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OFFICE OF THE
MAYOR

MURIEL BOWSER
MAYOR

DEC 6 2017

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

Dear Chairman Mendelson:

Pursuant to the Renewable Portfolio Standard Expansion Amendment Act of 2016, effective October 8, 2016 (D.C. Law 21-154; 63 DCR 12926), 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.

This report describes the amount of progress that has been made in Fiscal Year 2017 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.

Please feel free to contact Director Tommy Wells at (202) 535-2600 to discuss any questions you have regarding the Fiscal Year 2017 Solar for All Annual Report.

Sincerely,

A handwritten signature in black ink that reads "Muriel Bowser".

Muriel Bowser

Department of Energy and Environment

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

October 8, 2016 – September 30, 2017

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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 8, 2016 through September 30, 2017.

This report describes the amount of 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 (D.C. Official Code § 34-1434).

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

Review of Implementation Plan

As described in the Solar for All Implementation Plan¹, DOEE will implement 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-FY 2019) will include the development of 30 to 60 MW of solar capacity, subject to funding availability. This phase will also focus on researching and developing the solutions necessary to complete large-scale projects in subsequent implementation phases. Much of this work is being done through strategic external and interagency partnerships and Solar for All Innovation and Expansion Grants described below.

Solar for All Innovation and Expansion Grants

In February 2017, DOEE announced two Requests for Applications (RFAs) for Solar for All Innovation and Expansion Grants.² The RFA guidelines focused on research and development and sought to address four overarching program goals: (1) to expand solar energy in the District; (2) to provide benefits to low-income residents; (3) to develop solutions to program challenges; and (4) to identify solutions DOEE can use to establish the most effective, predictable, and stable medium-term program. The RFA guidelines required projects to address at least one of the following five core barriers:

- Acquiring access to potential project sites by tailoring incentives to the respective project site owners/lessors;

¹ Solar for All Implementation Plan, submitted to Council March 10, 2017, available at https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/DOEE-%20Report-%20Solar%20for%20All%20Implementation-%20Final%20for%20Transmittal.pdf.

² Request for Applications - Solar for All DC Innovation and Expansion Grants: Low-Income Single-Family Homes, Small Businesses and Owner-Occupied Nonprofits, available at https://doee.dc.gov/sites/default/files/dc/sites/ddoe/release_content/attachments/Request%20for%20Applications_13_1.pdf; and Request for Applications - Solar for All DC Innovation and Expansion Grants - Multifamily, Commercial and Institutional Buildings, and Non-Residential Surface Spaces, available at https://doee.dc.gov/sites/default/files/dc/sites/ddoe/release_content/attachments/Request%20for%20Applications_14_1.pdf.

- Addressing competition for access to roof space due to conflicting incentives or requirements;
- Acquiring low-income customers, educating eligible residents and building owners, and managing community solar subscriptions;
- Providing solar power benefits to low-income residents who do not receive electric bills (e.g., master-metered building residents); and/or
- Sharing with low-income residents the energy and other financial benefits (Solar Renewable Energy Credits (SRECs) and the Investment Tax Credit (ITC)) associated with the installation of new solar energy systems.

The RFAs also encouraged project proposals to address additional barriers, which include:

- Incorporating electric or thermal storage for efficiency and/or resiliency;
- Combining solar installation with energy efficiency measures;
- Achieving net-zero energy through solar;
- Utilizing atypical spaces (e.g., road barriers, brownfields, or windows) for solar installations;
- Providing District residents with comprehensive solar job training while installing new solar systems;
- Incorporating technologies, such as smart inverters, to add value to the distribution grid; and
- Designing solar photovoltaic systems to reduce the distribution system's peak demand.

FY 2017-FY 2018 Solar for All Innovation and Expansion Grant Projects

In late FY 2017, DOEE selected the nine grant proposals under the competitive RFAs. These projects were chosen based on the applicants' ability to meet the baseline eligibility criteria as outlined in the RFAs, because the applicants presented clear plans for addressing core barriers, and because of 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. Many of these projects are focused on community solar, expanding the

opportunity for the solar industry to serve households that were previously unable to directly benefit from solar energy. Each of these nine projects is summarized below.

Grantee Name	Grant Amount	Project Description
Community Power Network (CPN) - DC SUN is a project of Community Power Network	\$2,000,000	This grant will fund CPN's Low-Income Solar Co-op Program, which will bring low-income residents together in a group or solar co-op, to provide more affordable bulk procurement of solar installations. CPN will pay for the full installation of panels on the homes of low-income residents. Low-income homeowners will receive all the associated financial benefits of solar, at no cost. CPN plans to install 750 kW, serving up to 231 households.
Groundswell, Inc.	\$1,261,590	This grant will fund Groundswell's installation of solar panels on six houses of worship in Wards 4, 7, and 8, which will result in free, 20-year community solar subscriptions for low-income households. Groundswell will provide local employment and apprenticeship opportunities, and solar jobs skills training. Groundswell plans to install 366 kW, serving up to 122 households.
New Partners Community Solar Corp. (formed by Nixon Peabody LLP)	\$2,000,000	This grant will fund New Partners Community Solar Corp.'s installation of solar panels on 15-25 commercial, nonprofit, and apartment rooftops, resulting in free, 25-year community solar subscriptions for low-income households. New Partners Community Solar Corp. plans to install 1 MW, serving at least 325 households.
Urban Energy Advisors (DBA Urban Ingenuity) in partnership with NHT Enterprise	\$1,517,655	This grant will fund Urban Energy Advisors' installation of solar energy systems on affordable, multifamily buildings. Urban Energy Advisors plans to install 1 MW, serving up to 402 households.
PEER Consultants, P.C.	\$1,250,000	This grant will fund PEER Consultants, P.C.'s installation of solar panels on affordable, multifamily buildings, resulting in 15-years of free solar energy benefits for low-income households. The grantee will also educate building owners on how their rooftops could be used for solar generation and other environmental measures, including stormwater retention and methods for reducing urban heat island effect. PEER Consultants, P.C. plans to install 500 kW, serving 100 low-income households.
Neighborhood Solar Equity, LLC (collaboration between Community Renewable Energy, Root + Branch, and Kelly Electric)	\$1,177,506	This grant will fund Neighborhood Solar Equity, LLC's installation of solar energy systems on several buildings at a local university. Electricity will be provided to the university. SREC revenue from the project will benefit low-income residents for 15 years. Neighborhood Solar Equity, LLC plans to install 595 kW, serving up to 100 households.

Grantee Name	Grant Amount	Project Description
Open Market ESCO LLC (the energy services division of WinnCompanies)	\$1,347,737	This grant will fund Open Market ESCO LLC's installation of solar panels on 4 roofs of Atlantic Terrace, a 195-unit affordable multifamily property in Ward 8, resulting in free, 15-year community solar subscriptions for low-income residents. The grantee will also provide education to low-income residents regarding the benefits of solar. Open Market ESCO LLC plans to install 548 kW, serving the 195 households residing at Atlantic Terrace.
Ethos Strategic Consulting, LLC	\$1,790,000	This grant will fund Ethos Strategic Consulting, LLC's installation of solar canopies over surface parking lots at several affordable housing properties. The benefits from the electricity generated in this community solar project will be provided in the form of direct payments to the low-income residents of the adjacent properties for 25 years. Ethos Strategic Consulting, LLC plans to install 1 MW, serving up to 350 households.
Community Preservation and Development Corporation (CPDC)	\$300,000	This grant will fund CPDC's installation of solar panels on the rooftops of 14 multifamily properties owned by CPDC. The proceeds from the electricity generated will reduce operating costs for CPDC. CPDC will use these cost savings to invest building upgrades, new amenities, and resident services that benefit the residents of these properties. CPDC plans to install 1 MW, serving 2,800 low-income households.

These projects, which are now underway, each take a different approach and will, therefore, provide different benefits to households. Additionally, as these are research and innovation grants, each grantee may use a different methodology to determine the dollar amount of benefit provided to each household. DOEE will use a common metric, developed by an analysis of Pepco calendar year 2016 average residential usage, to determine the number of households served for reporting purposes. The initial analysis demonstrates that, in order to meet 50% of a District household's average residential usage, it is necessary to provide \$500 per year (\$42/month) per household, or to offset 4,200 kWh per year (350 kWh/month) per household.

In FY 2017, DOEE held kickoff meetings with each grantee and continues to facilitate quarterly grantee convenings where the cohort gathers to share lessons learned, coordinate with the Department of Consumer and Regulatory Affairs on solar permitting and with Pepco on the interconnection process, and coordinate on outreach and engagement efforts.

Strategic External Partnerships

In addition to the Solar for All Innovation and Expansion Grant Projects listed above, DOEE has funded four projects aimed at catalyzing solar installation in the District. These projects, outlined below, demonstrate replicable solutions that will increase the rate of solar deployment on public land and buildings throughout the District and expand access to solar benefits for low-income residents.

- **Community Solar Pilot**

DOEE provided \$175,000 in grant funding to New Partners Community Solar Corp. to pilot the first community solar project in the District. The grant provided gap financing to assist with the development and operation of community solar arrays on three properties owned and managed by Brookfield Office Properties, located in downtown DC. The grantee installed 181 kW of solar capacity, which now serves approximately 100 low-income residents of National Housing Trust and Mission First affordable housing properties.

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

DOEE awarded \$250,000 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 will complete assessments of at least 20 affordable housing properties. This project will help catalyze the affordable housing sector to strategically integrate resilience planning and solar assessments in their planning, development, and operations.

- **Low-Income Energy Efficiency and Solar-Ready Roof Demonstration**

In FY 2017, DOEE launched a demonstration project at Garfield Terrace (a DC Housing

Authority property) to pair energy efficiency measures with solar through the federal Weatherization Assistance Program. This demonstration project included the installation of energy efficiency and health and safety measures and a full roof replacement to make it solar-ready. DOEE plans to complete a solar installation at Garfield Terrace in FY 2018.

DOEE intends to replicate this model, and is currently working with the U.S. Department of Energy (US DOE) to obtain the approvals necessary for solar systems to be considered an energy efficiency measure under the Weatherization Assistance Program.

- **DC Sustainable Energy Utility (DCSEU)**

In April 2017, DOEE executed a new multiyear, performance-based DCSEU contract with Vermont Energy Investment Corporation, funded by the Sustainable Energy Trust Fund, to design and deliver energy efficiency and renewable energy programs and initiatives on behalf of the District. The DCSEU planned to install at least 1 MW of solar in FY 2017 across the commercial, government, and institutional sectors. In FY 2018, DOEE will hire an independent third-party contractor to verify and determine the DCSEU's achievement with respect to the solar/renewable energy performance benchmark in the DCSEU contract.

Interagency Partnerships

DOEE can report the following strategic partnerships to increase the rate of solar installation on public land and buildings throughout the District:

- **Department of Employment Services**

DOEE and the Department of Employment Services (DOES) have partnered to develop Solar Works DC, a low-income solar installation and job training program. GRID Alternatives Mid-Atlantic was awarded a grant in May 2017 to implement the program for the first year. In addition to preparing District residents to enter careers in solar and related industries, Solar Works DC will reduce energy costs for qualified low-income District homeowners by installing solar systems on their homes. This program

operates year-round, with three cohorts per year (summer, fall, and spring); it will provide trainees with valuable classroom education and hands-on experience, and the opportunity to earn industry-recognized certifications. Over the course of three years, the program will train more than 200 District residents and will install solar systems on up to 300 income-qualified homes.

The annual funding for the program is \$950,000 and is provided from the REDF, with additional funding provided by DOES to facilitate wraparound services and remedial support to all trainees. This includes an array of support services and soft-skills training to enhance their training experience and further their professional development.

- **Department of General Services**

DOEE is partnering with the Department of General Services (DGS) on a 1 MW community solar installation in Ward 8 to serve low-income households, and a pilot project to test different energy storage solutions and to procure and install solar, coupled with energy storage.

- **DC Public Library**

DOEE is partnering with DC Public Library for the procurement and installation of a 50 kW solar system, coupled with an energy storage system, at a newly constructed DC Public Library.

- **Department of Housing and Community Development**

DOEE is partnering with the Department of Housing and Community Development (DHCD) to deliver technical assistance to affordable housing developers seeking gap-financing. This technical assistance, provided by the DCSEU through its existing contract, will help these developers identify different means for financing and structuring solar development, and will provide them with tools to assess solar proposals that best suit their projects. This technical assistance is being offered to recent Housing Production Trust Fund recipients.

- **DC Housing Authority**

In addition to the Low-Income Energy Efficiency and Solar-Ready Roof Demonstration project at Garfield Terrace, DOEE is working with the DC Housing Authority (DCHA) to solarize its housing properties. In FY 2017, DOEE provided funding to The Community Foundation to assess solar and battery storage potential on property currently under redevelopment with DCHA. The project is currently in the pre-development phase.

In FY 2017, DOEE awarded a \$5 million grant to DCHA to support roof repair, replacement, solar installation, and battery storage installation at DCHA's housing properties. This work will continue in FY 2018.

- **University of the District of Columbia**

In FY 2017, DOEE worked with the University of the District of Columbia (UDC) to identify rooftops for solar installation and provide technical assistance. DOEE will continue to partner with UDC in FY 2018 as the university implements solar projects.

Systems Installed in FY 2017

FY 2017 was a planning year for the Solar for All Program. DOEE established the Solar for All Task Force, comprising 13 solar professionals in the private and nonprofit sectors, including solar development, affordable housing, and green workforce. The Task Force was formed to recommend ways to effectively design and implement Solar for All. DOEE also released a Request for Information (RFI) to solicit ideas from industry professionals and the general public on developing a long-term solar program in the District.³ Informed by Solar for All Task Force recommendations⁴ and feedback from the two RFIs, DOEE submitted its Solar for All Implementation Plan to the Council on March 10, 2017.

Solar for All Program implementation started in May 2017 with the award of Solar Works DC, followed by the award of the Solar for All Innovation and Expansion Grants in August and early September 2017.

The projects underway represent more than 10 MW of solar energy that will be developed as a result of the Solar for All Program by 2019 with numerous additional initiatives in the assessment and pre-development phase. As DOEE expands Solar for All, it will identify other program offerings and strategic partnerships to meet the FY 2017- FY 2019 initial implementation goal of 30 to 60 MW of solar capacity.

There were a small number of installations completed in FY 2017. Under the Solar Works DC program, GRID Alternatives Mid-Atlantic completed the summer cohort of the Solar Works DC training program, in conjunction with the DOES Marion Barry Summer Youth Employment Program (MBSYEP). This was the first of three cohorts of job trainees who will be trained in solar installation during the first year of Solar Works DC. The program completed 20 solar installations during FY17. A total of 81.9 kW of solar capacity was installed across these homes.

³ Notice of Request for Information, Solar for All DC Innovation and Proliferation (63 DCR 15231), available at https://doee.dc.gov/sites/default/files/dc/sites/ddoe/release_content/attachments/Solar%20for%20All%20DC%20Innovation%20and%20Proliferation%20Project%20RFI%20CoverPage%20and%20Project%20Description.pdf.

⁴ Solar for All Task Force Recommendations, available at https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/Solar%20for%20All%20Task%20Force%20Recommendations-FINAL.pdf.

Expenditure of Funds

As detailed below, the REDF expenditures for FY 2017 totaled \$3,037,791.57.

<u>Category</u>	<u>Expenditures</u>
Personnel Services	\$ 895,054.64
Non-Personnel Services	\$ 2,142,736.93
Total Expenditures	\$ 3,037,791.57

<u>Category</u>	<u>Other Commitments</u>
Grants Awarded	\$18,844,488
Memorandums of Understanding (MOUs) Executed	\$4,740,000
Total Commitments	\$23,584,488

Personnel services for FY 2017 totaled \$895,054.64. Non-personnel services included \$151,510.08 in solar studies and expenditures from interagency MOUs to develop community solar arrays, and \$1,970,821.71 in grants including Solar Works DC and the Solar for All Innovation and Expansion Grant Projects. The remaining \$20,405.14 in non-personnel services supported program operations.

Additionally, in FY 2017, DOEE made grant awards totaling \$18,844,488 and entered into MOUs with the Department of General Services and DC Public Library totaling \$4,740,000. As detailed above, these projects will continue in FY 2018.