subscriptions and resident services, at no cost, for a minimum of 20 years. Construction has been substantially completed on all four host sites and the target date for interconnection is January, 2020. Groundswell is partnering with Elevate Energy to provide subscriber management and enrollment services for income-eligible households. Subscriber enrollment is underway for solar installations located at St. Luke's Baptist Church in Ward 4 and Dupont Park Seventh Day Adventist Church in Ward 7 sites.
- **Neighborhood Solar Equity, LLC** is installing 595 kW of solar energy on five buildings at George Washington University. Three of the building installations have achieved substantial completion, and the remaining two are undergoing a new engineering design for the electrical connection before the final installation work can proceed. Electricity generated by the solar installations will be provided to the university, while SREC revenue from the project will benefit approximately 100 low-income households for 15 years.

- **PEER**'s project develops 529 kW of solar capacity for the benefit of approximately 100 households at no cost for 15 years. PEER has substantially completed installation of the total solar capacity for all three project sites across the District. One of those sites has been interconnected, and the other two are planned for interconnection in February. This project's benefits will include new resident services, new energy efficiency building improvements, and other shared amenities for income-qualified residents.
- **Enflection, LLC** is deploying rooftop solar systems, solar canopy systems, and ground mounted solar systems on underutilized or difficult-to-develop spaces at five affordable housing properties. The project will install 800 kW of solar systems to benefit approximately 300 low-income District households for over 15 years. The beneficiaries, who are low-income households in the District, will receive utility credits or reductions in HOA fees and other benefits. This grant was originally awarded to Ethos Strategic Consulting, LLC, and was assigned to its partner Enflection in May 2019. Enflection is in the process of completing the 800 kW of solar installations, including 30.6 kW of solar canopy systems and 510 kW of ground mounted solar systems. All five properties have completed construction of the solar systems, and Enflection is targeting March, 2020 to have all of the systems interconnected.

SOLAR WORKS DC

DOEE and the Department of Employment Services (DOES) partnered to develop **Solar Works DC**, a program that provides solar installation for low-income residents as well as job training for District residents, which launched in May, 2017 and is administered by DOEE's grantee GRID Alternatives Mid-Atlantic (GRID). The program operates 12-week cohorts in the fall and spring, which are open to District residents ages 18 and over. Participants in the 12-week sessions complete GRID's Installation Basics Training (IBT) program and earn industry-relevant skills certificates by demonstrating competency in solar installations. In addition, the participants attend customer outreach and construction workshops, receive CPR and OSHA 10 certifications, and take the North American Board of Certified Energy Practitioners (NABCEP) PV Associate Credential exam. During the summer, a six-week prorated program is offered for District residents, ages 18-24, enrolled in the DOES Marion Barry Summer Youth Employment Program.

In the first year, the program installed solar systems on 76 single-family homes, and by the end of the

second year, 84 single-family additional homes will receive solar installations at no cost to the homeowner. A diverse range of District residents was recruited by GRID and the DC Infrastructure Academy (DCIA) to complete seven cohorts; the 8th cohort is now in progress. Specifically for FY2019, Solar Works DC operated three cohorts (fall, spring, summer), a total of 69 residents were enrolled and trained, and 50 residents successfully completed the program and graduated. In addition, 84 solar installations will be completed with a total increase in solar capacity of 242.25 kW. In June, Mayor Muriel Bowser held a press event to celebrate the program's 100th installation at the District resident's home in Northwest DC. (<https://dc.gov/release/mayor-bowser-celebrates-100th-installation-solar-works-dc-dc-leads-sustainability-and>).

STRATEGIC EXTERNAL PARTNERSHIPS

Vulnerability Assessment and Resilience Audit and Solar Tool for Affordable Housing -

DOEE awarded \$370,504 to Enterprise Community Partners, in partnership with New Ecology, the National Housing Trust, and the Clean Energy Group, to develop a tool to assess the vulnerability of the District's affordable housing stock to the impacts of climate change and to identify opportunities to improve resilience, reduce energy use, install solar, and install battery storage systems. The project supports the goals of Solar for All, Climate Ready DC (the District's plan to adapt to a changing climate), and Sustainable DC 2.0 (the District's sustainability plan). In addition to developing the tool, the grantees assessed 20 affordable housing properties using the tool, which included conducting historical energy use analyses and on-site building assessments, and preparing audit reports. For the 20 properties, this tool identified vulnerabilities, hazard mitigation strategies, estimated implementation costs, solar installation and storage sizing potential, and cost-benefit analyses. Enterprise Community Partners also held training sessions and developed a user manual to ensure the tool could be used by other municipalities around the country. This project will help catalyze the affordable housing sector to strategically integrate resilience planning and solar assessments in their planning, development, and operations. The tool is available for use by the public on DOEE's Climate Ready DC webpage (<https://doee.dc.gov/climateready>).

INTERAGENCY PARTNERSHIPS

DC Housing Authority (DCHA) – In FY 2019, as part of its work under a \$5 million grant from the Solar For All program, DCHA completed solar installations at Parkway Overlook, Ft. Lincoln,

Benning Terrace, Elvans Road, Hopkins Apartments, Potomac Gardens and LeDroit. The solar installations at Parkway Overlook and Benning Terrace are community renewable energy facilities (CREFs), enrolling community solar subscribers. Upon completion of final inspections, DCHA estimates the total capacity funded by the grant to be 1.7MW, providing benefits to over 5,000 households. DCHA is now focusing on refining its plans for resident engagement and distribution of the benefits associated with the solar projects.

District of Columbia Public Library (DCPL) – DOEE is partnering with DCPL for the procurement and installation of a 50 kW solar system, coupled with an energy storage system, at the newly constructed Southwest Public Library. In FY 2018, DOEE received and reviewed the design plan for the solar and battery storage installation to improve resiliency at the facility. The system specifications were reviewed, including initial conversations regarding the selection of critical loads to be backed up by the uninterruptible power system. In FY 2019, DCPL secured permits for the project and conducted an engineering assessment. The project is slated to complete construction in FY 2020.

Department of General Services (DGS) – DGS fully awarded a contract to GRID Alternatives Mid-Atlantic to design, construct, and maintain a community solar facility at Oxon Run in Ward 8 funded by the REDF. Site preparation is currently in process; panels and other materials are scheduled for delivery, and construction is expected to begin in late January, 2020. The project will result in the installation of 2.65 MW of solar, the largest single solar installation in the District. The community solar facility will produce enough electricity to benefit at least 750 low-income households in the surrounding community with credits on their electric bills for 100% of the energy produced by the system, and is expected to be substantially complete in April, 2020.

University of the District of Columbia (UDC) – DOEE is partnering with UDC to repair the roof of a campus building in order to install solar systems. DOEE awarded a grant of \$885,535 to UDC for roof repair to facilitate solar system installation on August 14, 2019. The agencies have continued to work together to implement solar projects to benefit low-income UDC students.

DC Sustainable Energy Utility (DCSEU) – DOEE has partnered with DCSEU to serve low- and moderate-income District residents through the Solar For All program by installing solar systems

both at single family residences and at other sites that serve as community renewable energy facilities (CREFs) serving multiple residents.

CHALLENGES AND SOLUTIONS

The Solar for All Innovation and Expansion grantees and partner organizations have built relationships, identified barriers, and proposed solutions in order to meet project implementation goals. As challenges have been identified, DOEE has worked closely with grantees and stakeholders to facilitate solutions wherever possible. The lessons learned through the innovation and expansion phase will be documented and shared with stakeholders and the public through a lessons-learned document posted on DOEE's webpage. The lessons learned are now also being applied as DOEE moves forward to scale the Solar for All program to serve a growing number of residents.

The market for DC SRECs experienced an increase in both price and liquidity in FY2019, which improves the finance potential of Solar for All projects and may reduce costs of the program. The increase in the price and liquidity of SRECs was due to two primary factors. The first was the enactment of the Clean Energy DC Omnibus Amendment Act of 2018 ("CEDC Act"), which both accelerates the compliance schedule for the RPS solar carve-out and extends the carve-out goal to 10% of total electricity consumed by 2041. The CEDC Act also lengthens the holding period for SRECs from 3 years to 5 years, which relieved sales pressure for SREC owners. The second factor was the continued expiration of retail electricity supply contracts subject to a lower grandfathered Alternate Compliance Payment (ACP) fee. In calendar year 2018, less than 50% of supply contracts were grandfathered, and this percentage is expected to decrease each year through 2021. The combination of a more aggressive solar carve-out and fewer grandfathered supply contracts strengthened the SREC market in FY 2019 by creating increased demand and improving price stability for SRECs in FY2019.

Site access continues to present a challenge and has caused some delay in solar system installations. Securing commitments from building owners is critical to meeting the goals of Solar for All and ensuring the benefits continue to accrue to low-income households for the life of the solar system. Grantees are required to secure site access for at least a 15 year period.

Similarly, customer acquisition has been an ongoing challenge, wherein DOEE and its grantees have grappled with attracting and maintaining a pipeline of eligible solar beneficiaries. To overcome this barrier, greater attention has been placed on educating District residents about Solar for All and seeking creative engagement opportunities in partnership with the income-eligible community. The engagements explain how solar works, address the general skepticism of solar technology and related program offerings, and explain the benefits being made available by the deployment of solar and subscriptions for community solar. DOEE has also begun to establish partnerships with other District Government agencies to leverage their existing processes and systems to address administrative burdens and sign up customers more efficiently.

DOEE continues to work with grantees and partners to identify innovative methods to provide benefits to low-income households equivalent to a 50% reduction in electricity bills, particularly where directly applying benefits on energy bills is not practical or possible. DOEE is developing criteria to ensure these benefits are fully realized by low-income households and are in agreement with the goals of Solar for All.

SYSTEMS INSTALLED AND LOW-INCOME HOUSEHOLDS SERVED IN FY 2019

In FY 2019, the Solar for All program installed nearly 7 MW of new solar generation, providing access to the benefits of solar to approximately 8,600 low-income District households. DOEE expects system installations to continue to grow as 84 Community Renewable Energy Facilities (CREFs), with the capacity to serve an additional 2,000 households, have been or are being installed by DCSEU subcontractors, and are expected to come online between January and May of calendar year 2020.

EXPENDITURE OF FUNDS

As detailed below, the REDF expenditures for FY 2019 totaled \$22,178,631.07.

Category	Expenditures
Personnel Services	\$1,520,692.79
Non-Personnel Services	\$20,657,938.28
Total Expenditures	\$22,178,631.07

Category	Other Commitments
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Grants Awarded/ Memorandums of Understanding (MOUs) Executed	\$14,096,856.69
DC Sustainable Energy Utility	\$12,000,000
Total Commitments	\$26,096,856.69

Personnel services to support the administration of REDF and Solar for All program implementation for FY 2019 totaled \$1,520,692.79. Non-personnel services were primarily comprised of completing the Solar for All Innovation and Expansion grants, continuing partnerships to deploy solar with sister agencies through MOUs, such as with the DGS and DCPL, and implementing DCSEU's Solar for All Program. Projects that were not completed in FY2019 will continue in FY2020, and funds will be re-obligated in FY2020 to support the construction, installation, and final interconnection of these projects.