

MAKING AN IMPACT

Building a brighter economic, environmental, and energy future for the District





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The 2013 fiscal year (FY) data presented in this report are based on the DCSEU's estimates of energy savings and green job hours. These data are subject to rigorous monitoring and verification by a third-party evaluation firm hired by the District Department of the Environment.

A MESSAGE FROM THE DCSEU



Ted Trabue, Managing Director

Here at the DCSEU, we are privileged to be a part of something incredible: residents working together to build a brighter economic, environmental, and energy future for the District of Columbia. As our second full year of operation draws to a close, we celebrate our most successful year yet, thanks to the willingness of District residents and businesses to participate in DCSEU programs that make their buildings energy-smart.

I speak not just for myself, but for the entire staff at the DCSEU, when I say that we are proud of what we and the people of the District have accomplished this year. In partnership with our customers, we've reduced greenhouse gas emissions annually by 45,000 tons and saved enough electricity to power more than 6,000 homes for one year. Communities across the city welcomed the DCSEU at a record number of partnering retail stores and community events where, working with our staff, District residents learned how energy efficiency can save them money and reduce their carbon footprints. The DCSEU is transforming how the people of Washington, DC, perceive and manage their energy costs.

You'll notice that we have a new look that more accurately reflects our mission to help District residents and businesses make intelligent energy decisions. In this report, you'll see many more examples of how energy efficiency improves the lives of District residents throughout the city's eight Wards. And, with the unveiling of our new website in October, we're excited to offer an interactive home explorer for finding ways to reduce your energy use, and great information for minimizing your own impact on the environment. From a store locator for finding your neighborhood DCSEU retail partners to a comprehensive map of energy savings achieved by Ward, it is easier than ever to connect with the DCSEU and start saving energy.

The American Council for an Energy-Efficient Economy (ACEEE), the country's leading source of sustainable-energy industry knowledge, recently ranked Washington, DC, #7 among the nation's top cities in advancing energy efficiency. Further, ACEEE identified the DCSEU as one of the city's most prominent factors in this success. This achievement demonstrates that our job at the DCSEU is not only to offer practical energysaving solutions, but also to raise the bar on what a sustainable energy utility is capable of accomplishing for a city and its people. Working together with customers, the DCSEU continues to move the District forward as a national leader in energy efficiency. It is with confidence that we greet the next fiscal year embracing clear strategies, high enthusiasm, and hard work.



1. RESIDENTIAL





226,000

efficient lighting and appliances were sold through 50 retailers in all 8 Wards

49,500

CFLs were distributed to low-income households



178

in average annual whole-home energy savings per household

\$288,000

used to offset the costs of wholehome energy retrofits for low-income homeowners

CITY-WIDE SUSTAINABILITY EFFORTS ARE AT AN ALL-TIME HIGH, AND IT SHOWS.

More District residents than ever before took advantage of DCSEU initiatives in FY 2013 to reduce their home energy bills through energy-efficient lighting, appliances, and whole-home retrofits. This year, the DCSEU expanded its efficient product offerings from the CFL promotion launched in FY 2012 to a full range of efficient lighting and appliances: clothes washers, refrigerators, water heaters, boilers, furnaces, and LEDs-and offered even deeper discounts on CFLs. From renters taking a first step toward improving efficiency with DCSEU-discounted CFLs to homeowners using DCSEU incentives to complete \$12,000 Home Performance with ENERGY STAR® projects, the DCSEU offered assistance to all residents in reducing their energy consumption.

ENERGY SAVINGS IN YOUR NEIGHBORHOOD

Upgrading to energy-efficient lighting is a simple and low-cost step for reducing home electricity bills. This year, the DCSEU bought down the price of energy-efficient CFLs and LEDs so that 50 retail stores throughout the city's eight Wards could offer those lamps at an affordable price for District residents. At Annie's Ace Hardware in Petworth, CFLs were priced as low at \$0.49 each. "The savings provided by the DCSEU make a big difference," said Jenn Loss, Annie's Ace Lighting Product Manager.

Staff members reported that customers were pleasantly surprised at the low cost and that they were excited to start saving money on their energy bills. Using information and marketing materials provided by the DCSEU, Annie's Ace Hardware—and the DCSEU's other retail partners—help customers think about their lighting needs and provide customized product recommendations. In FY 2013, District residents brought home 218,600 CFLs and 6,300 LEDs purchased at partnering retail stores, and achieved annual home energy savings of \$1.5 million. When the first step to improving efficiency at home can be found right up the street, both retailers and residents benefit.

> In FY 2013, District residents brought home 218,600 CFLs and 6,300 LEDs from DCSEU retail partners with associated home energy savings of \$1.5 million.



WHOLE-HOME ENERGY SOLUTIONS



"I immediately saw the difference in my gas bill – it went from several hundred dollars to just \$80!" said Mrs. Cofield-Lynch. "It's a great program and I appreciated the opportunity to educate myself about energy efficiency." When homeowner Keisha Cofield-Lynch learned about the DCSEU Home Performance with ENERGY STAR initiative, she saw an opportunity to do the home energy improvements she had been thinking about for nearly a decade. For a second year, the DCSEU partnered with DC-based Industrial Bank to offer qualified homeowners up to \$12,000 in home improvement loans, with repayment forgiveness possible through the Federal Home Loan Bank of Atlanta. Mrs. Cofield-Lynch received a Federal Home Loan to undertake a comprehensive energy upgrade through the DCSEU Home Performance with ENERGY STAR initiative. Working with a local contractor, Mrs. Cofield-Lynch received whole-home air sealing, a programmable thermostat, a new boiler, a chimney cap, and attic insulation. Her 100-year-old house now stays cool during the summer and cozy in the

winter. "I immediately saw the difference in my gas bill—it went from several hundred dollars to just \$80!" said Mrs. Cofield-Lynch. "It's a great program and I appreciated the opportunity to educate myself about energy efficiency."

The DCSEU completed Home Performance projects with 45 homeowners in FY 2013, resulting in more than \$296,000 of work for local contractors.



BRIGHTENING THE COMMUNITY, ONE LIGHT BULB AT A TIME

Residents of the District come to Bread for the City for food, clothing, medical care, social services—and help in reducing their utility bills. In FY 2013, the DCSEU held six energy education events at Bread for the City's Northwest Center. After a consultation with DCSEU staff, food bank clients received regular and specialty CFLs at no charge, so that they could upgrade their home lighting. This year, the DCSEU distributed more than 46,000 CFLs through Bread for the City, amounting to \$265,000 in annual electricity savings for low-income District residents.

In addition to helping clients save energy, Bread for the City also worked with the DCSEU to cut its own energy bills. Through the T12 Replacement initiative, Bread for the City upgraded 151 inefficient T12 fluorescent bulbs to high-performance T8s in its Southeast location, resulting in annual savings of \$2,400. This reduction in yearly energy costs means that more of the organization's funds can be dedicated to client services. "When you provide crucial services to clients in need, every dollar counts. The energy savings we will continue to see from the DCSEU's lighting upgrade allow more funds to go toward the social services, legal representation, and medical care that are needed here in our community."

Melissa Frazier,
 Bread for the City

2. LOW-INCOME MULTIFAMILY





\$220 in average energy cost savings per household





RESIDENTS AND DEVELOPERS OF AFFORDABLE MULTIFAMILY HOUSING ARE REDUCING THEIR ENERGY COSTS THROUGH DCSEU INITIATIVES.

Energy efficiency keeps operating costs in check for building owners and helps them to maintain the affordability of housing for residents. The DCSEU works with developers from the projectplanning stage up to resident move-in on new construction and in major rehabilitation projects to ensure that efficiency measures are considered, valued, and properly installed. Residents also benefit from lower energy bills through efficient lighting and low-flow faucet aerators and showerheads, installed in their units by Districtbased contractors.

SAVINGS THAT MAKE A DIFFERENCE

Bass Circle Apartments, located in the Marshall Heights neighborhood of Southeast DC, underwent a major upgrade this year. Since its original construction in the 1940s, this 119-unit apartment complex had fallen into disrepair. In partnership with the DC Department of Housing and Community Development, Telesis Corporation renovated Bass Circle to offer tenants modern, energy-efficient units at affordable rents. Over the course of a full year, the DCSEU participated as a member of the development team, offering technical assistance and providing incentives to ensure that the renovation achieved the greatest possible energy savings. "We have tight budgets and the DCSEU helps to make these projects possible," said Reshma Holla of Telesis Corporation, the property developer and owner. "The money goes a long way to help a lot of people in affordable housing."

Each unit in Bass Circle now has improved insulation, new windows, a programmable thermostat, and an ENERGY STAR refrigerator, along with efficient heating and cooling, upgraded lighting, and a new water heater. These improvements will enhance resident comfort and reduce Bass Circle's annual energy costs for all units by \$65,000. Savings will both decrease tenant energy bills and lower operating costs for Telesis Corporation, helping them to maintain the affordability of the units. Now, this once-neglected complex is a model for comfortable, affordable, energyefficient housing in the District.

> "The DCSEU shares our commitment to build sustainable affordable housing, serve low-income residents, and help those most in need."

> > – *Laura Manville,* Telesis Corporation



GREEN JOBS FOR DISTRICT RESIDENTS



"Working with the DCSEU enables us to achieve our triple bottom line promise to save energy, money, and planet."

- Grant Tinney, Access Green



This fall, local contractors provided residents at Capital Park Plaza with CFLs and low-flow faucet aerators and showerheads to improve the buiding's energy and water efficiency. These upgrades will save Capital Park Plaza an estimated \$15,000 in annual energy costs. All installations were completed by District residents working for local contractors. DCSEU projects do more than save energy—they are making an impact in the local economy by creating jobs and opportunities for local businesses such as Access Green. "The DCSEU has developed into a true partner for small businesses like ours who for years struggled to engage in a developing market," said Grant Tinney, Director of Operations at Access Green. "The DCSEU's market transformation efforts have been a success." When the community is encouraged to embrace local talent and services, the economic benefits are felt throughout the city by residents and businesses alike.

3. RENEWABLE ENERGY





\$1.6 million in lifetime energy cost savings from

4,700 Mcf

in annual natural gas savings

renewable energy installations

750

low-income households provided with solar energy

S500

in average annual energy savings per household with solar PV

BUILDING A CLEAN ENERGY FUTURE

The District's renewable energy portfolio is growing through neighborhood cooperatives, large-scale arrays on commercial buildings, and installations on multifamily buildings and singlefamily homes. "The DCSEU continues to make renewable energy technology available to residents who would otherwise not have access to it. These projects are diversifying the District's renewable energy portfolio," said Mike Healy of Skyline Innovations, a DCSEU Teaming Partner.

In partnership with the DCSEU, District-based Certified Business Enterprise (CBE) contractors are training and hiring District residents to install solar thermal and photovoltaic (PV) systems throughout the city. These initiatives develop the city's green workforce and ensure that residents in every Ward benefit from clean energy.

RENEWABLE ENERGY FOR ALL

When the DCSEU launched the Small-Scale Solar initiative in FY 2012, the goal was to install solar PV systems on 20 homes belonging to low-income residents of Wards 7 and 8. The DCSEU quickly exceeded this goal and went on to complete installations for 110 qualified homeowners in Wards 5, 7, and 8 across FY 2012 and FY 2013. Each of these systems annually provides an average of 2.4 kW of electric generating capacity and reduces carbon emissions by nearly 3 tons per year. Participating residents benefit from no-cost electricity produced by the systems, which saves each customer an average of \$500 in annual electricity costs. Low-income households spend a greater percentage of income on energy costs, so utility bill savings have a significant and positive impact on household budgets. In addition, PV arrays protect roofing materials and extend the life of the roof. From energy savings to increased structural durability, solar PV systems

provide tangible, long-term benefits for low-income District homeowners.

"We are committed to providing all socioeconomic classes with access to solar PV systems and to training District residents to become solar installers, so Washington, DC, can become a leader in the burgeoning green economy."

> - *Mark Davis,* President of WDC Solar, Inc



HARNESSING THE SUN



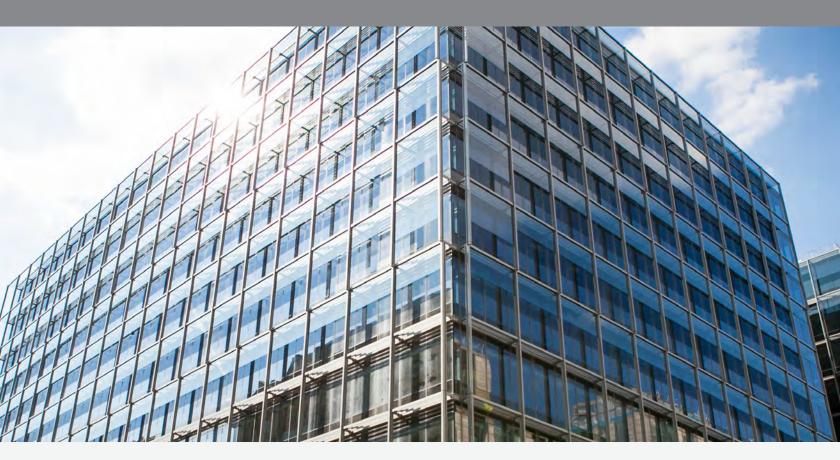
"Over the past three years, the DCSEU has given us the opportunity to build more solar energy projects, grow our business within the District, hire additional contractors, and pass on greater energy savings to District residents."

– Mike Healy, Skyline Innovations



After indoor heating and cooling, water heating is typically the largest energy load and cost for residential customers and property owners. In partnership with the DCSEU, local CBE contractor Skyline Innovations installed active, closed-loop solar hot water systems on 22 affordable multifamily buildings in FY 2013, serving more than 700 units. Using the sun's energy to heat water is highly energy efficient, and the contractor guarantees that energy costs will be reduced. The solar installation at 1 Hawaii Avenue in Northeast DC will save 42 residents an estimated total \$2,300 in annual energy costs. In addition, these systems contribute to one of Mayor Vincent Gray's Sustainable DC goals, which is to increase renewable energy generating capacity by 50%, from 2012 levels, by 2032.

COMMERCIAL AND INSTITUTIONAL







29,600 MWh in annual electricity savings



258 businesses and insitutions served





COMMERCIAL AND INSTITUTIONAL CUSTOMERS, FROM SMALL BUSINESSES TO THE CITY'S LARGEST ENERGY USERS, OFFER THE GREATEST ENERGY SAVINGS POTENTIAL FOR THE CITY.

Commercial and institutional uses comprise nearly 70% of the District's energy use. As a third-party resource, the DCSEU increased customer awareness of the benefits of energy efficiency and brought stakeholders together to undertake energy savings projects at hospitals, universities, hotels, office buildings, and embassies this year. To increase energy efficiency and meet the needs of this sector, the DCSEU offered a combination of rebates. incentives, and technical assistance. In FY 2013, the DCSEU made \$1.3 million available in incentives to support over \$12.5 million in energy improvements in commercial and industrial buildings in the District. Equipment rebates were available for energyefficient lighting, food service and vending, refrigeration, and HVAC products. Commercial customers also took advantage of DCSEU incentives to replace 4,800 inefficient T12 fluorescent lights with high-performance T8 systems-creating business for local contractors and jobs for District residents.

PROVIDING VALUE TO THE LARGEST ENERGY USERS

Hospitals never sleep. Their constant need for energy makes hospitals such as Children's National Medical Center (CNMC) some of the largest energy users in the District. Early in FY 2013, the DCSEU met with CNMC to better understand the hospital's sustainability goals and to help their Engineering and Sustainability teams develop a plan for energy improvements that aligns with capital asset planning. The DCSEU's technical analysis revealed significant opportunities for long-term gas savings through heat recovery projects, in addition to short-term electricity savings through the replacement of variable frequency drives on 3 chilled-water pumps. The projected annual savings for these comprehensive retrofits totals over \$220,000. To help further the hospital's mission of providing a holistic healthcare environment, the DCSEU

sponsored an exhibit at CNMC's 2013 Earth Day Celebration to help staff, patients, and their families explore ways to save money and energy in their own homes.

> "The DCSEU was so easy to work with. Their team really knows what they are doing."

> > Ekaterina Solovieva,
> > Manager of
> > Sustainability at CNMC



yed Campus

Children's National

Medical Center.

Nation's Children's Hospital

SERVING UP ENERGY SAVINGS

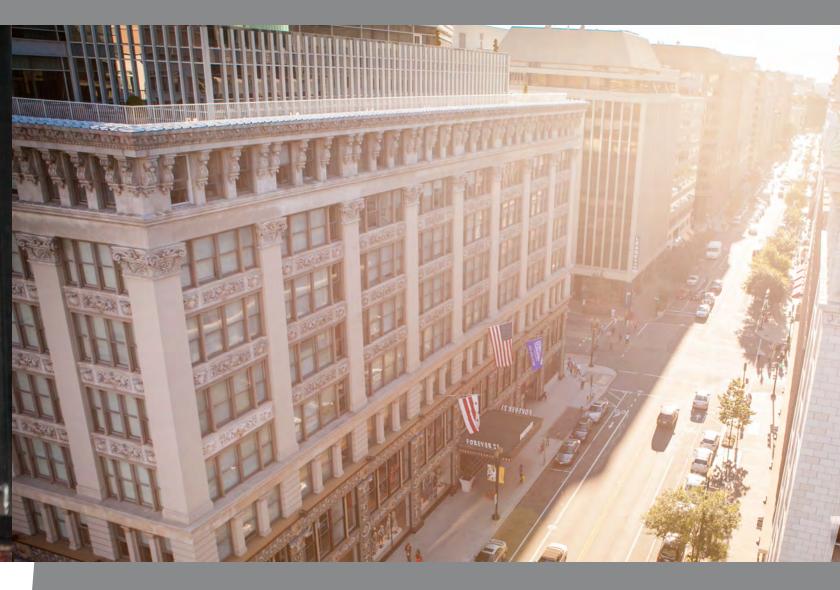


"You hear about energy inefficiency, but you're not sure about what you can do to fix it. DCSEU staff helped us understand how to save a lot of money and electricity."

> – Cullen Gilchrist, Union Kitchen

Union Kitchen, a food incubator business and industrial kitchen located in an updated warehouse just behind Union Station, provides a collaborative food preparation space for more than 40 culinary entrepreneurs. This summer, Cullen Gilchrist and Jonas Singer, coowners of Union Kitchen, approached the DCSEU to learn how they could make their operations more energy efficient. The kitchen's 14 ovens, 4 industrial refrigerator and freezer units, lighting, and HVAC units run for long hours at all times of the day and night. The resulting energy costs? High.

Through a site visit and walk-through evaluation, the DCSEU identified many opportunities for energy improvements. The DCSEU created an energy management plan for the space, using the customer's goals and findings from the site visit. Union Kitchen received \$2,000 in Business Energy Rebates for energy-efficient gas and electric kitchen equipment that will reduce their annual energy use by 60 Mcf and nearly 6,800 kWh. The new equipment not only will reduce the energy use of their operations, but also help keep costs down for their members. The result is lower energy bills—and happier chefs!



BENCHMARKING HELP CENTER

More and more cities around the United States have adopted building energy benchmarking and public disclosure policies. The District, a leader in this area, established energy benchmarking in its Clean and Affordable Energy Act of 2008, and met its first deadline for mandatory energy and water use reporting for large buildings on April 1, 2013. Benchmarking allows building owners to track and compare energy and water consumption across an entire portfolio of buildings. By law, these data are submitted to the District Department of the Environment (DDOE) annually for buildings over 50,000 square feet. More than 70% of those required to submit data this year received technical assistance from the DCSEU Benchmarking Help Center. The Help Center provided 11 hands-on training sessions for condominium boards, university sustainability offices, embassy staff, and commercial building owners and property managers. In partnership with the University of the District of Columbia, the DCSEU had access to computer training centers, where Help Center staff provided step-by-step instruction to building owners and their representatives on the use of the U.S. Environmental Protection Agency's Portfolio Manager benchmarking tool. Through a hotline service and in-person training, the Help Center fielded more than 1,000 requests for assistance and made it easier for hundreds of businesses to comply with the District's benchmarking regulations.

IN THE COMMUNITY





30 earned media appearances



70%

65

efficiency in the District. This year, the DCSEU was by 70% above FY 2012 totals. Using interactive displays,

Starting in October 2012, the DCSEU began a yearlong the DCSEU. The primary energy sources are represented toward energy savings.

GREEN JOBS



The DCSEU is committed to sustainable energy, community engagement, and economic development. With these commitments in mind, all DCSEU jobs and contractor positions, both internal and external, are offered at or above the City's Living Wage. In FY 2013, more than 400 District residents were employed full- or part-time in support of DCSEU initiatives, and District residents accounted for 83% of the total workforce employed by the DCSEU and its contractor network. Both the DCSEU and its contractors rigorously document green job hours towards the DCSEU Performance Benchmark of creating 77 full-time equivalent jobs for District residents.

The growth and development of any city or organization requires the growth and development of its people. An organizational goal in FY 2013 was to continue to build the DC-based team and to cultivate local expertise through hiring and training. Thirteen individuals joined the DCSEU team as full-time staff members in FY 2013 and 9 more joined as interns – all District residents. DCSEU interns gained experience and built strong professional networks, enriching their educational experience and helping them to acquire positions in the industry.

The DCSEU is a gateway for green jobs, not just within the DCSEU, but throughout the city. Through its workforce development and internship programs, the DCSEU prepares local jobseekers for careers in energy efficiency and related fields. Just one month after the end of the Department of Employment Services (DOES) Onthe-Job Training program, five DCSEU Data Collection Assistants (DCAs) were hired for full-time positions with District-based firms. During their training year with the DCSEU, the DCAs participated in professional development workshops and gained project experience useful to their employment in the growing energy and sustainability sectors of DC.

of DCSEU hires are District residents

spent with 33 District-based CBEs

« 400

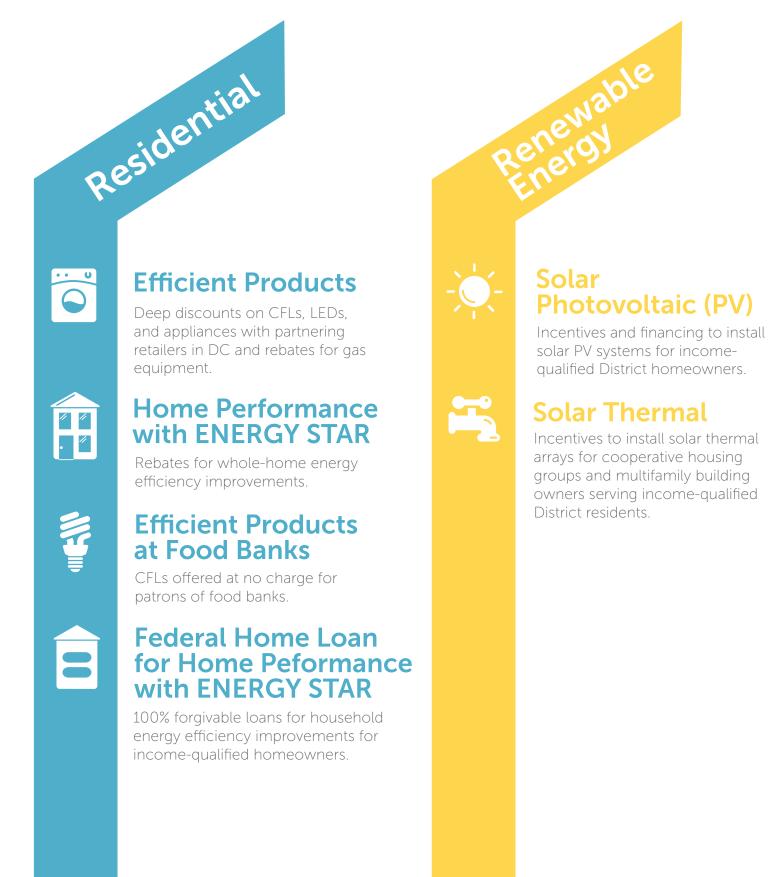
District residents worked in support of DCSEU inititiatives



13 hires referred to the DCSEU from the DOES

FY 2013 INITIATIVES

This year, the DCSEU offered 12 energy efficiency and renewable energy initiatives to serve customers in four core sectors: Residential, Low-Income Multifamily, Renewable Energy, and Commercial and Institutional.



Ê

Low-Income Multifamily Comprehensive

ow-income Nultifamily

> Custom technical and financial assistance for energy efficiency improvements in multifamily properties.

Low-Income Multifamily Contractor Direct Installation

Direct installation of CFLs, low-flow faucet aerators and showerheads, hot water tank wrap, and pipe wrap in lowincome multifamily properties.



Business Energy Rebates

connercial & Institutional

> Rebates for energy-efficient lighting, heating, refrigeration, cooking, and other qualifying equipment.

T12 Lighting Replacement

Incentives for customers to re-lamp and re-ballast existing T12 fixtures with high-performance T8 lamps and ballasts.

Benchmarking Help Center

Guidance on benchmarking energy and water use, using the EPA Portfolio Manager tool to report to the District Department of the Environment.

Commercial & Institutional Custom

Technical assistance, account management, and financial incentives for energy efficiency projects.

PERFORMANCE BENCHMARKS



PROGRESS IN FY 2013

Electricity consumption was reduced by 50,361 MWh, a 134% increase over FY 2012 yields.

Savings in natural gas consumption increased 567% over FY 2012 performance. This significant increase is attributed to the development of large gas savings projects in the Low-Income Multifamily and the Commercial and Institutional sectors. In the fourth quarter of FY 2013, the DCSEU launched a residential gas appliance rebate initiative. With an initiative in place, the DCSEU anticipates additional savings in this sector in the coming year.

DCSEU activity in FY 2013 also reflects a substantial increase in spending on natural gas efficiency from FY 2012. In proportion to the revenues that are contributed by the respective utilities to the Sustainable Energy Trust Fund, the DCSEU committed 18.4% of funds to natural gas savings and 81.6% to electricity savings.

The DCSEU is committed to reducing the burden of energy costs for low-income households. The DCSEU exceeded the minimum Performance Benchmark of \$4.6 million, spending more than \$5.6 million in the low-income community. The pipeline of opportunities established early in FY 2013 bolstered the DCSEU's ability to complete more cost-effective projects. This log of potential customers allowed the DCSEU to participate during the planning and development phase when energy upgrades can most easily be specified and incorporated into project plans.



Table 1. FY 2013 Performance Benchmarks and Minimum Requirements

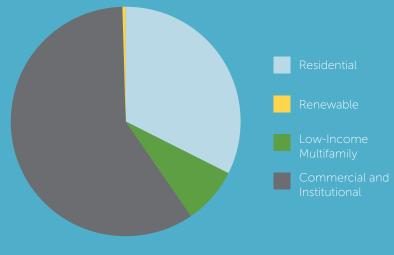
Category	Item	Description	Metric Unit	Benchmark Minimum	FY 2013 Results ¹
Performance Benchmarks					
		Reduce per-captica consumption - Natural gas ²		272,000	
		Reduce growth in peak demand		2,000	7,468
		Reduce growth in energy demand of largest users	Benchmarked has not been defined		
Minimum Requirements					
		Expenditures with Certified Business Enterprises	50% of expenditures on Implementation Contractors	\$2,733,542	\$4,562,818
	9b	Annual expenditures related to natural gas energy efficiency	Program expenditures that reduce natural gas consumption, allocated to sustainable energy activity	\$2,310,000	\$2,900,659

* Results to be verified through DDOE's evaluation, measurement, and verification contractor.
2 Represents the Mcf savings for gas efficiency measures installed with interactive effects due to waste heat adjustment from the installation of energy-efficient lighting measures. Gross annual gas savings are 73,650 Mcf.

³ Estimate subject to final verification of green job bo



ENERGY SAVINGS BY SECTOR



Overall electricity consumption in the District was reduced by more than 50,000 MWh. Over 59% of total electric savings came from the Commercial and Institutional sector.

Figure 1. Electricity savings by sector

Economic benefits

DCSEU work completed in FY 2013 will generate more than \$80.6 million in lifetime economic benefits for District ratepayers over the life of the measures installed. When compared to \$15.8 million in program costs, it is evident that the District is accruing significant value from the dollars invested in energy efficiency and renewable energy.

Table 2. Lifetime economic benefits and annual customer savings

	Residential Customers	Commercial and Institutional Customers	Total
Lifetime economic benifts ¹	\$19, 728,614	\$60,877,744	\$80,606,358
First-year annual energy cost reduction ²	\$2,555,214	\$4,255,856	\$6,811,070

¹Lifetime economic benefits are defined as the present value of the avoided cost of energy for the life of each measure installed.

² First-year annual energy cost reduction equals the estimated savings in energy costs, at average retail rates, for the first 12-month period in which the efficiency and / or renewable energy measures are in operation.



Budgeted and actual expenditures

Table 3. FY 2013 budgeted and actual expenditures

Delivery of Services	Annual Plan Budget	Actual Expenditures
Residential initiatives	\$2,876,066	\$1,466,634
Low-Income Multifamily initiatives	\$2,821.012	\$2,822,736
Renewable Energy initiatives	\$1,186,240	\$1,735,777
Commercial and institutional initiatives	\$6,593,755	\$7,211,128

Support Services	Annual Plan Budget	Actual Expenditures
Administration	\$1,556,588	\$2,079,062
Information technology	\$366,339	\$486,660
Total ¹	\$15,400,000	\$15,801,997

¹The final budget reflects a \$400,000 increase approved in July 2013.



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