



DC
SUSTAINABLE ENERGY
UTILITY

First Quarter Report for Fiscal Year 2018

October 1 – December 31, 2017

January 31, 2018



This report of the District of Columbia Sustainable Energy Utility covers the period from October 1 through December 31, 2017. This progress report contains information about the DCSEU's activity to date in FY 2018 in the four core service areas: Residential, Low-Income Multifamily (LIMF), Renewables, and Commercial and Institutional (C&I).

The use of the term *DCSEU* throughout this report indicates an integrated collaboration among the members of the Sustainable Energy Partnership, under the leadership of the DCSEU Contractor, the Vermont Energy Investment Corporation: George L. Nichols & Associates, Institute for Market Transformation, New Columbia Solar, and PEER Consultants.

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MESSAGE FROM THE MANAGING DIRECTOR

The DCSEU began its new fiscal year with a great, big bang! We entered October having met all of the District's ambitious minimum goals for FY 2017, and even exceeded some of its precedent-setting maximum goals for that year. So, with that achievement, what's next on our minds?

A lot actually! Every first three months of the new fiscal year we have to collect the last few stray invoices, we have to tally up the results for energy savings as well as count the green jobs created and money spent on certified business enterprises (CBE), and prepare for the financial audit and the data evaluation, measurement, and verification process (EM&V).

Yet, somehow the first quarter of this Fiscal Year also had a new wrinkle to it. We were constantly asking ourselves this one question: How do we explain FY 2017's stellar performance and allow our stakeholders to understand that significant management decisions were made in order to exceed our maximum performance benchmarks for electricity, gas and renewables for the first time ever?

It is not an easy questions to answer. The DCSEU's main challenge is remaining creative about how it balances limited ratepayer funds and its need to meet the District's ambitious energy savings goals for the DCSEU. Here's how we did it:

1. We eliminated the popular, but expensive, Home Performance with ENERGY STAR® Program.
2. We concentrated on solar installations for businesses, a more cost-effective option than installations for single-family and multifamily residences.
3. Following a new contract requirement, we spent less ratepayer funding on our programs serving low-income residents.

All these decisions drove the efficiencies we achieved in bringing savings for DC residents as well as commercial and institutional energy consumers. Our decisions also benefited the environment by reducing substantial amounts of greenhouse gas emissions—with the improved health effects lower emissions bring to District residents and workers.

We at the DCSEU do not make such decisions light-heartedly and are constantly evaluating our management decisions, and the tradeoffs that have to be made for higher energy savings. We are also always looking for new ways to balance these energy reduction goals with our social equity objectives. Right now, the DCSEU's staff is working on designing multiple different programs and developing creative ideas. While I cannot give you any more details at this point in time – please stay tuned!

It is an honor for me and the rest of the DCSEU staff to serve the District of Columbia. We look forward to evolving our great work and optimizing our programs as we progress through FY 2018. The DCSEU has important objectives, and we enthusiastically will strive to make 2018 our most successful year to date.

Ted Trabue

Managing Director

QUARTERLY FEATURE

Committed to Protecting the Planet: Smithsonian's National Zoo implements efficiency project

Light plays a very important role in the lives of the giant pandas at the Smithsonian's National Zoo. They are awake by the time the sun comes up every day and have settled in for a night of sleeping and snacking by the time it sets. The lights inside the panda house follow the natural light cycle of the sun. When the sun rises, they turn on and brighten up the indoor enclosures, and when the sun sets they turn off – the difference now is however, that the new lamps are highly efficient LEDs, environmentally friendly and not emitting any heat.

The Zoo installed the LEDs as part of the first phase of a large energy and water efficiency project with the DC Sustainable Energy Utility. Since 2015, the Smithsonian's National Zoo has been working with the DCSEU, committing to greater resource efficiency and environmental protection. The joint work has resulted in almost \$2 million of lifetime cost savings and has prevented the emission of 12,833 metric tons of CO₂ – the equivalent of taking more than 2,700 cars off the road for one year.

“At the Zoo, we are all about conservation. We do all that we can to help save species and their habitats in the wild, but we want to ensure that the Zoo itself in Washington, D.C. is a responsible environmental steward,” said Teresa Vetick, head of the Sustainability Committee at the Smithsonian's National Zoo. “We work hard to lessen our carbon footprint in big and small ways—like installing environmentally-friendly LED lights in the Panda House.”

DCSEU engineers analyzed many locations at the Zoo— multiple enclosures, public areas, restaurants, shops, and event spaces—and then managed installation projects throughout the 163-acre campus. The enclosure for the cheetahs, for example, also received LED lighting, as did the Great Apes house and the trails near the Elephant Outpost. The project also made improvements to the elephants' water pond, making their regular cooling and bathing experiences more cost effective for the Zoo.

“Every animal at the Zoo has access to water, some animals—like our herd of Asian elephants—have larger pools than others,” said Vetick. “The elephants can use the water in many different ways—from drinking to fully submerging themselves to swim. It's important their pools are always operate as efficiently as possible.”

Other areas where efficiency was improved were insulation, exterior lighting, windows, water chillers and irrigation, placing the project amid many other initiatives to reduce the Zoo's footprint and improve its sustainability. Like many other Smithsonian museums, the Zoo has demonstrated a strong commitment to energy efficiency and renewable energy. For example, American Trail has buildings that are LEED certified and have complex filtration systems using DC tap water, reducing water and energy consumption by 85% compared to other buildings, according to the Zoo. In 2012, the Zoo opened a solar-powered carousel offering rides that reflect on the stories of many of the species that live there.

At a Glance: Progress against Benchmarks

Table 1. Performance to date, measured against benchmarks and contract requirements¹

Item	Benchmark	Description	Metric Unit	Goal Type	Benchmark Minimum	Benchmark Maximum	Quarterly Results	Cumulative Results	Minimum Benchmark Progress	Maximum Benchmark Progress
1a	Cumulative Performance Benchmarks	Reduce per-capita consumption - Electricity	MWH Net	Cumulative	121,756	172,945	22,734	116,692	96%	67%
1b		Reduce per-capita consumption - Natural gas	Therms Net	Cumulative	2,250,770	3,410,258	303,824	2,420,990	108%	71%
2		Increase renewable energy generating capacity	KW	Cumulative	1,380	2,000	1,335	3,579	259%	179%
3		Leverage funds	Dollars	Cumulative	\$ 2,500,000	\$ 5,000,000	\$ 239,932	\$ 239,932	10%	5%
4a	Annual Performance Benchmarks	Improve energy efficiency in low-income housing - spend	% of annual budget	Annual	\$ 3,711,667		\$ 225,225		6%	
4b		Improve energy efficiency in low-income housing - savings	MMBTU Net	Annual	23,278	46,556	2996		13%	6%
5		Increase number of green collar jobs	Green job FTE's directly worked by DC residents, earning at least a Living Wage - Hours	Annual	128,700	171,600	23,287		18%	14%
6	DCSEU General and Administrative Expenses	% of Cost Reimbursement Ceiling	Annual		\$ 3,711,667	\$ 707,123			19%	
7	Other Contract Requirements	Expenditures with Small Business Enterprises/Certified Business Enterprises	% of annual DCSEU operating budget subcontracted to SBEs/CBEs	Annual	\$ 2,116,709		\$ 225,832		11%	
8a		Annual expenditures related to electric energy efficiency	% of funds provided from assessments on electricity company	Annual	\$ 11,135,000		\$ 3,109,679		28%	
8b		Annual expenditures related to natural gas energy efficiency	% of funds provided from assessments on natural gas company	Annual	\$ 2,783,750		\$ 877,089	32%		
9	Tracking Goals	Reduce growth in energy demand of largest users	# of projects completed with a square footage of > 200,000				27			
10		Reduce growth in peak demand	MW							

¹The DCSEU provides services under a performance-based contract that contains a broad array of performance benchmarks and other contract requirements. These benchmarks are derived from goals established in the District's Clean and Affordable Energy Act of 2008. The DCSEU contract contains additional minimum contract requirements, beyond the contract performance goals.

Energy savings values in **Table 1** represent the first year's savings at the customer meter, with generally accepted utility adjustment values for: (1) free-ridership (action by customers who make efficiency improvements without program assistance); (2) spillover effects (action by customers who are influenced by the existence of the program to make efficiency improvements, but who are not program participants); and (3) energy losses (losses from electricity generation and distribution ["line losses"] and losses from natural gas generation and distribution)

1. Sector Highlights in the Core Areas

Residential Services

- **The Residential Program team focused on building and strengthening long-term relationships with manufacturers and other partners.** The DCSEU entered a contract with Energy Federation, Inc. (EFI) to support rebate processing for efficient products through a one-year-plus-three-year-option-agreement. EFI previously had this contract. The DCSEU also re-signed MOUs with lighting manufacturers and with HVAC/Water Heater Residential Participating Contractors. The team also collaborated with the marketing team to partner with lighting and smart thermostat manufacturers on marketing opportunities.
- **The DCSEU reduced its rebate for smart thermostats from Nest by 50% in response to increased demand through improved acceptance as evidence of successful market transformation.** The change became effective on November 30 2017. During Q1 of FY 2018, the DCSEU paid out 1,124 rebates for Nest thermostats. Residents can continue to use the online tool for a \$50 dollar instant rebate. Consumers who choose to purchase Ecobee or Honeywell smart thermostats will also be able to claim a post-purchase rebate.
- **The residential team is making great strides towards meeting its annual goals.** To date in FY 2018, the DCSEU has achieved electricity savings of 5,734 MWh in the residential market, 32.78% of its annual MWh savings goal. During the first quarter, the DCSEU has also achieved natural gas savings of 7,372.17 Mcf in this market, 125.91 % of its annual natural gas savings goal. There have been 11,924 participants served in the residential market to date. To compare: After Q1 in FY 2017, the DCSEU had achieved electricity savings of 379 MWh in the residential market—2% of its annual MWh savings goal – and 1% of its annual natural gas savings goal.
- **The DCSEU supported Bozzuto’s award-winning War of the Watts Campaign** offering lightbulbs and informational material about energy savings to more than 2500 residents living in three Bozzuto-managed communities. Between October and December, the communities in DC were competing for the largest amount of energy saved from home efficiency. The LED lightbulbs were sponsored by Arcadia Power. The DCSEU’s Account Management, Marketing, PR and Leveraging Teams worked on the project collaboratively. Read the full story [here](#).

Low-Income Multifamily

- **The DCSEU completed four Low Income Multifamily Comprehensive Programs generating more than \$60,000 in annual energy cost savings.** They include a new construction in the West End, the Saint Stephens Apartments on Benning Road and various properties managed by Manna.
- **The DCSEU's new Emergency Heating Program approved eight applications worth around \$3,100.** DOEE offers a program focused on helping LIHEAP applicants to replace or repair failing heating appliances free of cost. DOEE engaged the DCSEU to provide technical analysis and rebates in order to increase its yield on investment, reach more customers, and ensure that equipment installed is efficient. The work - which will be executed by FRY, a preferred CBE contractor – must be completed within 72 hours of the request, requiring a quick turnaround to approve the equipment internally by the DCSEU.
- **Archer Park opened in Anacostia on November 15 2017, bringing 190 Affordable Units to South East DC.** The DCSEU helped WC Smith to design the homes for income-qualified residents with Energy Star appliances and fixtures, as well as LED lighting and an efficient HVAC System. The combined natural gas and electricity savings will result in more than \$120,000 in annual cost savings and prevent the emissions of 650 metric tons of carbon per year. Throughout the past years, joint projects between the DCSEU and WC Smith have resulted in \$10 million in lifetime energy cost savings and prevented the emission of 56,000 metric tons of CO₂ – that's the equivalent of 61 million pounds of coal burned. Read the full story [here](#).
- **The DCSEU also formalized a partnership with the American Council for an Energy Efficient Economy (ACEEE)** to receive technical assistance to improve the DCSEU's low-income programs. The goal is to redesign them in such a way as to present the fewest barriers and greatest opportunities for active collaboration with agencies and departments that are involved with affordable housing production and operation, as well as with other clean energy providers in the city.

Renewable Energy

- **The Leveraging and Funding Team successfully developed a strategy to leverage SRECs to provide additional benefits for low to moderate income residents.** The team met with various players, including Solar for All Grantees, in the DC SREC market and came up with the following strategy: The DCSEU will incentivize solar energy installations and in turn will receive ownership of a portion of the SRECs, with the majority going to the residents. By providing the solar incentives at a slight premium

over the SREC market rate, the Solar for All Grantees will be able to provide solar to more households, and DCSEU will be able to leverage their portion of the SREC money to invest in the DCSEU's programs.

Commercial and Institutional

- **The Account Management (AM) Team stayed focused on building a pipeline for FY 2018 through concentrating on innovative projects, strengthening existing relationships and securing new clients through outreach.** During Q1, the AM's started exploring options for pay for performance contracts and battery storage. Relationships were deepened with large energy consumers such as Amtrak, real estate companies and universities. The AM's were also able to secure new customers through increased engagement, such as speaking at the Great Streets Grant Orientation and outreach, for example to real estate brokers Cushman and Wakefield.
- **The Business Energy Rebate (BER) program processed approximately \$235,000** worth of rebates during the first quarter. By the end of Q1, the DCSEU had 25 active BER opportunities, with an estimated rebate value of more than \$180,425. As the DCSEU received an unusually high number of applications, the incentives will be decreased in the second quarter. In addition, measures will now be available across fiscal years as the program can seamlessly operate between fiscal years, leading to improved market stability.
- **The DCSEU completed 38 commercial and institutional projects during the first quarter of FY 2018, generating more than \$10 Million in life time energy cost savings.** The projects include 24 retrofits and seven new constructions, including Tastemaker's kitchen, Ridge Road Recreation Center and Ron Brown Preparatory High School.
- **During the first quarter, the DCSEU completed four Commercial Direct Services projects,** with an incentive of \$272,928. The initiative currently has 2 active projects with an estimated incentive value of \$225,000. These incentives also conclude the program for the rest of the year.
- **During the first quarter the DCSEU received nine submissions for Instant Business Rebates** from our participating distributors. These submissions equate to \$35,300 worth of rebates. Due to low participation rates, the program has been expanded to include residential measures in the application, which will be executed in Q2.

Green Jobs

- **The Workforce Development Team focused on building new partnerships as well as enriching the curriculum with new and practical classes.** For example, the team met with the National Alliance for Partnerships in Equity Educational Foundation Facilities (NAPEEF) in Falls Church to discuss collaborative efforts between NAPEEF and the DCSEU. The Building Operator Certificate classes completed a walk-through at the DCSEU's office building 80 M Street SE. While the final BOC training certification class was held on December 12, 2017, the Workforce Development Training continued its weekly meetings and class members graduated on January 30.

2. Activity Supporting DCSEU Initiatives

Public Affairs & Public Relations

- **The DCSEU continued to finalize and plan *Focus on Green Technology: Building the Sustainable Cities of the Future*** which took place on Jan. 24 at PNC Place. The event explored and discussed emerging technologies that will help District businesses, institutions, and residents save energy. Participants heard from companies whose products can help generate onsite renewable energy, conserve energy through internet of things (IoT), and be more resilient by combining energy storage solutions with solar technology. A panel discussion on Challenges and Trends for Smart Buildings followed the presentations.
- **The DCSEU celebrated a successful Energy Efficiency Day campaign on October 5.** Ted Trabue, the DCSEU's Managing Director, gave an interview on Great Day Washington on *WUSA9*, and published an Op-Ed in *The Hill*. The DCSEU also published a press release with Energy Tips, wrote a special sponsored blog post on *popville.com* to share tips on how to save energy with residents and heavily promoted the benefits of energy efficiency on social media in celebration of the event.
- **The DCSEU Marketing Team ramped up advertising** with Capital Community News, the Currents newspaper, Google AdWords, and in a special issue of the Washington Blade.
- **The Marketing and Communications Team submitted the FY 2017 annual report to the Department of Energy & Environment (DOEE) for review.** The report is titled *Building the Future of Energy in the District*. The team worked with the DCSEU's customers, contractors and stakeholders to collect and write stories about FY 2017 successes.

- **The DCSEU's Leveraging and Development Team identified workforce development, solar energy, and Home Energy Conservation Kits as funding focus areas for FY18.** The team had targeted meetings with approximately 10 businesses to gauge interest in supporting workforce development and energy kits, setting the groundwork for formal requests, where appropriate, in the second quarter of FY 2018. The team submitted four requests totaling \$550,000 in support of DCSEU's workforce development program and identified five foundations and two partners interested in supporting the proliferation of solar and working to overcome barriers to adoption.

Community Outreach

- **In total the Community Outreach team attended 10 events in the first quarter, with an estimated participant count of more than 7500 people.** Among the highlights were a partnership with the Public Service Commission to focus on preparing District residents for the Winter season and participating in a community walk to engage with residents and businesses living and working along the Georgia Avenue corridor.
- **The DCSEU's Community Outreach Team focused on collaborating with DC's office on Aging during the first quarter of FY 2018.** On June 12, the Office on Aging hosted a resource fair to educate residents about city services at Capitol Hill Towers. During the event, the DCSEU engaged in a dialogue with the senior citizen living Towers to better understand their challenges for energy efficiency. In addition, the Office on Aging sponsored and organized the Mayor's Annual Senior Holiday Celebration on December 13th with all District agencies, nonprofits and resource organizations to share their resources with residents, attracting between 5000-8000 residents. The DCSEU shared a table with the Public Service Commission distributing more than 2000 giveaways.
- **The DCSEU also strengthened its relationship and engagement with the local utilities.** For example, the DCSEU's Managing Director Ted Trabue presented at Pepco's Utility Service Discussion and spoke on its New Initiatives Panel. The DCSEU was also invited to present its programs at the Washington Gas Open House at Matthews Memorial Baptist Church, informing residents with tips on how to save energy during the winter months.

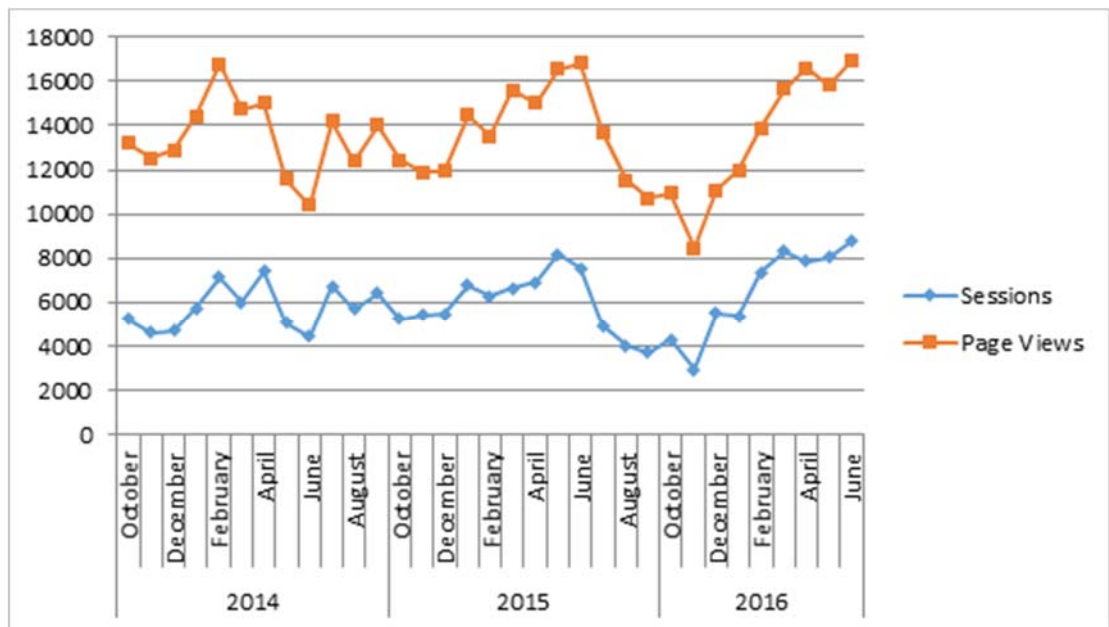


Figure 1. DCSEU website sessions and page views, by month, FY 2014, 2015, 2016, and 2017 to date

- First-quarter website visits **10,708**
- Facebook **767 Likes**
- Twitter **1,680 Followers**

Table 6. DCSEU initiatives, by sector

Core Area	Initiative Name	Description	Customer	Status
Residential	Efficient Products	Deep discounts on LEDs with partnering retailers in DC; mail-in rebates for qualifying energy-efficient appliances; free energy kits for DC residents	DC residents	On track
Low-Income Multifamily	Low-Income Multifamily Comprehensive	Custom technical and financial assistance for energy efficiency improvements for multifamily properties	Property owners of multifamily buildings, shelters, and clinics serving income-qualified DC residents	On track
Renewable Energy	Commercial Solar	Incentives and financing to install solar PV systems	Commercial business owners	On track
Commercial and Institutional	Business Energy Rebates	Rebates for energy-efficient lighting, heating, refrigeration, cooking, and other qualifying equipment	Business owners	On track
	Commercial Direct Services	Direct installation of energy efficiency measures at primarily small and medium-size commercial businesses	Business owners	On track
	Instant Business Rebates	Discounted energy-efficient lighting through CBE distributors	Business owners	On track
	Commercial and Institutional Custom	Technical assistance, account management, and financial incentives for energy efficiency projects	Large commercial and institutional customers	On track