



Department of Commerce

# Energy and Environmental Quarterly

U.S. Department of Commerce; Office of Facilities and Environmental Quality;  
Office of Sustainable Energy and Environmental Programs

## Best Year Yet for Sustainability

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Under Executive Order 13693, Planning for Federal Sustainability in the Next Decade, Federal agencies are required to submit at the end of January each year to the Office of Management and Budget (OMB) and the White House Council on Environmental Quality (CEQ) the annual sustainability data report, including the comprehensive greenhouse gas (GHG) inventory, and the annual Sustainability Scorecard. On March 17, at the quarterly Chief Sustainability Officer (CSO) meeting hosted by CEQ, the Department of Commerce (DOC) received its final fiscal year (FY) 2015 Sustainability Scorecard back from OMB and it was the best scorecard the

Department has ever received. DOC is currently ranked 5<sup>th</sup> on sustainability performance among federal agencies. This is a tremendous achievement because, just several years prior, the Department was ranked at the bottom. At the CSO meeting, OMB recognized the Department as the most improved agency. The Department received green ratings for “actions completed” and “planned actions” and achieved the results in the table below in FY15.

Congratulations to the sustainability network throughout the Office of the Secretary and the Bureaus –all your efforts have had a substantive impact that has been recognized at the fed-

eral level. Thank you to every employee for your efforts in reducing your office’s impact on the environment, from turning off lights, to taking public transportation, to printing on double sided paper, to fueling your federal vehicle with alternative fuel. You are making a difference! Look out for Broadcast messages that announce webinar training opportunities to learn more about DOC’s Sustainability Program and how we track our performance.



### Write For Us

If you are a Department of Commerce Employee and you would like to contribute an article to this newsletter, please forward your article and contact information to [gogreen@doc.gov](mailto:gogreen@doc.gov)

- 15% reduction in GHG scope 1 emissions from FY2008 (target = 12.25%)
- 11% reduction in GHG scope 3 emissions from FY2008 (target = 3.5%)
- 27% reduction in energy intensity from FY2003 (target = 30%)
- 10% of total electricity consumption was renewable (target = 7.5%)
- 31% reduction in potable water intensity from FY2007 (target = 16%)
- 40% reduction in fleet vehicle petroleum consumption from FY2005 (target = 20%)
- 12% of buildings meet the Federal Guiding Principles for Sustainable Buildings (target = 15%)



## Lead In Drinking Water

Because of its physical properties, lead has a long history of practical use. Historically it has been used for many common items. Romans used it in their plumbing, dinnerware, and kitchenware. The root word for plumbing and plumber is the Latin word, *plumbum*, which is also the origin of its chemical symbol Pb.

Lead toxicity has been in the news recently due to the adverse impacts of high levels of lead in drinking water in Flint, Michigan. The harmful effects of lead on humans has been referenced in ancient times and quantified in more recent times. Children and pregnant women are more vulnerable to lead exposure than adults. According to the Mayo Clinic, "lead poisoning occurs when lead builds up in the body, often over a period of months or years. Even small amounts of lead can cause serious health problems. Children under the age of six are especially vulnerable to lead poisoning, which can severely affect mental and physical development. At very high levels, lead poisoning can be fatal."

Plumbing materials are a

major cause for lead entering drinking water. Various factors can contribute to lead entering drinking water. One condition that contributes to lead entering the water is the quality of water. Water with corrosive characteristics corrodes the pipes and fixtures that it contacts, which is what occurred in Flint. According to the Environmental Protection Agency (EPA), other factors that contribute to lead entering the water include how long the water stays in the plumbing materials, the presence of protective scales or coatings inside the plumbing materials, and the temperature of the water. The EPA also states that "the most common problem is with brass or chrome-plated brass faucets and fixtures with lead solder, from which significant amounts of lead can enter into the water, especially hot water. Homes built before 1986 are more likely to have lead pipes, fixtures and solder. However, new homes are also at risk: even legally "lead-free" plumbing may contain up to eight percent lead."



To address lead exposure through drinking water systems, EPA amended the Safe Drinking Water Act (SDWA) in 1986 to address the use of lead solders, flux and pipes in public water systems, and in 1996 it added the Lead and Copper Rule (LCR). The LCR established lead monitoring protocols (at customer taps) to identify potential problem areas. It also required water system to control their water for corrosivity to prevent lead from entering drinking water. Additional information on the LCR is available at <https://www.epa.gov/dwreginfo/lead-and-copper-rule>.

Various methods are available to find out the quality of your drinking water. If you are on a community water system, EPA requires these systems provide an annual water quality report, referred to as a Consumer Confidence Report (CCR) to their customers annually by July 1.

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### Lead Effects on Children

Even low levels of lead in the blood of children can result in:

- Behavior and learning problems
- Lower IQ and Hyperactivity
- Slowed growth
- Hearing Problems
- Anemia



# Energy and Environmental Awards Ceremony



On April 21, 2016 the Department of Commerce participated in its annual Earth Day celebration at the Herbert C Hoover (HCHB) Building. Earth Day is celebrated worldwide to bring together millions of people to share ideas that promote energy efficiency and sustainable practices that increase environmental stewardship, conservation, and awareness. The HCHB building served as a platform to facilitate active discussions and educational initiatives by displaying and explaining green and energy efficient products, services, and programs that address the on-going environmental concerns we have today. The Department hosted several governmental organizations, non-profit organizations, and businesses that are environmentally focused in the HCHB main lobby, where they were able to share information about their products and initiatives and explain how they contribute to making a more sustainable planet. The exhibitors ranged from community bicycle and animal welfare advocacy groups, to LED lighting and energy efficient window displays.

As concerns about the environment keep growing, our own bureaus within the Department have stepped up and found innovative ways to reduce their carbon footprint as well as improve the quality of life of their employees. To commemorate these efforts and as part of the Earth Day 2016 celebration we hosted the Department of Commerce's 9<sup>th</sup> Annual Energy and Environmental Stewardship Award Ceremony in the HCHB Auditorium. The Ceremony recognized the outstanding contributions of 7 winning teams representing multiple Commerce Bureaus in five categories: Energy and Water Management; Recycling; Green Dream Team; Alternative Fuel and Fuel Conservation in Transportation; and Lean, Clean and Green. The awarding officials, Ellen Herbst, the Department's Chief Financial Officer, Assistant Secretary for Administration and Chief Sustainability Officer, and Lisa Casias, the Department's Deputy Assistant Secretary for Administration, recognized the innovative and creative efforts demonstrated by the award recipients who have integrated energy conservation and environmental excellence into their primary mission.

The Department of Commerce leads by example and has made environmental stewardship a pillar of its strategic plan. In the years to come, the Department plans to reduce greenhouse gas emissions and facility energy intensity while increasing the quantity of consumed electricity derived from renewable sources through the application of performance-based energy savings contracts. In conjunction with other initiatives--Trade and Investment, Innovation, Data, and Operational Excellence--these environmental drivers are paramount and pave the way for American businesses to thrive.

Earth Day 2016 also marks the 3rd Anniversary of the HCHB Green Store. The concept is very simple. Employees turn in excess office supplies to the Green Store. Other employees can then shop for free office supplies they need. The concept is so popular; a line typically forms outside the door before the store opens. In three years, the Green Store has accumulated over \$450,000 in cost avoidance and savings. Most importantly, it has diverted tons of materials from landfills. The Department has seen a paradigm shift in the way people think about storing office supplies through the use of the Green Store to share excess office supplies with each other.

The Department of Commerce strives to challenge the status quo and demonstrate how sustainable practices continue to reduce our carbon footprint which makes us more resilient to change and improves our ability to create the conditions for economic growth and opportunity.



# THE UNITED STATES DEPARTMENT OF COMMERCE'S ENERGY AND ENVIRONMENTAL STEWARDSHIP AWARDS 2016

## *In the Category of:* Energy and Water Management

**Winner:** United States Patent and Trademark Office; Alexandria, Virginia Headquarters

**Team:** Sudan Saha, Roxanne Fuhrman, Maren Williams, Edward Stratchko and Phil Weber

*The team executed a successful replacement of the lighting in their two parking garages at the Alexandria Virginia campus exchanging metal halide lamps for light emitting diodes which use 65 percent less energy resulting in \$95,000 in utility savings a year.*

**Runner Up:** National Oceanic and Atmospheric Administration; National Marine Fisheries Service

**Recipient:** Rob Vivian

*Mr. Rob Vivian is recognized for his creative ingenuity in recovering waste condensate from a Heating, Ventilation and Air Conditioning system to be reused as make-up water for the National Marine Fisheries Service Pascagoula Mississippi laboratory cooling towers.*

## *In the Category of:* Recycling

**Winner:** National Institute of Standard and Technology; Boulder Campus Green Team

**Team:** Mary Gorman, Todd Harvey, John Lowe, Andrew Novick, Dawn Weller, Shannon Kelly, Leila Vale, Bob Hickernell, Donald Archibald, James Burrus, and Katie Webb.

*This group is being awarded for its efforts to make the National Institute of Standards and Technology (NIST) Boulder campus a sustainable world class workplace through a dramatic increase in recycling.*

## *In the category of:* Green Dream Team

**Winner:** National Oceanic and Atmospheric Administration; Headquarters Green Initiatives; Silver Spring Metro Center

**Team:** Timothy Ballard, Robert Coulson, Roy Eckert, David Quivey, Aida Roxas, Jim Phelan, and the Foulger-Pratt Building Management team

*This group is being recognized for its outstanding work to develop and incorporate a large number of Energy Conservation Measures into the new lease for the National Oceanic and Atmospheric Administration's Silver Spring Metro Center Campus.*

## *In the category of:* Alternative Fuel and Fuel Conservation in Transportation

**Winner:** The United States Patent and Trademark Office

**Team:** Jim Nowack, Sudan Saha, Edwards Stratchko, and Phil Weber

*The group took a creative approach to providing electric vehicle charging capability to its employees by retrofitting existing electrical outlets at the onsite garage facilities.*

**Runner Up:** National Oceanic and Atmospheric Administration; Ship Hi'ialakai

**Team:** James Johnson, Julio Lorenzo, Nicholas Tontarski, Kyle Chernoff, CDR Daniel Simon, LCDR Amanda Goeller, LT Faith Knighton, Kelson Baird, LT Kelli-Ann Bliss, LTJG Steven Solari, ENS Bryan Stephan, and ENS Terril Efird.

*This group improved the energy efficiency and reduced its environmental impact by reducing emissions through more intelligent operations by the bridge watch standind team which allowed for more efficient transit speeds limiting generator use significantly.*

## *In the category of:* Lean, Clean, and Green

**Winner:** The Department of Commerce's Energy Savings Contract Team

**Team:** Thomas Sherman, Tina Jorae, Michael Boisclair, David Meyer, Bernard Brusko, Stephen Jennison, George Potts, John R. Bollinger, Jessica Caraway, Ruben Rodriguez, Benjamin Schulz, David Quivey, Michael Grady, Jane Cerda, Molly Baringer, Dalynne Julmiste, CDR Stephen Meador, William Becker, Ashok Desai, Ray Hermes David Petre, Timothy Hoseth, Lynn Flanagan, Rob Tomiak, Jennifer Brundage (USEPA), and Doug Dahle (DOE/NREL)

*This team is recognized for their diligent team efforts over the past few years to develop and award 5 extremely complex long-term alternatively financed energy contracts valued at a total of \$138 million dollars. The contracts put in place are cost neutral and generate a guaranteed annual savings for the Department, starting at \$5 million in the first year and growing to over \$7 million per year over the course of the next 22 years.*

## The HCHB Green Door Challenge

How many of you can say you have never hit the automatic door button to open a door for you? I know we are all guilty of it now and again. Was it necessary? Could you have simply opened the door on your own, maybe burning a few extra calories in the process? We live in a time where technology has presented us with luxuries that are being introduced daily and make everything in our lives more and more convenient. We can order rides with a click of a button on our phones and never have to open our wallet. We can order a pizza instead of going out to the store to cook one. While these are all great, have some of these new services actually made us lazier? This brings us to the automatic door button on the building door. At its essence, the button makes opening doors to get to work easier for the elderly or individuals with disabilities. But are these individuals the only ones using the automatic door button? According to a study at

Stanford's Psychology Department, nearly 75% of the people that press the button are not physically disabled and are more than capable of opening the door themselves without aid. This should not come as a surprise to anyone since anytime you are in a public space where this button exists; you've most likely seen able-bodied people utilizing them. Despite the fact that it's much quicker to open the door yourself, people will still press it and wait for the doors to slowly open. This is a habit that should be broken for those of us who don't truly need it. Opening the door yourself may not be as convenient, but pushing this button unnecessarily has its drawbacks as well. Put simply, it wastes electricity. Every single time the button is pressed the door uses electricity. The more times it is pushed, the more electricity, and the more likely it will malfunction/break which then makes it less available to individuals who actually need

it. The slow movement of the opening and closing associated with the button also lets more air in and out, wasting the building's heat or air conditioning. A study conducted by Northern Kentucky University (NKU) actually attempted to put a dollar amount to the loss associated with irresponsible use of the automatic door. A firm near the campus, Kohrs Lonneman Heil Engineers, estimated that it cost 2 cents every single time one of the buttons was pushed. This may seem like peanuts, but this adds up quickly. Here at the Herbert C. Hoover Building, it is probably a safe assumption that each automatic door button is pushed a lot due to the morning arrivals, evening departures, coffee breaks, lunch breaks, meetings, and many other opportunities to transit the main doors to the building. Just one automatic door button pushed 1,000 times equates to \$20 a day based on the current price of electricity. The Department

of Commerce currently 57 automatic doors at HCHB so you can imagine this adds up quickly. Aren't there higher priorities for our constrained budget? The NKU newspaper reported that the buttons cost the University more than \$7000 per week which equates to \$364,000 a year. Opening the door yourself is not only a healthy option for those that are capable, but it saves electricity and can make a big impact for the Department's quest to reduce electricity consumption and greenhouse gas emissions. So the next time you go to use that button, take our "Green Door Challenge." Remind yourself of this article and open the door yourself, if you can!

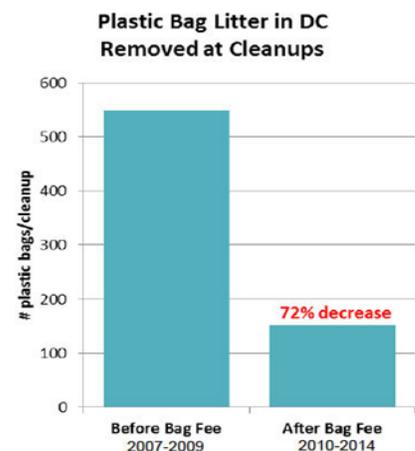
## DC Bag Tax: The Data Proves Its Working!

First introduced in the 1970s, plastic bags now account for four out of five bags handed out at the grocery store. The success of the plastic bag has meant a dramatic increase in the amount of bags floating in the oceans where they choke, strangle, and starve wildlife. They are commonly mistaken for food by animals, especially when the bags

carry food residues and are animated by the movement of water. If swallowed whole, animals may not be able to digest real food and will die slow deaths from starvation or infection.

Plastic bag litter has become such an environmental nuisance and eyesore that the District of Columbia (DC)

took action. On July 6, 2009 former DC Mayor Adrian Fenty signed the District's law on paper and plastic bags. The bill focuses on changing consumer behavior by charging a nominal fee, just 5 cents a bag, for disposable bags. According to several independent



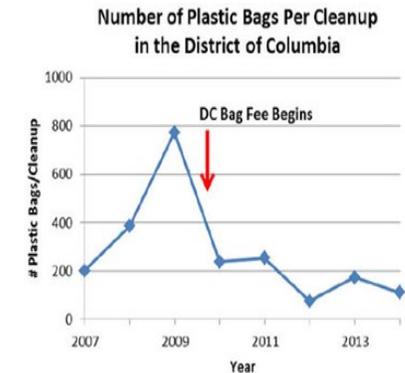
## Bag Tax Cont'd...

studies, in less than five years bag usage in DC has dropped by more than 50%. In 2013 there was an OpinionWorks study conducted that used results from 600 residents across all eight wards to show how many bags per week they used per week before and after the fee took effect. The survey reported a 60% reduction. The study also surveyed 177 businesses that were subject to the bag fee. The survey found businesses were giving out 50% fewer bags now than before the fee.

In addition to these numbers, the Alice Ferguson Foundation reviewed its data from DC cleanup sites since 2007 on the annual Potomac River Watershed Cleanup and found that there was a 72% decrease in bags collected in the years be-

fore the fee versus after. An important note to come from this is that the only jurisdictions that showed a reduction in the number of bags collected during cleanups were in the District and in Montgomery County. These two are the only two jurisdictions that have bag fees out of several jurisdictions where cleanups occur.

Additional research yielded even more favorable results when studying consumer behavior. In 2014, Sierra Club volunteers observed over 20,000 shoppers leaving chain grocery stores in the District, Montgomery and Prince George's Counties. In DC and Montgomery County 53% and 57% respectively of consumers used at least one reusable bag. Prince George's County, where there is



no bag fee, fewer than 10% of shoppers had a reusable bag.

It stands to reason that the bag fee has produced positive results. The Anacostia River is by no means clean, but the nickel charge has proven to force consumers to think twice before using plastic. This valuable tool can be an example to neighboring areas on how to kick start restoration of the river and overall environment.

## Lead In Drinking Water Cont'd...

EPA's website <https://ofmpub.epa.gov/apex/safewater/f?p=136:102> provides links to CCRs for local areas.

EPA's **Public Notification Rule** requires public water systems to alert the public if there is a problem with the drinking water. A Quick Reference Guide on this Rule can be found at the following link [http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100529C.txt#\\_ga=1.47005794.472891366.1423060476](http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100529C.txt#_ga=1.47005794.472891366.1423060476). Private wells are not regulated under the SDWA. EPA recommends testing of water before first using a private well and annual testing thereafter. The EPA maintains a website that provides information and recommended

protocols for protecting water quality from private wells at <https://www.epa.gov/privatewells>. Testing of drinking water is an option open to anyone who is concerned about the quality of their drinking water. If you are interested in testing the water in your home, EPA's home water testing factsheet is available at [https://www.epa.gov/sites/production/files/201511/documents/2005\\_09\\_14\\_faq\\_fs\\_homewatertesting.pdf](https://www.epa.gov/sites/production/files/201511/documents/2005_09_14_faq_fs_homewatertesting.pdf).

A useful resource for information on lead in drinking water is EPA's website "Basic information on lead in

drinking water" available at <https://www.epa.gov/your-drinking-water/basic-information-about-lead-drinking-water>, which includes steps you can take to reduce lead entering your drinking water as well as more detailed information on the effects of lead exposure.



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