

Annual Energy Sustainability Report

Office of Energy and Sustainability, Department of General Services, Montgomery County Government

I. Background:

A. Scope

The Office of Energy and Sustainability (OES) was established within the Department of General Services (DGS) to implement comprehensive and crosscutting initiatives to reduce the environmental footprint of County operations.

This report documents activities by the County Government to reduce the environmental footprint of operations. This includes key efforts by the Department of General Services and other partner Departments. This document represents a significant piece, but not the full breadth of efforts to green operations. Over the next year, OES will work with County Departments and other stakeholders to compile information on Montgomery County Government sustainability and energy measure into a common annual report.

B. Responsibilities:

Montgomery County Council Bill 6-14 defines the Office of Energy and Sustainability's responsibilities as:

- Develop an energy baseline, energy unit savings plan, and energy cost savings plan for the County's building portfolio;
- Develop a comprehensive plan to reduce the energy consumption and impact of fleet operations, which may include the use of alternative fuels, reductions in vehicle miles traveled, improvements in vehicle efficiency, or vehicle electrification;
- Execute plans to use Energy Performance Contracting to improve the efficiency of County buildings;
- Develop and execute the County's renewable energy plans, including the purchase of renewable energy and deployment of solar and other clean energy sources across County facilities;
- Coordinate with the Office of Procurement to develop green and environmentally preferable purchasing plans;
- Develop initiatives, plans and projects to reduce the environmental impact of County operations and foster a culture of sustainability within the County Government; and
- Prepare and submit data summarizing efforts to reduce the environmental impact of County operations to any annual Sustainability report prepared by the County.

OES works closely with peers across the County to foster cross-departmental initiatives and joint projects. OES focuses on facilitating actions, reporting on progress of County government focused green initiatives, and overseeing innovative high-value projects. OES is undertaking the following actions:

- Administer utility purchasing and management.
- Implement public private partnerships to install onsite solar, wind, and microgrid installations on County facilities.

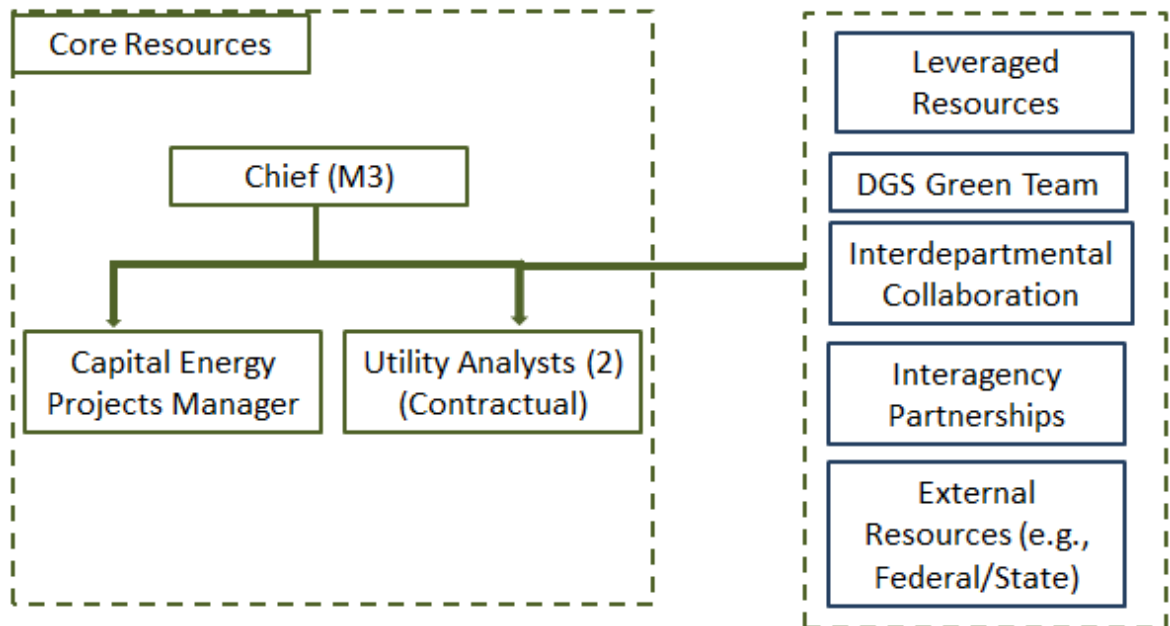
- Coordinate green initiatives across DGS including building design and construction, maintenance and fleet efforts.
- Coordinate expansion of green purchasing activities with the Office of Procurement
- Advise and serve as an internal knowledge base to County Departments on sustainability and energy issues.
- Collect and disseminate information on County sustainability efforts to peer Departments, Agencies and the general public
- Collaborate energy and sustainability metrics with CountyStat and the Office of Management and Budget
- Identify innovative and new ways to embed sustainability into County business and operational practices.
- Seek external resources and partnerships to advance County sustainability projects.

C. Structure and Resources:

Staffing

OES is currently staffed with one Chief, a Capital Projects Manager and two contracted utility analysts.

Organization Chart:



The Office organized a collaborative network of staff from each Division of DGS - a “Green Team”. The “Green Team” is a Departmental pilot, but DGS ultimately envisions working with peer departments to establish their own teams to foster a culture of sustainability in County operations. The County has invited other departments to participate in team activities.

The team will contribute to a sustainable operations plan with green actions related to energy, air, water, fleet, environmentally preferable products, innovation and more across County operations. Team members will also serve as ambassadors to Green day-to-day work activities amongst their peers. The team will rotate periodically and is encouraged to form green “squads” in their home Divisions and Offices.

The “Green Team”



Front Left to Right: Anita Brady (OHR), Annette Cheng, Eric Coffman, Brenda Salas (Formerly OHR – left organization since photo), Brian Donohue, Grace Denno, Maurice Betaharon, Yung Kang, Angela Dizelos. Back Left to Right: Bob Norris, Ernie Lunsford, Lisa Alderson, Jan Wilson (Retired), Homer Bakhtiary, Hamid Omidvar, Calvin Jones, Peter McGinnity, Victor Sousa. Not Shown: Melissa Boone-Miller (OHR), Cindy Brenneman, Rassa Davoodpour, Bill Griffiths, Richard Jackson, Pam Jones, Rick Taylor, Ronnie Warner, Doug Weisburger (DEP) Jennifer Woofter (Facilitator – Strategic Sustainability Consulting)

Leveraging Utility Budgets

A key component of the County’s sustainability strategy is to leverage the County’s Utilities NDA and other utility budgets to fund improvements to facilities, long term contracts for energy from sustainable sources, and other cost savings opportunities. This approach allows the County to spend utility budgets effectively with the same end result. Similar to an Enterprise fund, paying for the utility savings, capital cost avoidance, and other operational cost reductions through energy savings. For example, the County is funding its Energy Performance Contracting initiative by shifting funding from the utilities NDA to the County debt service fund where energy savings pay for the principle and interest of debt. The County is also leveraging its energy purchasing authority to create long term contracts for renewable energy hosted on County facilities. These systems are designed, financed, built, owned and maintained by third parties. The County agrees to purchase the electricity for a long period of time at a cost-effective negotiated rate. Similarly, the County is developing comprehensive microgrids on County facilities that combine efficient gas driven generator, energy storage, energy conservation measures to provide uninterrupted energy supply for critical facilities while containing energy costs.

II. County Government Green Efforts and Achievements:

Below is a summary of key accomplishments and efforts by DGS Divisions and other in coordination with OES:

A. Energy Efficiency and Conservation:

- Executing a contract for an advanced energy data management system to process, validate, and analyze utility data. The system will allow DGS to identify savings opportunities, track the results of improvements, and automatically performance benchmark projects.
- Developed, in partnership with the Institute for Market Transformation (IMT), a green leasing tool to assist in negotiating future leases that include utility data transparency, energy efficient building systems (e.g., lighting, heating and cooling) and other green features (e.g., electric vehicle charging stations).
- Initiated a six year plan with \$81 million dollars of alternative financing, to implement energy efficiency improvements to over a dozen facility vial energy performance contracting. The County has completed the first of these projects, a \$4.1 million dollar retrofit of the 401 Hungerford Building which is anticipated to reduce costs by over \$159,000 annually and reducing the County's greenhouse gas footprint over 650 metric tons carbon dioxide equivalent (MTCO₂E). Three additional projects are underway, with a pipeline of additional projects in planning.
- Implemented a demand response program to reduce peak electricity consumption in County facilities. The County's participation in this program contributes to efforts to preserve the regional utility grid during periods of peak demand. The County has received rebates exceeding \$70,000 for its efforts.
- Constructed 14 United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) facilities with additional buildings in planning/design. Facilities incorporate a variety of green features including on-site renewable energy systems, vegetative roofs, energy efficient building features, and water capture and reuse.

B. Alternative Energy and Clean Energy Purchasing

- Issued a Request for Energy Proposals (RFEP) for Solar Photovoltaic Systems on County facilities. The County awarded the Contract to SolarCity Corporation. The county has contracted for solar on 13 facilities, including 15 individual solar arrays. The project as contracted totals over 5 megawatts of capacity, generating enough power for 500 single family homes.
- Issued an RFEP for additional 11 solar projects reserved for Local Small Business Reserve Program (LSBRP) participants. Responses due April 24, 2015.
- Purchased 50% of the County's electricity supply from renewable sources in FY15, an increase of 30% from FY14. The County will purchase 100% clean electricity in FY16.
- Issued an RFEP for microgrids on three County facilities including Public Safety Headquarters, the Equipment Maintenance and Transit Operations Center (EMTOC), and the Clarksburg Correctional Institution. Microgrids localize energy generation to enhance reliability, reduce operating costs, and generate cleaner power than the utility grid. The County received 14 responses and created a short list of 6 companies, final proposals are due April 23, 2015.

C. Fleet Reductions and Transportation Efficiency

- Developed a County Green Fleet Plan, establishing a long term fuel neutral approach to an efficient, environmentally responsible fleet.
- Reduced fleet size by 350 vehicles while maintaining the same level of functionality.
- Increased the number of Alternative Fuel Vehicles from 491 in FY09 to 787 in FY14. This includes vehicles powered by ethanol, compressed natural gas, and electricity.
- Increased consumption of alternative fuels from 18.7% in FY09 to 22% in FY14.
- Increased the average fuel efficiency of the administrative fleet from 14.5 miles per gallon (MPG) in FY12 to 25.5 MPG in FY14.
- Increased the average fuel efficiency of the public safety fleet from 12.3 MPG in FY12 to 15.6 MPG in FY14.
- Deployed the electric charging infrastructure to support the County's Electric Vehicle Pilot. This includes 8 charging stations to support five electric vehicles and ten plug hybrids.
- DGS anticipates deploying charging stations available for public use in FY15.
- Deployed an innovative telematics pilot to track the idling time of select administrative vehicles. The results of this pilot have been used to provide feedback to users. For vehicles under the pilot, idling time has been reduced 40%.
- Preparing comprehensive plans for heavy duty vehicle electrification, including a proposed pilot for three electric buses.

The County is not currently using biodiesel due to performance issues incurred in previous pilots. The County is evaluating options to incorporate biodiesel into County operations. The County's primary focus is a fleet that is fuel neutral, emphasizing improved fleet efficiency, optimization and right sizing.

D. Green Purchasing

- The Office of Procurement and the Montgomery County Interagency Purchasing Committee – Green Initiative developed a comprehensive web tool to help County purchasing staff and project managers select green products or services. The website includes a green policy, green guidelines and a tool-kit to assist purchasers in vetting appropriate options.
- Added Montgomery County Green Business Certification as a searchable field in the County's vendor database, enabling buyers to identify suppliers that incorporate green practices in their operations.
- Conducted an office supply fair featuring an expo of green products concurrent with the launch of the County's new office supply contract.
- Eliminated expanded and rigid polystyrene (Styrofoam) from County food contracts.
- Participated in regional discussions to foster expanded purchasing of environmentally preferable products and services.

E. Central Duplicating

- Purchased 35% post-consumer content paper, with a goal of buying 50% recycled, for all print shop supplied paper.
- Instituted the new copier contract that includes a wide variety of energy and cost saving features. The copiers require that a user swipe their badge to print; copiers delete

unprinted files; default to black and white; double sided printing, and allow users to delete unwanted files. Combined, these features have saved 529,000 sheets of paper equivalent to over 15 MTCO₂E of greenhouse gas emissions and 814,000 gallons of water savings.

- Collected and recycled used copier toner cartridges from County printers at key facilities
- Preparing to issue a request for proposals Request for Proposals (RFP) for Forest Stewardship Council – Chain of Custody Certification (COCC). COCC recognizes organizations that are incorporating sustainable practices throughout the lifecycle of the product and service.
- Launched “digital storefront” that will allow print jobs to be ordered online, eliminating paper requisition forms.

III. Recognition and Awards:

- Montgomery County was designated a *Maryland Smart Energy Community (MSEC)*, receiving a total of \$1,000,000 of grant funds over the last two years.
- Received Five National Association of Counties awards for sustainability focused initiatives to reduce energy consumption, enable smarter growth, and cutting edge green facilities and campuses.
- The Montgomery County Clean Energy Purchasing Group is currently ranked Number 5 amongst local government purchasers of renewable energy and 22nd amongst all purchasers tracked by the Environmental Protection Agency’s (EPA) Green Power Partnership.
- Montgomery County was recognized by the White House for its aggressive commitment to develop 6 MW of renewable energy across the County portfolio.
<http://www.whitehouse.gov/the-press-office/2014/09/18/fact-sheet-white-house-announces-executive-actions-and-commitments-acros>

IV. Upcoming Initiatives:

OES is currently expanding efforts as the Office’s infrastructure is established. Key upcoming efforts through FY16 include.

- Coordinate Countywide core sustainability goals and plans, in partnership with CountyStat and all Departments.
- Developing an annual report and sustainability scorecard to communicate progress towards key goals, analogous to a Corporate Sustainability Report.
- Providing energy performance and other indicators in key public facilities.
- Expanding outreach initiative to educate the Montgomery County community on the green efforts underway in County facilities.
- Developing a renewable energy goal and standards for incorporating renewable energy into new and existing public facilities. These standards will be incorporated in the County via Executive Regulation.
- Develop and maintain analytical efforts to track and report on the social cost of carbon. The social cost of carbon is the U.S. Environmental Protection Agency’s estimate for the amount of global social harm from the emission of greenhouse gases.