



MURIEL BOWSER
MAYOR

2019 JAN 30 PM 2:09
OFFICE OF THE
SECRETARY

JAN 30 2019

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

Re: Fiscal Year 2018 Solar for All Annual Report

Dear Chairman Mendelson:

Pursuant to Title II, Section 216(f) of the Clean and Affordable Energy Act of 2008, effective October 22, 2008, (D.C. Law 17-250; D.C. Official Code § 8-1774.01) the Department of Energy and Environment (DOEE) is pleased to submit the enclosed Solar for All Annual Report for Fiscal Year (FY) 2018.

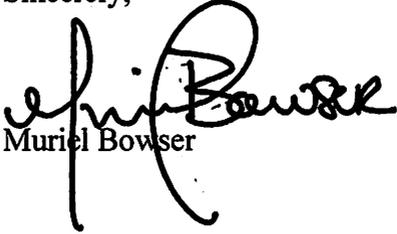
This report describes the progress that has been made in FY 18 toward achieving the benchmarks established by DOEE's Solar for All Implementation Plan, provides the number of solar energy systems installed under Solar for All, and presents the expenditure of funds allocated to Solar for All.

The report demonstrates that through our grants and external partnerships the Solar For All program is well on its way to meeting its goal of bringing solar power to 100,000 low-income households. In FY18, the Solar For All program oversaw the installation and interconnection of a 651 kW solar system in Ward 8. This system will provide energy to income-qualified households in the District through no-cost community solar subscriptions. Further, Solar For All has seen success in job development having trained 100 District residents across 4 cohorts in rooftop solar installation, with 78 graduates from the program, resulting in gainful employment for 25 District residents in solar-related fields.

Solar for All thus far has been a success, and with continued effort, will help shepherd the District into a cleaner future.

Please feel free to contact Director Tommy Wells at (202) 535-2615 to discuss any questions you have regarding the FY 2018 Solar for All Annual Report.

Sincerely,



Muriel Bowser

Department of Energy and Environment

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

October 1, 2017 – September 30, 2018

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INTRODUCTION

Pursuant to the Renewable Portfolio Standard Expansion Amendment Act of 2016, this 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, 2017 through September 30, 2018.

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 of solar energy systems installed under the Solar for All program, and presents the expenditure of funds allocated to the Solar for All program.

BACKGROUND

The Renewable Portfolio Standard Expansion 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). 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.

The intent of 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 as households at or below 80% of Area Median Income) and to reduce their energy bills by 50% (based on the residential rate class average usage for 2016) by 2032.

Pursuant to sections 216(f) 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 (Section 216(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) focuses on researching and developing solutions necessary to complete large-scale projects in subsequent implementation phases. This phase intends to achieve these goals through Solar for All Innovation and Expansion Grants, and strategic external and interagency partnerships.

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

- The goal of **Community Preservation and Development Corporation (CPDC)**'s project is to install 1 MW of solar on 12 Affordable housing properties managed by CPDC located in Wards 5, 6, 7 and 8 of the District. The installation of solar will benefit approximately 4,800 households. The benefits will provide new resident services, new building improvements and other shared amenities for residents. The project is scheduled to be completed in 2 phases. Phase 1 will install approximately 574 kW and Phase 2 will install 426 kW of new solar generation. Phase 1 is in process and will soon begin construction. Phase 2 is well on its way to follow, having obtained the required permitting required for the 426 kW.
- **Ethos Strategic Consulting, LLC (Ethos)** is deploying rooftop solar and solar canopies on underutilized or difficult-to-develop spaces at affordable housing properties. The project goal is to install 1 MW of solar to benefit approximately 300 low-income District households over 15 years. The beneficiaries will receive cash payments, utility credits, and other benefits to low-income households in the District. Ethos has site control of approximately 710 kW and is in the process of securing other potential sites to build out the remaining 290 kW.

- The goal of **Groundswell's** Shared Power Project is to develop 366 kW and manage community solar systems deployed across the District. The Shared Power Project will allocate 100% of the electricity generated to benefit approximately 100 low-income households with community solar subscriptions, at no cost, for a minimum of 20 years. Construction is expected to be completed in early 2019 at two of four host sites, totaling 168 kW. Groundswell is continuing to make progress toward securing additional sites to complete the remaining 198 kW. Groundswell is partnering with Elevate Energy to provide subscriber management and enrollment services for income-eligible households. In October, the first subscriber enrollment event was held in conjunction with the site host, the Dupont Park Seventh Day Adventist Church.
- **Neighborhood Solar Equity, LLC** plans to install 595 kW of solar energy on several buildings at a local university. Electricity will be provided to the university, while the solar renewable energy credit (SREC) revenue from the project will benefit approximately 100 low-income households for 15 years. In FY18, the Neighborhood Solar Equity developed as-built plans and structural analyses, and conducted a site visit with engineers.
- **New Partners Community Solar Corp.** plans to deploy 1 MW of solar energy on commercial, nonprofit, and apartment rooftops, resulting in free, 25-year community solar subscriptions for at least 325 low-income households. New Partners has received preliminary approval for eight rooftops which together would encompass at least 1 MW of installed photovoltaic capacity. License Agreements for two rooftops have been signed and four others are in process. One of these other license agreements is for a solar facility on a DC public school. In addition, New Partners is in the design phase for a solar facility on a WMATA metro station parking garage. The project will include innovative uses of the rooftop space, including wall-mounted panels, panels on a green roof, and canopies over a playground. New Partners expects that three of the projects (approximately 250 kW) will be interconnected by December 31, 2018. The remaining solar projects will be installed in the first and second calendar quarters of 2019.
- **Open Market ESCO** installed and interconnected 651 kW of solar on Winn Companies' Atlantic Terrace property in Ward 8 in December 2017. The energy produced by 548 kW of this installation will be provided to income-qualified households in the District through

no-cost community solar subscriptions. By the end of Q4 FY 2018, Open Market ESCO had signed up 84 income-eligible households to receive community solar credits on their electric bills and the grantee is currently recruiting additional households for the remaining, available community solar subscriptions.

- The goal of the **PEER** project is to develop 500 kW of solar capacity to provide benefits for approximately 100 households at no cost for 15 years. There are 209 kW currently under site control and PEER is pursuing other potential sites to finalize an additional 291 kW. The project benefits will include new resident services, new energy efficiency building improvements, and other shared amenities for income-qualified residents.
- **Solar United Neighbors** of D.C, (Community Power Network), is well on their way to bringing 750kW of solar energy at no cost to income-qualified single-family homeowners. In FY 18, Solar United Neighbors signed contracts with 35 income-qualified homeowners and the first system was installed in early November 2018. These homeowners will own the solar installation from day one and should expect their electricity bills to be reduced by half.
- **Urban Energy Advisors** (Urban Ingenuity) is building solar energy systems on affordable, multifamily buildings throughout the District. Urban Energy Advisors plans to install 1 MW, serving up to 402 income-eligible households. The project team has financially closed on a pool of dozens of solar projects and is deploying resources across 17 sites. All project documents have been executed and all site owners have provided authorization to install. All projects are currently scheduled to be completed by February 1st, including system interconnection and punch-list and commissioning.

SolarWorks DC

DOEE and the Department of Employment Services (DOES) have partnered to develop **SolarWorks DC**, a low-income solar installation and job training program. GRID Alternatives Mid-Atlantic has successfully executed the first year of the program. In addition to preparing residents to enter careers in solar and related industries, SolarWorks DC is increasing the solar capacity in the District and reducing energy costs for qualified low-income District homeowners by installing solar systems on their homes. Since June 25, 2017, SolarWorks DC trained 100 District residents across 4 cohorts in rooftop solar installation, with 78 graduates from the

program, resulting in gainful employment for 25 District residents in solar-related fields, following their training. The trainees installed 76 rooftop solar arrays on income-qualified single-family homes throughout the District. In July 2018, the Harvard Kennedy School, Ash Center for Democratic Governance and Innovation, named SolarWorks DC in its 2018 Innovations in American Government Award Top 25 Programs.

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 both Solar for All and Climate Ready DC, the District's plan to prepare for climate change. In addition to developing the tool, the grantees assessed 20 affordable housing properties, which included conducting historical energy analyses and on-site building assessments, and preparing audit reports that identified vulnerabilities, hazard mitigation strategies, estimated implementation costs, solar and storage sizing, 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.

Interagency Partnerships

DC Housing Authority (DCHA) – In FY 2018, DOEE completed the first Solar and Weatherization Collaboration project with the DC Housing Authority (DCHA) at the Garfield Terrace Public Housing Senior Building. The two year project resulted in \$2.4 million in upgrades including a roof replacement, energy and water conservation measures, and a 130 kW solar photovoltaic system, which will serve 203 seniors and disabled residents. Additionally, DOEE awarded a \$5 million dollar grant to DCHA to support roof repair, replacement, solar installation and battery storage installation at DCHA's housing properties across the District. In

FY18, DCHA completed the roof repair at Ft. Lincoln, and in September 2018 began installing solar at Parkway Overlook and Ft. Lincoln. In addition, DCHA is moving forward with solar projects for three additional low-rise and three high-rise building sites. DCHA is on track to complete the solar installations by June 2019. Upon completion of the installations, DCHA estimates the total capacity funded by the grant will be 1.7MW, providing benefits to over 1,000 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 will begin construction of the facility, which is currently slated for March 2019.

Department of General Services (DGS) - DGS executed an initial letter contract with GRID Alternatives Mid-Atlantic to design, construct, and maintain a community solar facility at Oxon Run in Ward 8. The final contract is being prepared for Council approval, and is expected to result in an installation of 2.65 MW. The community solar facility will produce enough electricity to benefit approximately 750 low-income households in the surrounding community. DOEE convened a Task Force comprised of community members to prioritize the beneficiaries of this electricity. The project is currently in pre-construction, with zoning a priority issue being addressed. Construction is expected to be completed by September 30, 2019. DOEE is also partnering with DGS to analyze solar and storage solutions. The project will test various battery chemistry typologies with site analyses of various DGS sites.

University of District of Columbia (UDC) – DOEE is partnering with UDC to repair the rooftop of a campus building in order to install solar energy. The agencies have identified rooftops for solar installation and continue to work together to implement solar projects in FY19 to benefit low income UDC students.

Challenges and Solutions

The Solar for All Innovation and Expansion grantees and partner organizations continue to build relationships, identify barriers, and propose solutions in order to meet project implementation goals. As challenges are identified, DOEE is working closely with stakeholders to facilitate solutions wherever possible.

The price for DC solar renewable energy credits (SRECs) faced a significant drop at the end of FY18, and is expected to remain at this lower value for a few years. Because the Solar for All projects rely heavily on anticipated revenue from monetized SRECs, several projects are now facing financial challenges. While the parties are investigating all available options to address these financial shortfalls, some grantees may ultimately be unable to install as much solar capacity as originally planned.

In addition, site access continues to present a challenge and has caused some delay in solar system installations. Securing commitments from building owners is important to meeting the goals of the REPS Act in order to ensure the benefits continue to accrue for the lifetime of the grant agreement. Grantees are required to secure site access for at least a 15 year period.

Similarly, customer acquisition has been an ongoing challenge, wherein grantees have grappled with attracting and maintaining a pipeline of low-income solar customers. To overcome this barrier, greater attention has been placed on providing education and seeking creative engagement opportunities in partnership with the income eligible community, to explain how solar works, to address the general skepticism of solar technology and related program offerings, to explain the benefits made available as a result of the deployment of solar, and to explain subscriptions for community solar.

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

Finally, DOEE issued guidelines for income verification allowing grantees to utilize categorical eligibility, i.e., applicants eligible for LIHEAP are deemed eligible for Solar for All. This step should help grantees save time as they recruit and sign up income-eligible households.

Systems Installed in FY 2018

Most of FY 2018 was spent securing sites, designs, and permits, for solar installations across the District. This past year, the Solar for All program installed nearly 1 MW of new solar generation, serving 161 low-income District residents. Factoring in the solar installation at the Garfield Terrace Public Housing Senior Building, the total amount of solar installed is 1.06 MW, serving 364 low-income District residents. DOEE expects system installation to accelerate rapidly as the majority of the Solar for All Innovation and Expansion grant projects begin construction in early 2019.

EXPENDITURE OF FUNDS

As detailed below, the REDF expenditures for FY 2018 totaled \$19,078,351.59.

<u>Category</u>	<u>Expenditures</u>
Personnel Services	\$ 1,341,522.14
Non-Personnel Services	\$ 17,736,829.45
Total Expenditures	\$ 19,078,351.59

<u>Category</u>	<u>Other Commitments</u>
Grants Awarded	\$9,538,797.78
Memorandums of Understanding (MOUs) Executed	\$4,490,000.00
DC Green Bank	\$7,000,000
Total Commitments	\$21,028,797.78

Personnel services for FY 2017 totaled \$1,341,522.14. Non-personnel services were primarily comprised of Solar for All Innovation and Expansion grant and \$7,000,000 in funding for the DC Green Bank, as required by the Green Finance Authority Establishment Act of 2018.

Additionally, DOEE executed MOUs with the Department of General Services and DC Public Library totaling \$4,490,000. Due to project delays, MOU funding for the DGS and DCPL

projects were ultimately returned to DOEE due to project delays, but will be re-transferred in FY 2019, as the projects are expected to be completed in the next fiscal year.