



U.S. Department of Health and Human Services 2015 Strategic Sustainability Performance Plan

August 4, 2015

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U.S. Department of Health and Human Services

Sustainability Policy Statement

August 4, 2015

When President Obama signed Executive Orders 13693 and 13653, he committed the Federal Government to taking a leadership role in promoting sustainability and responding to the threats of climate change. In April 2015, the White House released *FACT SHEET: Administration Announces Actions to Protect Communities from the Impacts of Climate Change*, which highlights how climate change threatens human health and well-being in various ways. The fact sheet outlines actions that will allow us to better understand, communicate, and reduce the health impacts of climate change on our communities. The U.S. Department of Health and Human Services (HHS) manages many of these actions and is committed to leading sustainability efforts and climate-resilient health and human services.

At HHS, we consider climate change one of the top public health challenges of our time. We also understand that our mission, to protect the health and well-being of people in the United States, depends in part on healthy and sustainable natural and built environments. HHS outlined a wide range of actions in its *2015 Strategic Sustainability Performance Plan* and *2014 HHS Climate Adaptation Plan* to mitigate and prepare for the effects of climate change on human health. In particular, our Department's *2015 Strategic Sustainability Performance Plan* reiterates our commitment to sustainability, the use of Environmental Management Systems, and overall compliance with environmental, energy, and public health statutes, regulations, and Executive Orders.

To reduce the primary driver of climate change, HHS made great strides in reducing greenhouse gas emissions. We made progress in conserving water and reducing waste. We also are continuing to provide tools and technical assistance to prepare for and adapt to climate change to ensure our ability to sustain HHS operations. We are committed to taking a leadership role in researching and communicating the relationship between the health of our citizens and the health of our environment. Through our Department's accomplishments and future commitments, we set the standard for responsible stewardship and sustainable operations and support a healthier future for the American people.

As the Chief Sustainability Officer for HHS, I am committed to leading the way on the implementation of sustainable practices, the provision of climate-resilient health and human services, and the support of scientific research focused on environmental and public health. This commitment includes research on the effects of climate change on human health and well-being. The *2015 Strategic Sustainability Performance Plan* describes the actions HHS intends to take to promote sustainability across our Department and catalogs our accomplishments in the past fiscal year. We are committed to achieving the sustainability goals and targets outlined in this plan.

E.J. Holland, Jr.
Assistant Secretary for Administration
HHS Chief Sustainability Officer

Executive Summary

Vision

The HHS *2015 Strategic Sustainability Performance Plan* (SSPP) clearly states HHS' policy and intention to lead development and implementation of health-related sustainability goals across the Federal Government. The Department's approach to sustainability and climate resilience focuses on the specific goals of Executive Order (E.O.) 13693, *Planning for Federal Sustainability in the Next Decade*. The Department's non-landholding divisions take actions outlined in the "Green Office Guides" to achieve the goals. Sustainability Implementation Plans (SIPs) guide the actions of the Department's four landholding Operating Divisions (OPDIVs): the Food and Drug Administration (FDA), the Centers for Disease Control (CDC), the National Institutes of Health (NIH), and the Indian Health Service (IHS). An SIP also guides the actions of the Department's Program Support Center (PSC), which has delegated authority to operate and maintain various HHS facilities occupied under Occupancy Agreements with the General Services Administration (GSA). HHS also uses the *2014 HHS Climate Adaptation Plan*, which complements the SSPP, to guide HHS climate adaptation and resilience strategies.

HHS has made significant progress in achieving sustainability goals. However, additional opportunities for integrating the SSPP into health and human service programs exist. To capitalize on these opportunities, OPDIV Chief Sustainability Officers collaborate with HHS health-program leadership, grant and strategic planning professionals, and experts on the health and infrastructure impacts of climate change.

HHS will continue to incorporate sustainable practices into mission-related initiatives. In addition to incorporating sustainability concepts into internal and external policies and procedures, HHS will better educate grantees on sustainability and climate adaptation resilience guidance and best practices by building partnerships with complementary programs, such as the National Prevention Strategy, Environmental Justice Strategy, Healthy People 2020, Let's Move!, and the National Health Security Strategy.

Leadership

The Assistant Secretary for Administration (ASA) is the HHS Chief Sustainability Officer (CSO) who leads and oversees all aspects of HHS' plan. The CSO's key partners and program champions are as follows:

- OPDIV Chief Sustainability Officers
- Assistant Secretary for Health (ASH)
- National Institute of Environmental Health Sciences (NIH NIEHS)
- Chief Acquisition Officer (ASFR OGAPA)
- Chief Procurement Officer
- Chief Financial Officer (ASFR OF)
- Chief Information Officer (OCIO)
- Senior Real Property Officer (ASA PSC REL)
- Associate Director for Climate Change (CDC NCEH DEHHE)

Summary of Agency Performance on Executive Order 13514 Goals

Goal 1 – Greenhouse Gas (GHG) Reduction

According to E.O. 13514, HHS already met its Scope 1 and 2 GHG goal of reducing its FY 2008 baseline GHG emissions 10.3 % by FY 2020. It achieved a 21 % reduction in FY 2014. HHS also met its Scope 3 goal of reducing its FY 2008 baseline GHG emissions 3.3 % by FY 2020. It achieved a 21.8 % reduction in FY 2014.

To reach the FY 2020 reduction targets in FY 2014, HHS focused on reducing energy use for Scope 1 and 2 GHG emissions and employee travel for Scope 3 emissions.

- In FY 2010, HHS set its Scope 1 and 2 GHG emissions targets.
- Since FY 2010, HHS developed and maintained a Department-wide GHG inventory addressing Scope 1, 2, and 3 emissions according to E.O. 13514 and federal GHG accounting and reporting guidance. HHS also developed a Greenhouse Gas Inventory Management Plan to accompany the inventory.
- In FY 2014, HHS increased its use of actual data, in place of assumptions, for reporting, particularly for Scope 3 reporting.
- HHS uses alternative financing contracts to implement large-scale facility energy efficiency upgrades.
- According to the Presidential Memorandum, *Implementation of Energy Savings Projects and Performance-Based Contracting for Energy Savings*, HHS committed to awarding \$92.7 million of alternative financing contracts by December 2016. To date, HHS has made \$63.2 million in awards and another \$11.8 million of awards are in the pipeline.
- To lower Scope 3 GHG emissions, HHS implemented OPDIV-specific initiatives to increase employee participation in telework and green commuting and to reduce employee commuting and travel. CDC provided additional bike kiosks and lockers, and continually promoted other resources, such as fare subsidies, vanpooling, and carpooling, to employees. Currently, CDC has more than 6,500 participants in alternative commute option programs, including teleworking, FareShare, and carpooling, and is researching technologies to increase participation. As of the end of FY 2014, 46 % of CDC employees teleworked. NIH developed and implemented an online-automated system for approving telework agreements and providing training to all supervisors and telework-eligible employees. The system also identifies carpool and vanpool opportunities based on the proximity of employee home addresses. The system will estimate the effects of an individual's commuting pattern and calculate GHG emissions for employees who commute by car to the NIH Bethesda Campus.

Goal 2 – Sustainable Buildings

HHS has reduced energy use intensity in its facilities, most of which are energy-intensive laboratories and medical facilities. HHS is on track to meet E.O. 13514 mandates for reducing energy use intensity and the requirements of the Energy Independence and Security Act of 2007 (EISA 2007), which requires each agency to reduce its FY 2003 baseline energy use intensity 30 % by FY 2015. HHS has already reduced energy use intensity 28 % compared to its FY 2003 baseline and is on track to meet the 30 % goal by FY 2015.

HHS is behind on the E.O. 13514 requirement that 15 % of new, existing, and leased buildings larger than 5,000 gross square feet (GSF) comply with the *Guiding Principles for Federal Leadership in High-Performance and Sustainable Buildings* (Guiding Principles) by FY 2015. By FY 2014, 13 % of the applicable buildings were required to comply; however, only 0.9 % of applicable HHS buildings currently comply. Additionally, 13 % of the gross square footage in buildings larger than 5,000 GSF was required to comply with the Guiding Principles by FY 2014. Only 6.2 % of the gross square footage in the applicable buildings incorporated the Guiding Principles in FY 2014. HHS will continue to miss these targets as it would be fiscally irresponsible to spend mission-critical funding on renovating the many older facilities in the HHS inventory, which are nearing the end of their useful lives, just to achieve this goal.

HHS continues to comply with the Guiding Principles and reduce energy intensity to the greatest extent possible.

- CDC recently achieved Guiding Principle compliance for Chamblee Building 107 and Lawrenceville Building B, bringing the CDC percentage of Guiding Principle compliant buildings to 9.84 %, and the compliant gross square footage to more than 29 %.
- The IHS Kayenta Staff Quarters Project is expected to achieve a LEED for Homes Silver Rating. The planned installation of a solar hot water heating system will provide domestic hot water, contribute to the building heating system, and reduce energy intensity.
- The NIH Porter Neuroscience Research Center, Phase II, is certified at the Three Globes level by Green Globes and attained a LEED Gold certification. The energy usage in Phase II is substantially less than that in Phase I.

Additionally, HHS will continue to investigate the link between the built environment and human health discussed at the *Health in Buildings Roundtable* by social and behavioral psychologists; researchers in toxicology, environmental medicine, and public health; experts in architecture; and practicing physicians. To create a foundation for new public health research and policy, roundtable participants considered aspects of the built environment that are detrimental to human health and design elements that can support improved human health.

Goal 3 – Fleet Management

E.O. 13514 and EISA 2007 require that, by FY 2015, agencies reduce fleet petroleum use by 20 % compared to a FY 2005 baseline. HHS reduced fleet petroleum use by 46.9 % in FY 2014 compared to its FY 2005 baseline; therefore, it has met the 20 % reduction goal early. In FY 2014, HHS increased alternative fuel consumption by 310.6 % compared to its FY 2005 baseline, well ahead of the goal of a 159.4 % increase by FY 2015.

HHS updated its Fleet Management Program to optimize the efficiency and effectiveness of fleet assets across the Department. With the current fleet sustainability goals on track, HHS is able to focus on E.O. 13693 goals, saving money, mitigating risk, maximizing safety, and minimizing the program's negative impact on the environment.

In FY 2014, HHS incorporated several fleet management best practices, including rapid deployment of high-efficiency sedans, empirical studies focused on safety and operator behavior, and the placement of alternative fuel vehicles in locations where alternative fuel is more readily available.

Goal 4 – Water Use Efficiency & Management

E.O. 13514 requires agencies to reduce potable water intensity by 2 % annually between FY 2007 and FY 2020. HHS reduced potable water intensity by 14.5 % in FY 2014 compared to its FY 2007 baseline. It is on track to meet the goal of an overall 26 % reduction by FY 2020.

HHS continues to work toward the E.O. 13514 and EISA 2007 goals for water use efficiency and management.

- From FY 2013 to FY 2014, CDC reduced its water intensity by 30.5 %, achieving a 10.6 % reduction from its FY 2007 baseline. A concentrated effort to identify and correct operational issues allowed CDC to achieve this large reduction in water usage and eliminated the waste of thousands of gallons of water each day.
- In FY 2014, FDA Muirkirk Road Complex (MRC) completed three utility energy service contract (UESC) water conservation measures (WCMS) resulting in water savings of 76.8 thousand gallons (kgal) per year and energy savings of 850 million British thermal units (MMBtu). FDA MRC also replaced existing 1.0 and 0.5 gallon urinals with pint flush urinals and valves, installed hot water pumps that re-circulate domestic hot water based on user demand and temperature of the recirculation loop, and installed an instantaneous lab water heater for cage washing.
- In FY 2014, FDA Dauphin Island facility completed a condensate recovery project that is estimated to save 46,000 gallons of water per year.
- To monitor water usage accurately and at sufficiently detailed levels on campuses, HHS OPDIVs installed, and will continue to install in FY 2015, additional potable water meters at the building or major-use level to monitor consumption, identify additional savings, and meet Guiding Principles goals.
- HHS OPDIVs established a best practice to convert all open-loop chilled water systems to closed-loop systems because laboratory and medical equipment typically make the HHS facilities highly water-intensive.

OPDIV facility managers are identifying water reduction opportunities inherent in laboratory and medical equipment and are developing standards and procurement specifications for this equipment. Projects, such as installing water misers on autoclaves/sterilizers, employing condensate and blowdown recovery systems, and incorporating reclamation strategies, are being identified and will be analyzed as new performance contracting energy conservation measures (ECMs).

Goal 5 – Pollution Prevention and Waste Reduction

HHS has several ongoing successful Pollution Prevention and Waste Reduction programs in place. The Department is actively addressing all 11 pollution prevention and waste reduction goals, including the following:

- Diverting at least 50 % of non-hazardous solid waste by FY 2015 (Goals 5b, 5c, and 5h): As of FY 2014, PSC and HHS landholding OPDIVs diverted more than 50 % of non-hazardous waste from landfills through robust recycling and composting programs. Diversion to Waste-to-Energy is also an active program where available in metropolitan areas.
- Diverting at least 50 % of Construction and Demolition (C&D) materials and debris by FY 2015 (Goal 5d): HHS has met the goal of 50 % diversion of C&D debris by FY 2015 with appropriate OPDIVs achieving diversion levels ranging from 88 % to 94 %.

Examples of OPDIV successes and best management practices include the following:

- CDC is continuously increasing recycling with 14 additional labs introduced into the Lab Plastics Program. Recycling programs for closed-cell extruded polystyrene foam (Styrofoam) and rechargeable batteries continue to be successful. Establishing food-composting programs is underway at the Chamblee and Roybal campuses.
- FDA achieved an 80 % decrease of landfill wastes from FY 2013 to FY 2014, and the total tonnage of all solid waste generated was reduced by 68 %. A “Supply Swap” program, initiated in September 2013 to facilitate the exchange of excess office supplies and functioning, non-accountable equipment, avoided an estimated \$12,000 in procurement costs.
- NIH achieved an agency-wide recycling diversion rate of 52 % for FY 2014, exceeding the goal of 50 % diversion by FY 2015. NIH continues to pursue the development, expansion, or reinforcement of several reduction, reuse, or recycling programs, including animal bedding and food composting, closed-cell extruded polystyrene foam collection and recycling, cafeteria waste composting, mercury collection and disposal, distribution of desk-side and office recycling containers, facilitating the exchange of surplus chemicals, the Toxic Reduction Program, and the Substances of Concern initiative.
- IHS’s new construction contracts now contain clauses requiring the diversion of a minimum of 50 % of non-hazardous C&D wastes where recycling opportunities exist. IHS continues to develop and present various sustainability webinars to its widely dispersed organizations. Webinars include Pharmaceutical Waste Compliance, Go Green in 2015, and Hazardous Waste Management and Disposal.

Goal 6 – Sustainable Acquisition

HHS achieved the E.O. 13514 goal of including applicable sustainability requirements in 95 % of new contract actions. HHS also achieved 100 % compliance in the third and fourth quarters of FY 2014 based on a minimum 5 % quarterly review of applicable contract actions.

To support sustainable acquisition, HHS issues guidance to the acquisition workforce that emphasizes the inclusion of biobased products and all applicable Federal Acquisition Regulation (FAR) sustainability clauses in construction and other relevant service contracts. HHS provides its acquisition workforce with sustainable acquisition training that focuses on biobased products and the inclusion of sustainability requirements in applicable contracts.

The HHS Senior Procurement Executive will continue to represent HHS on the Federal Sustainable Acquisition and Materials Management (SAMM) Working Group and engage GSA and other federal partners on healthy/green procurement initiatives. Best practices and lessons learned are gathered and passed along to divisions through the HHS Sustainable Green Procurement Workgroup, which conducted outreach sessions focused on how to make a contract file green, the newly issued E.O. 13693, and Federal Procurement Data System (FPDS) reporting guidelines.

- For the second and third quarters of FY 2015, HHS increased the sample size of contracts reviewed from 5 % to either 50 % or 20 contracts, depending on which is fewer.
- The HHS Senior Procurement Executive continues to identify leading indicators by reviewing synopses, solicitations, and contracts on FedBizOpps for both sustainable clauses and sustainable language in the Statement of Work.

Goal 7 – Electronic Stewardship and Data Centers

As of FY 2014, HHS reported the following metrics on electronics stewardship requirements according to E.O. 13514:

- Electronic Product Environmental Assessment Tool (EPEAT) procurement is 98 %.
- Energy Star and Federal Energy Management Program (FEMP) designated energy-efficient product procurement is 98 %.
- Power management features enabled on applicable products is 95 %.
- Duplex printing enabled products is 100 %.
- Sound practices used for electronic product disposition is 100 %.

Although HHS is currently on track to meet requirements for procuring EPEAT electronics and for the proper end-of-life disposal of electronics, it did not meet the FY 2014 goal of 100 % of electronics with power-management features enabled, since only 95 % of applicable electronics complied.

HHS OPDIVs identified 25 core data centers and 142 non-core data centers. Of the non-core data centers, 29 % are scheduled to close by the end of FY 2015. The status of the core data centers will be reported through the OMB PortfolioStat data call.

As of FY 2014, 100 % of CDC's 30,000 laptops, personal computers (PCs), and other electronics purchases are either Energy Star qualified or covered by Energy Star specifications, EPEAT-registered, or FEMP designated. All eligible agency PCs, laptops, and monitors have Verdiem power management software actively implemented and in use, meaning that all client workstations are powered down nightly and computers are set to idle automatically to reduce power usage.

CDC also initiated a Single Computer Model that requires individual users to operate with only one primary computing device, reducing the overall number of computing devices in the agency. Tablet PCs were added in FY 2014 as acceptable equipment under this program. To reduce the number of assigned devices, CDC Information Technology Services Office (ITSO) also implemented a Bring Your Own Device plan to allow CDC staff to use their personal smartphone to access CDC mail and Outlook functions to reduce the overall number of Blackberries in service.

Goal 8 – Renewable Energy

E.O. 13514 requires agencies to increase the use of renewable energy. Further, EPACT 2005 requires agencies to increase renewable energy use so that 7.5 % of the agency's total electricity consumption is generated by renewable energy sources in FY 2014 and beyond. HHS total electricity use included 11.9 % from renewable energy sources and met the goal of 7.5 % for FY 2014.

The Energy Policy Act of 2005 required that, in FY 2014, 7.5 % of an agency's total electricity consumed must come from renewable energy. In addition, at least half of the renewable energy must come from new sources, placed in service after 1999.

- HHS met these requirements with 11.9 % of its electricity consumed coming from renewable electricity sources, including 3.75 % from new sources. Most of the renewable energy is obtained through the purchase of Green power or Renewable Energy Credits (RECs); however, on-site applications are used wherever possible.

- FDA completed the expansion of a solar thermal heating system to 30 % solar fraction as part of the UESC at the FDA MRC in FY 2014. The system expanded from six to 10 collector panels, which will provide 2,026 therms per year of annual gas savings and \$2,412 annual cost savings. The total project cost was \$45,040, and the project has an 18.6-year simple payback.
- The FDA Irvine Laboratory installed a 130-kW photovoltaic (PV) array.
- The IHS Pine Ridge and the Rosebud hospital compounds in South Dakota installed 70-kW PV systems. The systems were placed in service in January and March 2015, respectively.
- The IHS Fort Yuma Health Center design, completed in FY 2010, includes \$1 million in its budget for renewable energy systems. Currently, the design is being updated to incorporate new codes, standards, and sustainability requirements.
- The IHS Southern California Youth Regional Treatment Center is currently installing a 24-kW PV system.

Goal 9 – Climate Change Resilience

HHS completed the HHS Climate Adaptation Plan according to E.O. 13653, *Preparing the Nation for the Impacts of Climate Change*. The HHS Climate Adaptation Plan complements the HHS SSPP. In FY 2014, HHS progressed on key actions to support climate-change resilience strategies.

- HHS sponsored a staff briefing and webinar on climate change and health. The top climate change experts from CDC, NIH, and the National Oceanic and Atmospheric Administration (NOAA) presented the latest scientific findings from the National Climate Assessment. It included climate change projections for the country as well as regional snapshots. This webcast was archived and the link (<http://videocast.nih.gov/summary.asp?Live=14490&bhcp=1>) was provided to stakeholders.
- The U.S. Global Change Research Program’s (USGCRP) Climate Change and Human Health Group and a subset of the Interagency National Climate Assessment Working Group initiated a *Climate and Health Assessment*. The lead coordinating federal agencies are CDC, NIH, NOAA, and Environmental Protection Agency (EPA). A draft of the assessment report was made available for public comment in April 2015, with the final publication expected in late 2015 or early 2016.
- The President’s Task Force on Environmental Health Risks and Safety Risks to Children, a federal interagency group, stood up the Subcommittee on Climate Change co-chaired by NIH, EPA, and the Department of Homeland Security (DHS). In July 2014, the subcommittee hosted an expert consultation on the effects of climate change on children’s health to explore issues and help to inform an ongoing USGCRP health assessment of climate change.
- HHS initiated a public-private partnership to develop specific tools and information related to the resilience of healthcare facilities in a context of climate change-exacerbated stressors. It released a best practices document, [*Primary Protection: Enhancing Health Care Resilience for a Changing Climate*](#), in December 2014. In April 2015, HHS released a related toolkit, which includes an overview guide; a catalog of existing resources; checklists; a database of relevant case studies organized by type of hazard, type of facility, and location; and additional briefing documents.

Goal 10 – Energy Performance Contracts

HHS committed to implementing \$35.2 million of performance contracting by December 31, 2013 to satisfy the 2011 President’s Performance Contracting Challenge (PPCC). Exceeding its commitment by \$5.7 million, HHS awarded \$40.9 million in performance contracts by December 31, 2013. With the extension of the PPCC for another three years to December 2016, HHS committed to awarding an

additional \$51.8 million in energy-savings performance contracts (ESPCs) for an expected total of \$92.7 million of performance contracts implemented over six years.

As of April 15, 2015, an additional \$3 million of contracts were awarded, for a total of \$43.9 million in awards, and an additional \$30.8 million was in the pipeline. Currently, \$63.2 million in contracts are awarded, \$11.8 million of contract awards are in the pipeline, and CDC, FDA, and NIH are working to award an additional \$22 million by the end of CY 2016 for a total of \$97.5 million (\$4.8 million above the updated PPCC target of \$92.7 million).

Progress on Administration Priorities

The Council on Environmental Quality (CEQ) identified the following administration priorities:

Administration Priority	HHS Update
Sustainable Locations for Federal Facilities of September 15, 2011	The <i>Sustainable Locations for Federal Facilities</i> document was distributed to HHS OPDIVs for implementation. OPDIVs incorporated guidance into new construction design documents and policies.
Sustainable Practices for Designed Landscapes of October 31, 2011, and October 22, 2014	The <i>Sustainable Practices for Designed Landscapes</i> document was distributed to HHS OPDIVs for implementation. OPDIVs have incorporated guidance into new construction design documents and policies. Several OPDIV facilities have eliminated supplemental landscape irrigation through xeriscaping and appropriate design.
Federal Agency Implementation of Water Efficiency and Management Provisions of E.O. 13514	HHS reduced water intensity by 14.5 % in FY 2014 compared to the baseline year of FY 2007. HHS is on track to meet the FY 2020 target. Significant reductions were made in FY 2014; water-use intensity reduced by 7.8 % from FY 2013 to FY 2014. HHS focused on water efficiency strategies including metering, auditing, water-saving fixtures and equipment, reduction of once-through cooling, cooling tower improvements, water-saving lab equipment, leak detection, and water reclamation. Facility assessments and comprehensive audits include an emphasis on water efficiency upgrades.
President's Performance Contracting Challenge	<p>HHS committed to implement \$35.2 million of performance contracting by December 31, 2013 in accordance with the 2011 President's Performance Contracting Challenge (PPCC). By December 31, 2013, HHS awarded \$40.9 million in performance contracts exceeding its commitment by \$5.7 million. With the extension of the PPCC for another three years to December 31, 2016, HHS committed an additional \$51.8 million in performance contracts. This will yield a total of \$92.7 million in performance contracts implemented over six years.</p> <p>To date, an additional \$22.3 million of contracts were awarded since December 31, 2013 for a total of \$63.2 million. There is an additional \$11.8 million in the pipeline. CDC, FDA, and NIH are working diligently to implement contracts within the next 18 months. It is anticipated that an additional \$22.5 million will be awarded by the end of CY 2016 for a total of \$97.5 million.</p>

Administration Priority	HHS Update
Climate Adaptation Plan Progress	<p>As outlined in the <i>2014 HHS Climate Adaptation Plan</i>, HHS sponsored a staff briefing and webcast to share the latest science from the National Climate Assessment. As part of the Sustainable and Climate Resilient Health Care Facilities Initiative in the President’s Climate Action Plan, the White House and HHS released <i>Primary Protection: Enhancing Health Care Resilience for a Changing Climate</i> and its related toolkit.</p> <p>Additionally, key stakeholders from the health care industry, professional associations, and non-profit organizations convened at the White House to discuss best practices and obstacles in building healthcare resilience. NIH led and coordinated development of the health section of the White House Climate Resilience Toolkit, with 20 health resilience tools and public-facing web content identified and linked to six categories of health implications of climate change: extreme heat, air quality, extreme events, changing ecosystems and infectious disease, food and waterborne threats, and building health sector resilience. CDC also released <i>Assessing Health Vulnerability to Climate Change: A Guide for Health Departments</i> and <i>Adaptation in Action</i>.</p>

Table 1: Agency Size and Scope

Agency Size and Scope	FY 2013	FY 2014
Total Number of Full-Time Equivalents (Source: President's Budget)	77,186	77,436
Total Acres of Land Managed (Source: Automated Real Property Inventory System - ARIS)	5,888	5,914
Total Number of Buildings Owned (Source: ARIS)	2,725	2,718
Total Number of Buildings Leased (GSA and Non-GSA Lease) (Source: ARIS)	964	1,010
Total Buildings Gross Square Feet (GSF) (Source: ARIS)	54,434,929	54,962,232
Operates in Number of Locations Throughout U.S. (Source: ARIS)	961	955
Operates in Number of Locations Outside of U.S. (Source: ARIS)	13	14
Total Number of Fleet Vehicles Owned (Source: HHS GHG Inventory)	846	814
Total Number of Fleet Vehicles Leased (Source: HHS GHG Inventory)	3,832	3,856

Agency Size and Scope	FY 2013	FY 2014
Total Number of Exempted-Fleet Vehicles (Tactical, Law Enforcement, Emergency, Etc.) (Source: HHS GHG Inventory)	3,249	1,149
Total Amount Contracts Awarded as Reported in FPDS (\$Millions)	20,100	21,400

Agency Progress toward Sustainability Goals in E.O. 13514 and E.O. 13423

GOAL 1 – Greenhouse Gas (GHG) Reduction

Agency Progress toward Scope 1 and 2 GHG Goals

According to E.O. 13514, HHS is on track to meet the Scope 1 and 2 GHG emissions reduction of 10.3 % between FY 2008 and FY 2020. As of FY 2014, HHS reduced Scope 1 and 2 GHG emissions by 21 % compared to the FY 2008 baseline. The largest reductions were in purchased electricity and steam and mobile FAST emissions.

HHS OPDIVs continuously pursue energy reductions through everyday activities and planning. For the past two decades, the HHS Energy Program led and fostered actions and training to instill energy efficiency into the performance of facility and energy management personnel. In recent years, the HHS Energy Program combined efforts with other offices under the HHS Go Green Get Healthy sustainability initiative. HHS also implemented successful projects using alternative financing and direct agency funding. Highlights for FY 2014 are described below.

CDC took steps over the past year to ensure facility equipment and processes are operating efficiently and in a manner that reduces energy consumption and allows personnel to contribute to a reduction in GHG emissions. CDC decreased its energy intensity nationwide by 25.4 % in FY 2014 compared to its baseline year of FY 2003. To reduce energy use, CDC continues to make repairs and upgrades to its facilities on campuses nationwide. CDC continues to exceed mandated targets for energy reductions. These improvements and reductions in energy consumption helped reduce carbon dioxide (CO₂) emissions from all sources, with a 22.4 % reduction in Scope 1 and 2 emissions since FY 2008, not including emissions from CDC fleet vehicles.

CDC is using the implementation of utility energy services contract (UESC) and energy savings performance contract (ESPC) projects as the latest strategy to augment the established practice of embedding energy reduction within all repair and improvement projects where applicable. The UESC/ESPC contract vehicle is projected to fund a steam distribution and boiler plant renovation project at the National Institute for Occupational Safety and Health (NIOSH) Pittsburgh campus, as well as a host of smaller projects in the Atlanta area, all geared to reduce energy use. Current projects include upgrades and modifications to steam and chilled water loops to decrease energy use in several buildings. Incorporating LED lighting as well as venturing into photovoltaic (PV) solar projects are also being considered as future projects.

In FY 2014, FDA experienced a slight increase in GHG emissions due to increased energy use. FDA continued the use of UESC projects at two sites by installing several energy conservation measures (ECMs) and awarding new investment grade audits. Various upgrades to existing equipment and infrastructure were completed, such as purchasing high-efficiency freezers, improving building envelopes, upgrading controls, building retro-commissioning, improving steam and boiler plants, and upgrading lighting. FDA has active Green Teams at all FDA owned sites. The Green Teams increase energy reduction awareness through outreach events, Green Bag lunches, the Internet and Intranet, training and workshops, communications from the FDA Chief Sustainability Officer (CSO) and FDA energy manager, posters, internal TV, and FDA's annual Earth Day celebrations at FDA owned and leased sites. FDA continues to increase the training of facility engineers and operations personnel via webinars and classes on energy/water conservation and renewable energy.

In FY 2014, IHS began implementing 1,284 ECMs and water conservation measures (WCMs) that were recommended by facility evaluations/audits completed in FY 2013. The total initial estimated implementation cost is \$51.9 million, with annual savings projected to be \$5.4 million for a simple payback period of less than 10 years. IHS continues to fund numerous projects related to energy efficiency and the reduction of Scope 1 and 2 GHG emissions. Energy efficiency considerations are included in the planning stages for all IHS projects. For example, the Kayenta Staff Quarters Project, currently under construction, will include sunshades to diffuse direct light and reduce the burden on the heating, ventilating, and air-conditioning (HVAC) system.

NIH signed \$34.3 million in performance contract financing agreements in FY 2013. The ECMs associated with these performance contracts are currently under construction and expected to be complete in FY 2016. NIH is addressing numerous issues in the chilled water system at the Bethesda Campus Central Utility Plant (CUP). Projects expected to be included at the CUP are the cleaning of condenser tubes, replacing division plates, cleaning evaporators, and repairing numerous refrigerant leaks. Seals and gaskets were also recently replaced for each of the 12 chillers in the CUP.

PSC continued a major renovation in FY 2014 at the HHS occupied 5600 Fishers Lane building in Rockville, Maryland. Recently, the project design was upgraded from LEED Gold to Platinum. PSC facility management is working with the electric utility to obtain rebates to install additional projects and receive more LEED points. PSC's Facility Operations and Maintenance team is working closely with the facility design and construction team to ensure that planning for energy and water efficiency is paramount throughout the process.

In FY 2014, PSC's Facility Operations and Maintenance team reclaimed refrigerant and demolished many non-critical supplemental HVAC units in support of renovation work in the 5600 Fishers Lane building. In addition, PSC assisted in the design and manufacture of backup generators for the new HHS data center and for variable frequency drives on HVAC equipment and ensured that only fuel oil would be used for the standby generators in the renovated building.

HHS awarded three HHS FY 2014 Green Champions Awards in the energy and fleet management category. One of the awards recognized an FDA facilities technical specialist who examined the operation of the Jefferson Labs campus HVAC systems in search of ways to reduce energy usage. The FDA employee found opportunities to improve performance at the campus Building 5D by using the existing campus Building Automation System (BAS) to initiate night setbacks on the HVAC System. Building 5D is used to conduct food mixing, food testing, and quality assurance of food processing for

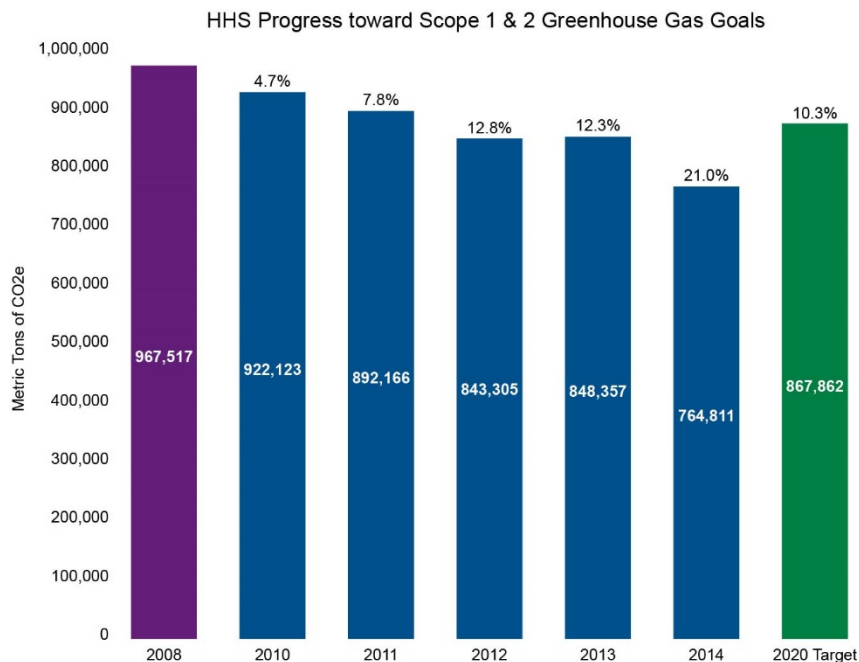
animal care. These activities are not conducted between 6 p.m. and 6 a.m. Monday through Friday or on weekends. Night setbacks were implemented to reduce energy consumption with no negative impacts to processes or personnel. The savings estimated from this no-cost project is estimated at 131,000 kilowatt hours (kWh) per year, or \$13,900.

The second award went to the NIH Double Pedestal Electric Vehicle Charging Station and Transportation Management Branch. The project and responsible NIH team was recognized for the installation of a solar array system that included the introduction of two fully electric vehicles into the fleet, a double pedestal electric vehicle charging station, and the installation of a 20-kW solar PV system. The total annual cost avoidance for the project was estimated at \$8,000/year.

Finally, the NIH National Cancer Institute (NCI) was honored for conducting a six-month study at their Central Repository comparing energy usage and cost data between conventional, -80°C mechanical freezers and new technology -80°C liquid nitrogen (LN₂)-fueled freezers. While mechanical freezers require electricity to power compressors, which generate heat as a byproduct and increase heating loads, LN₂-fueled freezers only require electricity to power controllers, reducing electricity use and producing little heat as a byproduct. Electricity and LN₂ consumption was monitored for 28 mechanical and 18 LN₂-fueled freezers, with all freezers in the study filled to capacity with the same number of samples. The LN₂-fueled group had a reduction in electricity consumption of 681.1 kWh/day compared to the mechanical group and a reduced heating load equivalent to roughly the same amount. Overall, use of LN₂-fueled freezers to maintain the same number of samples resulted in a 31.4 % decrease in electricity consumption and cost-savings of 24.6 % after subtracting LN₂ costs. The LN₂-based freezers return on investment (ROI) was calculated at 9.9 years, but projected life-cycle cost-savings is estimated at 124 %, largely due to tripled freezer lifespan of the LN₂-based freezers. Conversion to LN₂-based freezers continues at NCI, and results are being shared with NIH colleagues who are adopting the technology where possible.

Figure 1-1 Scope 1 and 2 GHG –

E.O. 13514 required each agency establish a Scope 1 & 2 GHG emission reduction target to be achieved by FY 2020. The first bar represents the agency's FY 2008 baseline. The last bar represents the FY 2020 target reduction. The bars for years 2010-2014 represent annual agency progress towards achieving this target. The percentage at the top of each bar represents the reduction or increase from the FY 2008 baseline. A negative percentage value indicates that the emissions have decreased compared to the 2008 baseline.



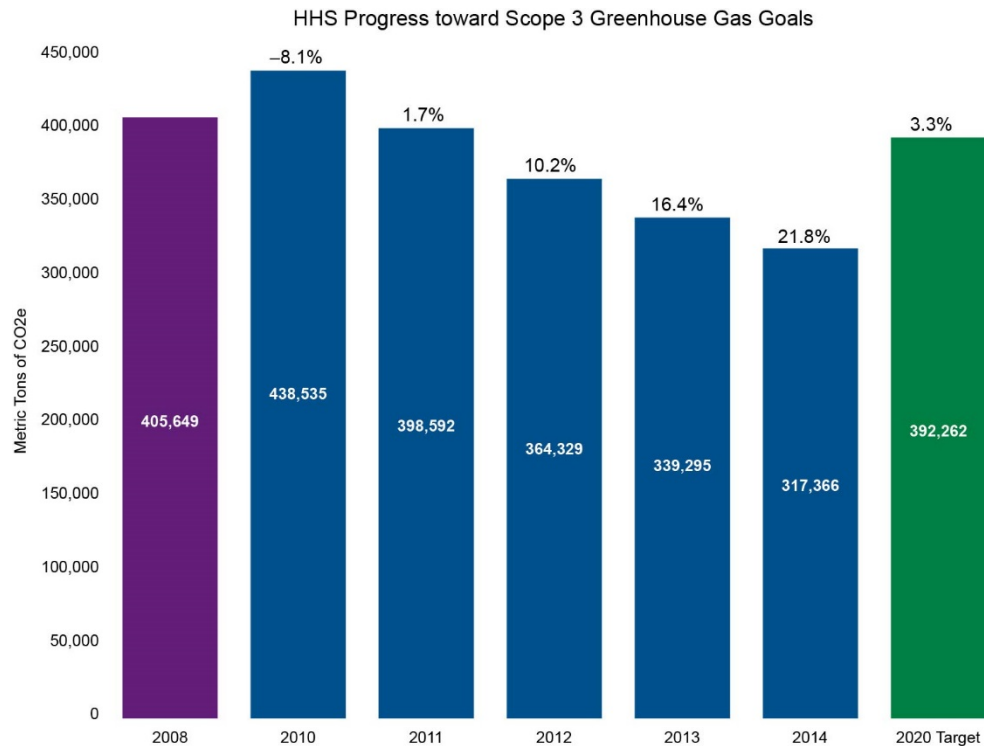
Agency Progress toward Scope 3 GHG Goals

HHS exceeded the E.O. 13514 Scope 3 GHG goal of reducing FY 2008 baseline GHG emissions 3.3 % by FY 2015. It achieved a 21.8 % reduction in FY 2014. Specifically, HHS OPDIVs have supported achieving this goal through developing commuter reduction plans and related usage of telework and alternate work schedules. In addition, the use of virtual meeting technologies assisted in reducing air and ground travel.

- FDA: Transportation Management Plan was approved in FY 2009 with FDA meeting its 30 % overall travel target reduction in FY 2014 through the use of virtual meeting technology and transition from dispersed facilities to consolidated campus settings.
- IHS: Continues to reduce miles associated with business travel as the result of car-pooling, eliminated trips, and improved scheduling.
- NIH: Data for employee business travel (both ground and air) is collected and aggregated on an NIH Institute level to track improvements.

Figure 1 -2 Scope 3 GHG

E.O. 13514 required each agency establish a Scope 3 GHG emission reduction target to be achieved by FY 2020. The first bar represents the agency's FY 2008 baseline. The last bar represents the FY 2020 reduction target. The bars for years 2010-2014 represent annual agency progress on achieving this target. The percentage at the top of each bar represents the reduction or increase from the FY 2008 baseline. A negative percentage value indicates that the emissions have decreased compared to the FY 2008 baseline.



GOAL 2 – Sustainable Buildings

Agency Progress toward Facility Energy Intensity Reduction Goal

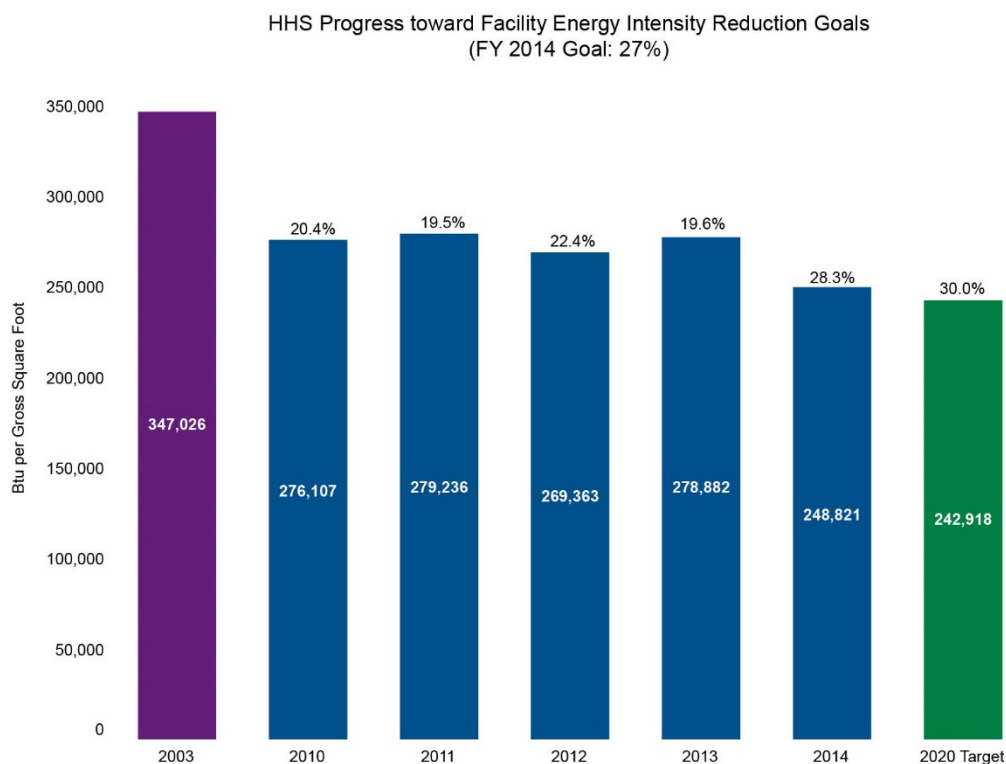
HHS is on track to meet the E.O. 13514 energy intensity reduction goal of 30 % by FY 2015 as shown in Figure 2-1, *Energy Intensity Reduction*. As of FY 2014, HHS has reduced energy use intensity by 28.3 % compared to FY 2003.

As described in the Goal 1 summary, *Scope 1 and 2 GHG Emissions Reductions*, HHS OPDIVs continue to pursue energy reductions in their everyday activities and planning. Most of the activities outlined in that goal area apply to the energy use intensity reduction of this goal area.

HHS OPDIVs use direct agency funding to install energy efficiency measures where available. Performance contracting is leveraged when direct agency funding is not available. Facility management personnel focus on the operations and maintenance of HHS facilities to achieve energy savings through efficient operation.

Figure 2-1: Energy Intensity Reduction

E.O. 13514 section 2 required that agencies consider building energy intensity reductions. Further, the Energy Independence and Security Act of 2007 (EISA) requires each agency to reduce energy intensity 30 % by FY 2015 as compared to the FY 2003 baseline. Agencies are expected to reduce energy intensity by 3 % annually through FY 2015 to meet the goal. The first bar represents the agency's FY 2003 baseline. The last bar represents the FY 2015 target reduction. The bars for years 2010-2014 show annual agency progress on achieving this target. The percentage at the top of each bar represents the reduction or increase from the FY 2003 baseline. A negative percentage value indicates that the energy intensity has decreased compared to the FY 2003 baseline.



Agency Progress toward Total Buildings Meeting the Guiding Principles

E.O. 13514 requires that 15 % of agencies’ new, existing, and leased buildings larger than 5,000 square feet (GSF) meet the Guiding Principles by FY 2015. To meet the FY 2015 goal, agencies should have increased the percentage of conforming buildings by approximately 2 % annually from their FY 2007 baseline.

Currently, only 0.9 % of the HHS buildings larger than 5,000 GSF meet the goal. HHS will not meet the FY 2015 requirement of 15 % compliance, as it would be fiscally irresponsible to spend mission funding on renovating the many facilities in the HHS inventory that are older than 30 years (and nearing the end of their useful lives) in an attempt to meet this goal.

CDC recently achieved Guiding Principle compliance for Chamblee Building 107 and Lawrenceville Building B, bringing the CDC percentage of Guiding Principle compliant buildings to 9.84 % and

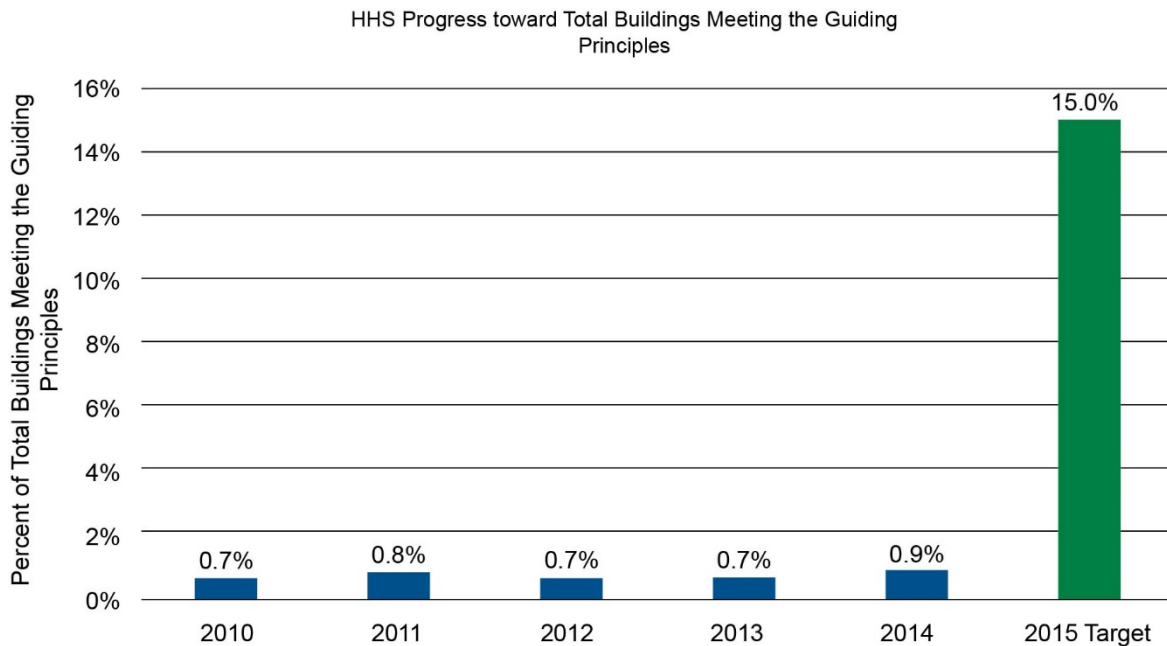
bringing CDC’s compliant gross square footage to more than 29 %. CDC design standards require embedding Guiding Principle compliant features within all repair and improvement projects where feasible.

The IHS Kayenta Staff Quarters Project is expected to achieve a LEED for Homes Silver Rating. The planned installation of a solar hot water heating system will provide domestic hot water, contribute to the heating system, and reduce the facility overall energy intensity.

The NIH Porter Neuroscience Research Center, Phase II, is certified at the Three Globes level by Green Globes and attained a LEED Gold certification. The energy usage in Phase II is substantially less than that in Phase I.

Figure 2-2 Total Buildings Meeting Guiding Principles

E.O. 13514 required that by FY 2015, 15 % of agencies' new, existing, and leased buildings greater than 5,000 square feet meet the Guiding Principles. In order to meet the FY 2015 goal, agencies should have increased the percentage of conforming buildings by approximately 2 % annually from their FY 2007 baseline. The last bar represents the FY 2015 target. The bars for years 2010-2014 represent annual agency progress on achieving this target.



GOAL 3 – Fleet Management

Agency Progress toward Fleet Petroleum Use Reduction Goal

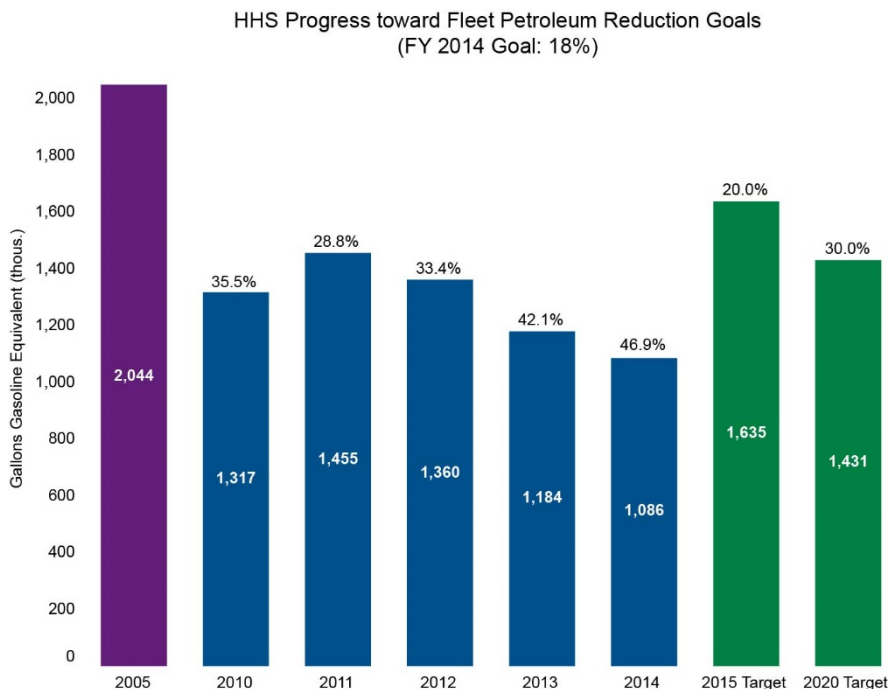
HHS has surpassed the E.O. 13514 and EISA 2007 petroleum-use reduction targets of reducing FY 2005 usage 20 % by FY 2015 as shown in Figure 3-1, *Fleet Petroleum Use Reduction*. The FY 2005 baseline usage was 2.04 million gasoline gallon equivalent (GGE) and FY 2014 total usage was 1.1 million GGE, or a decrease of 46.9 %.

HHS initiated proactive fleet modernization and appropriate fleet sizing and is participating in sound empirical data studies in anticipation of evolving E.O.s, including the recent E.O. 13693. Final implementation guidance for Fleet Management requirements according to E.O. 13693 has yet to be released. By the end of FY 2015, the HHS Fleet Management Plan will be updated to reflect changes from E.O. 13693.

In general, the HHS fleet’s overall cost has gone down more than 25 % compared to its FY 2005 baseline. The fleet size, about 4,890 vehicles, has changed to meet evolving regulatory demands. The HHS fleet is among the top performers in the United States in the Executive fleet cadre for performance and compliance. HHS best practices include rapid deployment of high efficiency sedans, empirical studies focused on safety and operator behavior, and flexibility for internal customers in the United States and 35 countries worldwide.

Figure 3-1 Fleet Petroleum Use Reduction

E.O. 13514 required and the Energy Independence and Security Act of 2007 (EISA) requires that by FY 2015 agencies reduce fleet petroleum use by 20 % compared to a FY 2005 baseline. Agencies were expected to achieve at least a 2 % annual reduction. The first bar represents the agency's FY 2005 baseline. The two last bars represent the FY 2015 target reduction. The bars for years 2010-2014 represent annual agency progress on achieving these targets. The percentage at the top of each bar represents the reduction or increase from the FY 2005 baseline. A negative percentage indicates a decrease in fleet petroleum use.

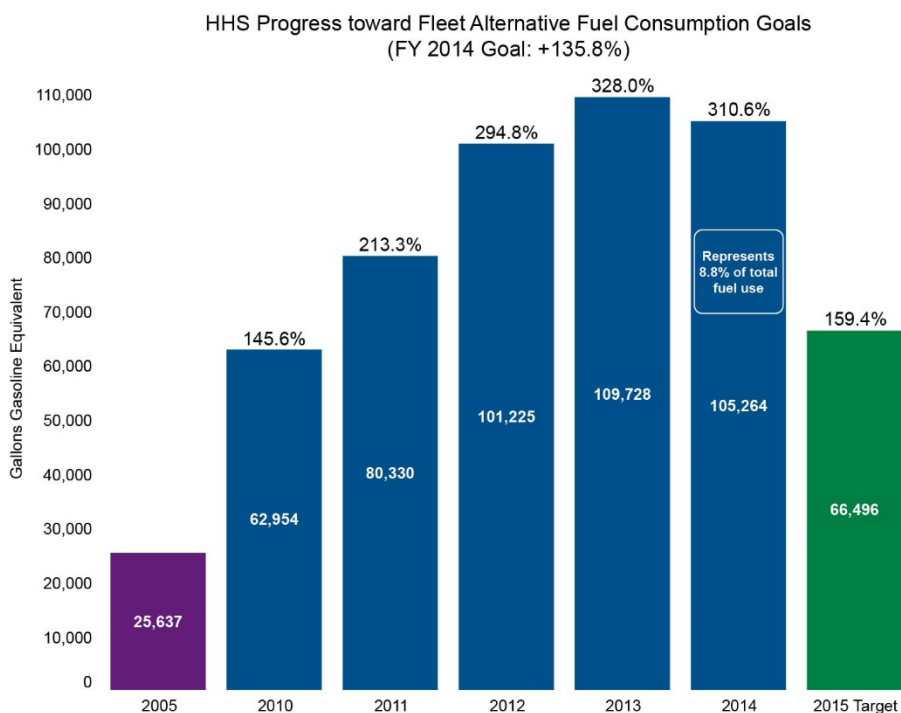


Agency Progress toward Fleet Alternative Fuel Consumption Goal

HHS also exceeds alternative fuel volume increase targets as the ethanol baseline of 25.6k GGE has increased by 310.6 % to 105.2k GGE in FY 2014 as shown in Figure 3-2, *Fleet Alternative Fuel Consumption*.

Figure 3-2 Fleet Alternative Fuel Consumption

E.O. 13423 required that agencies increase total alternative fuel consumption by 10 % annually from the prior year starting in FY 2005. By FY 2015, agencies must have increased alternative fuel use by 159.4 %, relative to FY 2005. The first bar represents the agency's FY 2005 baseline. The last bar represents the FY 2015 target. The bars for years 2010-2014 represent annual agency progress on achieving this target. The percentage at the top of each bar represents the reduction or increase from the FY 2005 baseline. A negative percentage indicates a decrease in fleet alternative fuel use.



GOAL 4 – Water Use Efficiency & Management

Agency Progress toward Potable Water Intensity Reduction Goal

HHS has reduced water intensity by 14.5 % in FY 2014 compared to the baseline year of FY 2007. HHS is on track to meet the E.O. 13514 target of 26 % by FY 2020. Significant improvements in FY 2014 reduced water use intensity by 7.8 % from FY 2013 to FY 2014.

Metering and monitoring has been a focus for HHS, especially at CDC. The division continues to hold Roybal Campus water use intensity mitigation meetings involving leadership and facilities, sustainability, and quality personnel to determine the potential for water consumption reduction on the campus.

CDC achieved a major reduction in water usage in FY 2014 by concentrating efforts on identifying and correcting operational issues that wasted thousands of gallons of water each day. CDC reduced its water intensity by 30.5 % from FY 2013 to FY 2014, achieving a 10.6 % reduction from its FY 2007 baseline.

CDC had many measures in place to moderate its water use, but it noted, in early 2012, that Building 23 was consuming a disproportionate amount of water (nearly 25 % of the total Roybal campus usage). The Sustainability and Operations leadership within the Office of Safety, Security, and Asset Management (OCOO OSSAM) assembled a team of stakeholders and leadership to pinpoint the cause of Building 23's water consumption and to identify and implement measures that would mitigate future use across the Roybal Campus. The team examined the possibility for leaks, reviewed previous water bills from the local utility, and scheduled and completed a re-calibration of each meter at CDC to ensure it was being properly charged for its usage.

After it was determined that Building 23 was by far the largest consumer, team members began to connect with building occupants to determine next steps in water reduction, working in conjunction with their staff to find mutually beneficial solutions that satisfied both sustainability requirements and stringent biological-safety standards. A concentrated communications effort based on newly available meter information led to the creation of monthly water assessments that detailed water usage by building and was forwarded to leadership to increase awareness of the water use reduction effort.

As a part of the project, a contracted study was also completed that exposed a problem within Building 23. The flush valves (used between levels B3 and B4 to avoid entrapment of any animal waste in the pipes as the vivarium rooms were cleaned) were being left on unnecessarily for days at a time. The contractor estimates that the correction of this issue represents a potential 60 million gallon reduction in use per year equating to approximately \$840,000 per year in utility savings.

In FY 2014, FDA MRC completed three UESC water ECMs with water savings of 76.8 kgal/year and energy savings of 850 MMBtu. FDA MRC also replaced existing 1.0 and 0.5 gallon urinals with pint flush urinals and valves, installed hot water pumps that re-circulate domestic hot water based on user demand and temperature of the recirculation loop, and installed an instantaneous lab water heater for cage washing. FDA Dauphin Island also completed a condensate recovery project that is estimated to save 46,000 gallons of water per year.

IHS sustainability audits identified water conservation measures and strategies that will improve water efficiency and reduce potable water consumption at IHS facilities in a fiscally responsible manner, including installing water-saving products, such as aerators and low-flow toilets; and utilizing xeriscaping and water-efficient landscaping techniques. In addition, the IHS Kayenta Staff Quarters Project, currently under construction, includes a laundry graywater-reclamation system to be used for landscaping irrigation. A rainwater recovery system includes roof drains tied to underground holding tanks for irrigation. IHS requires that all new building designs reduce water consumption by 20 % in accordance with LEED new construction.

In CY 2013, NIH awarded more than \$35 million of ESPC and UESC contracts that included several water conservation measures. NIH recently awarded an additional \$19 million project at the National

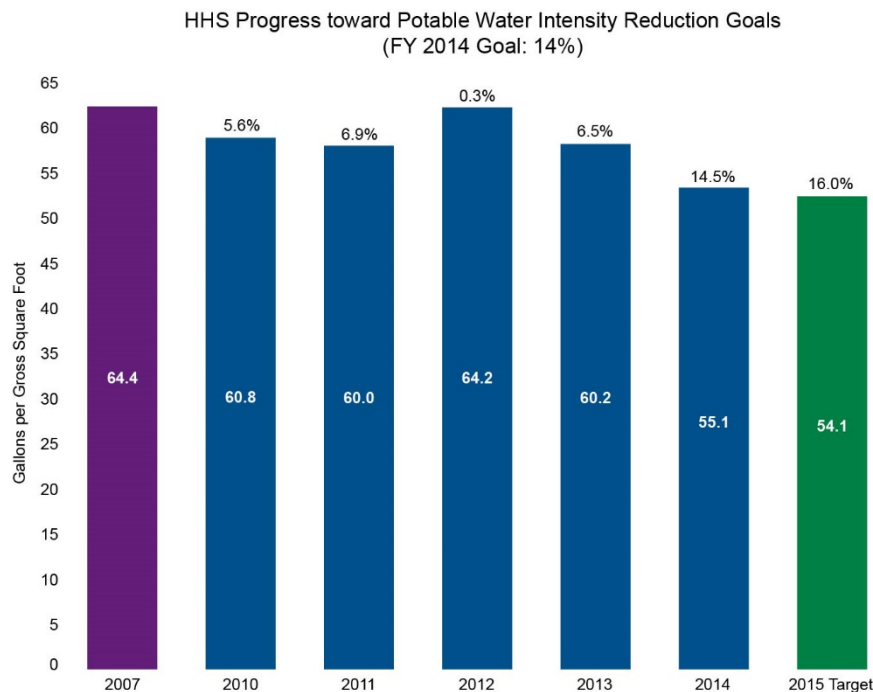
Cancer Institute in Frederick, Maryland. NIH completed the investment-grade audit phase of an additional \$7.5 million multi-building project that is currently in the comment/review phase. Additionally, a WCM study is underway to consider using graywater from a nearby municipal wastewater treatment plant for make-up water to be used in NIH cooling towers.

As part of the LEED platinum renovation to PSC’s 5600 Fishers Lane building, the new design incorporates low-flow plumbing fixtures. The fixtures being installed include 1.28 GPM toilets, 0.125 GPM high efficiency urinals, and hands-free Toto self-generating ecopower system faucets that use less than 0.17 gallons of water per cycle. A hydro-powered turbine charges the power supply during usage eliminating the need for battery replacement or consumption of external electrical power for up to 10 years. All landscaping water has been removed from the building and potable water and cooling towers are separately metered.

HHS awarded three HHS FY 2014 Green Champions Awards in the water use efficiency and management category. The awarded projects included an FDA laboratory sterilizer project in California that retrofit sterilizers to save 10 % of normal water use, a CDC Roybal Campus water mitigation team project that eliminated the use of 95 million gallons of water per year, and a project at the IHS ANTHC Rural Energy Initiative that used excess wind turbine energy to heat public water systems.

Figure 4-1 Potable Water Intensity Reduction

E.O. 13514 required agencies to reduce potable water intensity by 2 % annually through FY 2020 compared to an FY 2007 baseline. A 16 % reduction was required by FY 2015 and a 26 % reduction was required by FY 2020. The first bar represents the agency's FY 2007 baseline. The last bar represents the FY 2015 and FY 2020 target reductions. The bars for years 2010-2014 represent annual agency progress on achieving these targets. The percentage at the top of each bar represents the reduction or increase from the FY 2007 baseline. A negative percentage value indicates that potable water use intensity decreased compared to the FY 2007 baseline.



GOAL 5 – Pollution Prevention & Waste Reduction

Agency Progress toward Pollution Prevention & Waste Reduction

HHS has robust programs in place and is actively addressing federal pollution prevention and waste reduction goals, including:

- Diverting at least 50 % non-hazardous solid waste by FY 2015 (Goals 5b, 5c and 5h): PSC and the OPDIVs reporting, NIH and FDA, achieved diversion levels of more than 50 %. All OPDIVs continue to steadily expand recycling and reuse programs.
- Diverting at least 50 % construction and demolition (C&D) materials and debris by FY 2015 (Goal 5d): HHS has met the goal of diverting 50 % of C&D debris by FY 2015 with the appropriate OPDIVs achieving diversion levels ranging from 88 % to 94 %.

Examples of OPDIV successes and best management practices:

- Recycling at CDC is continuously increasing with 14 additional labs introduced into the Lab Plastics Program. Closed-cell extruded polystyrene foam (Styrofoam) collection and recycling is a rapidly growing program. The battery-recycling program is expanding its collectable categories to include rechargeable and alkaline batteries. Establishing food-composting programs is underway at the Chamblee and Roybal campuses.
- FDA achieved an 80 % decrease of landfilled wastes from FY 2013 to FY 2014 and the total tonnage of all solid waste generated was reduced by 68 %. The collection of unwanted cell phones for the Cell Phones for Soldiers campaign continues to grow, with 3,209 collected since its beginning in FY 2012. A “Supply Swap” program, initiated in September 2013 to facilitate the exchange of excess office supplies and functioning non-accountable equipment, has avoided an estimated \$12,000 in procurement costs.
- NIH achieved an agency-wide recycling diversion rate of 52 % for FY 2014, exceeding the goal of 50 % diversion by FY 2015. NIH continues to pursue the development, expansion, or reinforcement of several reduction, reuse, or recycling programs including animal bedding and food composting, closed-cell extruded polystyrene foam collection and recycling, cafeteria waste composting, mercury collection and disposal, distribution of desk-side and office recycling containers, facilitating the exchange of surplus chemicals, the Toxic Reduction Program, and the Substances of Concern initiative.
- IHS new construction contracts now contain clauses requiring the diversion of a minimum of 50 % of non-hazardous C&D wastes where recycling opportunities exist. The IHS continues to develop and present various sustainability webinars to its widely dispersed organizations. Webinars include Pharmaceutical Waste Compliance, Go Green in 2015, and Hazardous Waste Management and Disposal.

GOAL 6 – Sustainable Acquisition

Agency Progress toward Sustainable Acquisition Goal

HHS has achieved 100 % compliance with E.O. 13514 on new contract actions for the third and fourth quarters of FY 2014; meaning it included applicable sustainability requirements. HHS will continue to conduct outreach and training to the OPDIVs and verify efforts to meet the HHS goal of 95 %.

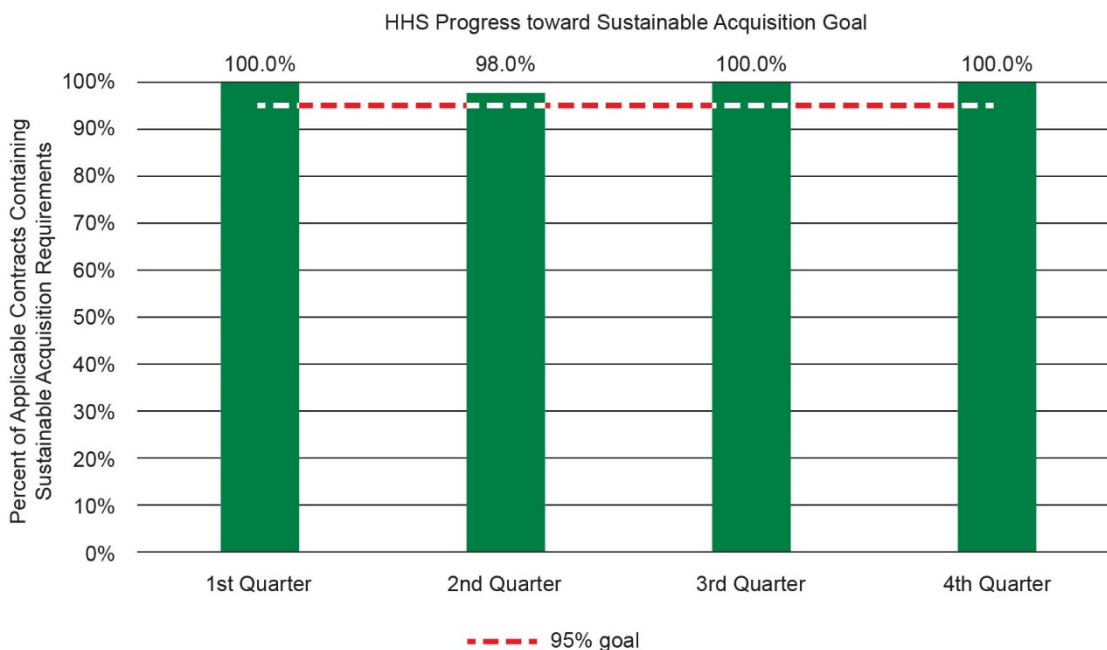
To support sustainable acquisition, HHS issues guidance to the acquisition workforce that emphasizes the inclusion of biobased products language and applicable FAR sustainability clauses in construction and other relevant service contracts. HHS provides its acquisition workforce with sustainable acquisition training that focuses on biobased products and the inclusion of sustainability requirements in applicable contracts.

In FY 2015, the HHS Senior Procurement Executive will continue to represent HHS on the Federal SAMM Working Group and engage GSA and other federal partners on the Healthy/Green procurement initiatives. In doing so, best practices and lessons learned are gathered and passed to the OPDIVs through the HHS Sustainable Green Procurement Workgroup.

- In the third and fourth quarters of FY 2014, 100 % of HHS new contract actions included applicable sustainability requirements based on a minimum 5 % quarterly review of applicable contract actions.
- Outreach sessions have been conducted at various OPDIVs focusing on how to make a contract file green, the newly issued E.O. 13693, and FPDS reporting guidelines.
- For the second and third quarters of FY 2015, HHS increased the sample size of contracts reviewed from 5 % to 50 % or 20 contracts, depending on which is fewer.
- The HHS Senior Procurement Executive continues to identify leading indicators by reviewing synopses, solicitations, and contracts on FedBizOpps for both sustainable clauses and sustainable language in the Statement of Work.

Figure 6-1 Sustainable Acquisition

E.O. 13514 required agencies to advance sustainable acquisition and ensure that 95 % of applicable new contract actions met federal mandates for acquiring products that are energy efficient, water efficient, biobased, environmentally preferable, non-ozone depleting, recycled content, or are non-toxic or less toxic alternatives, where these products meet performance requirements. To monitor performance, agencies perform quarterly reviews of at least 5 % of applicable new contract actions to determine if sustainable acquisition requirements are included.



GOAL 7 – Electronic Stewardship & Data Centers

Agency Progress toward EPEAT, Power Management (PM), & End of Life Goals

According to E.O. 13514, HHS is currently on track at 98 % for the requirements of procurement of EPEAT electronics and the proper end-of-life disposal of electronics. HHS did not meet the FY 2014 goal for 100 % of electronics with power management features enabled. Currently, 95 % of electronics have enabled power-management features, as shown in Figure 7-1, *EPEAT, PM, End-of-Life*. All FY 2014 IT contracts included EPEAT clauses.

HHS OPDIVs have identified 25 core data centers and 142 non-core data centers. Of the non-core data centers, 29 % are scheduled to close by the end of FY 2015. Status of the core data centers will be reported through the OMB PortfolioStat data call.

As of FY 2014, 100 % of CDC’s 30,000 laptops, PC computers and other electronics purchases are Energy Star qualified or covered by Energy Star specs, EPEAT-registered, or FEMP designated. All eligible CDC PCs, laptops, and monitors have Verdiem power management software actively implemented and in use, meaning that all client workstations are powered down nightly and computers are set to idle automatically to reduce power usage.

CDC also initiated a Single Computer Model that requires individual users to operate with only one primary computing device, reducing the overall number of computing devices in the agency. Tablet PCs were added in FY 2014 as acceptable equipment under this program. To reduce the number of assigned devices further, CDC ITSO has implemented a Bring Your Own Device plan to allow CDC staff to use their personal smartphone to access CDC mail and Outlook functions, reducing the overall number of Blackberries in service.

FDA computers and monitors comply with HHS power-management requirements. The FDA acquisition process monitors desktop and laptop hardware purchases for compliance with HHS energy saving and efficiency requirements, ensuring acquisition of EPEAT and ENERGY STAR qualified electronic office products.

FDA has implemented default duplex printing across all enterprise-managed network printers; 93 % of network printers default to duplex printing. The remaining 7 % printers support special-mission critical functions that prevent the default use of duplex printing. In FY 2012, FDA implemented an [Electronic Peripherals Recycling Program](#) at their White Oak Campus.

Figure 7-1 EPEAT, PM, End-of-Life

E.O. 13514 required agencies to promote electronics stewardship by: ensuring procurement preference for EPEAT-registered products; implementing policies to enable power management, duplex printing, and other energy-efficient features; employing environmentally sound practices with respect to the disposition of electronic products; procuring Energy Star and FEMP designated electronics; and, implementing best management practices for data center operations.

EPEAT	POWER MANAGEMENT	END-OF-LIFE	COMMENTS
			Power management: 95%

Note: HHS submitted End-of-Life documents for FY 2014 and is on track for submitting the FY 2015 documents by December 2015, which make End-of-Life green.

GOAL 8 – Renewable Energy

Agency Renewable Energy Percentage of Total Electricity Usage

HHS surpassed the E.O. 13514 FY 2014 goal for renewable energy. HHS derived a total of 11.9 % of its energy use from renewable electricity sources, well ahead of the FY 2014 goal of 7.5 % shown in Figure 8-1, *Renewable Energy Percentage of Total Electricity Usage*.

CDC entered into green purchasing contracts with local utility providers at several campuses across the country to meet renewable energy requirements. At the Fort Collins, CO, and Spokane, WA, campuses, 100 % of energy consumed is wind-power generated. Both locations will continue to procure solely green power for the near future as a part of their agreements. CDC also purchases green power from Georgia Power for several of its Atlanta-area campuses as part of a three-year agreement, which it plans to renew at the contract's end.

While CDC does not maintain a sizeable renewable installation on any of its campuses, it has incorporated the potential for major renewable projects into master plans and into newly constructed facilities. For example, the roof of Building 107 on CDC's Chamblee campus, completed in spring of 2013, is outfitted with the proper pre-installation equipment for solar panels in case a PV project is approved in the future. PV solar evaluations were conducted for Buildings 101 and 102 at CDC's Chamblee campus. CDC already installed solar panels at its South Surface Lot on the Roybal campus. A review of utilities data related to a geothermal pilot at the NIOSH Mining Rescue and Escape Training (NIOSH MRET) was conducted to assess the viability of the project as a prototype for future work.

CDC recently completed research on an approved PV project that will install a PV array with an output of 10-kW on top of its Roybal Visitor's Center Parking Deck. This project is expected to be completed by the end of the fiscal year.

FDA recently installed solar projects including the following:

- Expansion of Phase 3 solar thermal heating system to 30 % solar fraction as part of UESC Phase 6 at MRC. The system was expanded from six to 10 collector panels. The system will provide 2,026 therms/year annual gas savings and \$2,412 annual cost savings. The project has a total cost of \$45,040 and an 18.6-year simple pay back.
- A 130-kW PV array was installed at the Irvine Laboratory.
- In FY 2014, FDA purchased a total of 5,500 megawatt hours (MWh) of RECs from Green-e certified biomass sources certified by a third party. This represents 8.8 % of the FY 2014 FDA electricity consumption.

IHS surpassed the required renewable energy target for FY 2014 and developed a five-year plan with Defense Logistics Agency (DLA) to purchase RECs through FY 2019. The Environmental Steering Committee funded several renewable energy projects.

IHS renewable energy projects in the feasibility, design, or construction phase include:

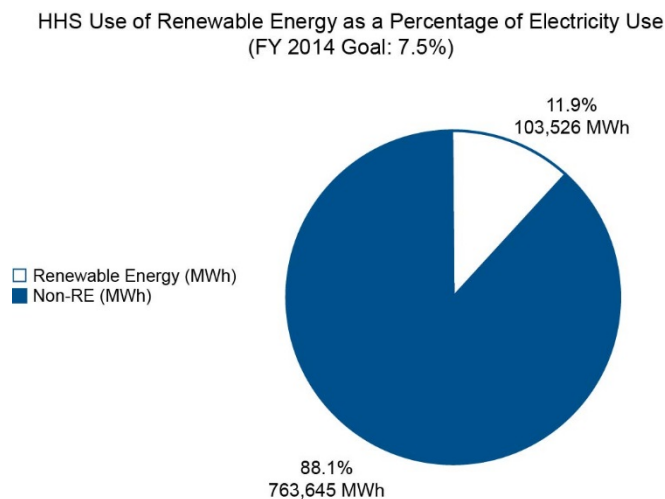
- A 70-kW PV system installed at the Pine Ridge and Rosebud hospital compounds in South Dakota. The systems were placed in service in January and March 2015, respectively.
- The Fort Yuma Health Center design is complete and includes \$1 million for renewable energy systems. The design, completed in FY 2010, is currently being updated to incorporate new codes, standards, and sustainability requirements.
- A 24-kW PV system is being installed at the Southern California Youth Regional Treatment Center, which is currently under construction.
- The Northern California Youth Regional Treatment Center is in the planning phase and the feasibility of on-site renewable energy systems will be evaluated.

IHS sets aside 2 % of new construction project budgets for on-site renewable energy systems and requires a feasibility study of systems capable of providing at least 7.5 % of the annual electrical load. The maximum capacity system that can be provided within the established budget is designed and constructed.

NIH continues to solicit and procure renewable energy credits to exceed quantities described by law and/or Executive Order. NIH has also actively studied solar PV arrays and included installation of several PV arrays in current ESPC activities. It is also actively investigating opportunities for large-scale PV applications.

Figure 8-1: HHS Use of Renewable Energy as a Percentage of Electricity Usage (FY 2014 Goal: 7.5 %)

E.O. 13514 requires that agencies increase use of renewable energy. Further, EPACT 2005 requires agencies to increase renewable energy use such that 7.5 % of the agency's total electricity consumption is generated by renewable energy sources for FY 2014 and beyond. For FY 2012, the required target was 5 % of an agency's total electricity consumption. In 2013, a Presidential Memorandum entitled *Federal Leadership on Energy Management* revised the Federal agency target for agency renewable energy percentage of total electricity usage to reflect a goal of 20 % by 2020.



GOAL 9 – Climate Change Resilience

Agency Climate Change Resilience

E.O. 13514 required each agency to evaluate agency climate change risks and vulnerabilities to identify and manage the effects of climate change on the agency's operations and mission in both the short and long term.

The Office of the Assistant Secretary for Health (OASH) plays a leading role in coordinating climate change activities within HHS. OASH collaborates closely with ASA, the Office of the Assistant Secretary for Preparedness and Response (ASPR), CDC, and NIH on climate change strategies and the [2014 HHS Climate Adaptation Plan](#). Each organization plays an essential role in climate adaptation, preparedness, and resilience.

HHS progress on key actions in support of SSPP's climate change strategies follows:

- **U.S. Global Change Research Program (USGCRP) Climate and Health Assessment:** As part of the USGCRP's Sustained Assessment Process, the Interagency Climate Change and Human Health Group is leading the development of a technical report to assess the state of the science on health impacts of climate change. This assessment report will present a comprehensive, evidence-based, and, where possible, quantitative estimation of observed and projected public health impacts related to climate change in the United States. The lead and coordinating federal agencies are the EPA, NIH, NOAA, and CDC. A draft of the assessment report was made available for public comment in April 2015, with the final publication expected in late 2015 or early 2016. The National Academy of Sciences National Research Council is also conducting a peer review of this draft.
- **Briefing and Webinar:** HHS sponsored a staff briefing and [webinar](#) on climate change and health. The top climate change experts from CDC, NIH, and NOAA presented the latest scientific findings from the National Climate Assessment. It included climate change projections for the country as well as regional snapshots. This webcast was archived and the link was provided to stakeholders. It has been viewed more than 1,000 times.
- **Adaptation Workshop:** HHS plans to host an Adaptation Planning Workshop to teach HHS Operating Divisions and Staff Divisions (STAFFDIVs) about adaptation planning activities. This first-of-its-kind workshop will bring together climate change adaptation experts with mission-related program planners, emergency preparedness coordinators, chief sustainability officers, continuity of operations planners, and occupant emergency planners from each OPDIV and STAFFDIV to catalyze adaptation-planning activities.
- **Communication and Outreach Strategy:** HHS continues to refine a climate change communication and outreach strategy that will be a helpful tool to share the latest scientific studies and guidance. HHS will leverage its comprehensive network of stakeholders involved in the receipt or delivery of health and human services to disseminate climate change and health information. Outreach and communication for at-risk populations are a significant part of this strategy. For example, in October 2014, CDC and NIOSH established a [web-based topic page](#) on

climate change and on occupational safety and health that includes information on the risks for workers, research needs, and resources.

- **White House Climate Change and Health Summit:** In collaboration with HHS, the White House hosted a Climate Change and Public Health Summit in June 2015 to bring together public health, medical, and other health professionals, academics, and other interested stakeholders to discuss the public health impacts of climate change and identify opportunities to minimize these impacts.
- **Children and Climate Change:** Children are uniquely vulnerable to the effects of climate change, in part because children breathe more air, drink more water, and eat more food per unit of body weight. The President’s Task Force on Environmental Health Risks and Safety Risks to Children, a federal interagency group, stood up a Subcommittee on Climate Change co-chaired by NIH, EPA, and DHS. In July 2014, the Subcommittee hosted an Expert Consultation on the Effects of Climate Change on Children’s Health to explore issues and to help to inform an ongoing U.S. Global Change Research Program health assessment of climate change. The Task Force is also conducting a Climate Change and Health Policy Roundup and is gathering examples of policy actions at the federal, state, local, and tribal levels to highlight during national Children’s Health Month in October 2015.
- **Sustainable Climate Resilient Healthcare Facilities Initiative:** As part of the [President’s Climate Action Plan](#) HHS initiated a public-private partnership to develop specific tools and information related to resilience of healthcare facilities in a context of climate change-exacerbated stressors. It released a best practices document, [Primary Protection: Enhancing Health Care Resilience for a Changing Climate](#) in December 2014. In April 2015, HHS released a related toolkit, which includes an overview guide; a catalog of existing resources; checklists; a database of relevant case studies organized by type of hazard, type of facility, and location; and additional briefing documents.
- **Climate Resilience Toolkit:** HHS led the development of the health section of the [USGCRP Climate Resilience Toolkit](#), which provides informational and decision-support resources for the public and health professionals to help address the health risks associated with climate change.
- **State and Local Health Department Climate Adaptation Planning:** Through its [Climate Ready States and Cities Initiative](#), also referenced in the [President’s Climate Action Plan](#), CDC is providing cooperative agreements, guidance and technical support to 16 states and 2 city health departments to implement, evaluate, and document their experience with implementing the climate adaptation framework, Building Resilience Against Climate Effects (BRACE). The BRACE framework provides state and local health departments with a process for integrating the best available atmospheric science into its planning and response activities and supports the development and implementation of a unified climate and health adaptation strategy for a jurisdiction. CDC released [Assessing Health Vulnerability to Climate Change: A Guide for Health Departments](#) and [Adaptation in Action](#). CDC will continue to develop and disseminate best practices to assess and communicate climate change risks and resilience measures to ensure public health professionals, physicians, and clinical healthcare providers have the tools they need to prepare their communities for the health consequences of climate change.

- **Climate Data Initiative:** The Climate Data Initiative is a broad effort to leverage the federal government's freely available, climate-relevant data resources to stimulate innovation and private-sector entrepreneurship to support national climate-change preparedness. More than 150 health-relevant data sets were added recently to challenge innovators to use them to inform scientists and communities better about how to identify, minimize, and prevent the health impacts of climate change.
- **Environmental Justice:** HHS is participating in the efforts of the federal Environmental Justice Interagency Working Group to develop an interdepartmental approach to facilitate climate change adaptation in environmental justice communities. HHS, with leadership from NIH and NIEHS, sponsored the Climate Justice conference scheduled for June 2015. One focus of the conference is to provide environmental justice stakeholders an overview of recently released climate and health data and tools.
- **Preparing the Next Generation of Medical and Health Professionals:** In collaboration with HHS, the Obama Administration announced a coalition of deans from 30 medical, public health, and nursing schools around the country who are committing to ensure that the next generation of health professionals is trained to address the health impacts of climate change.

GOAL 10 – Energy Performance Contracts

Agency Progress toward Energy Performance Contracts

Energy Performance Contracts, including both Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs), enable agencies to obtain energy efficiency investments in buildings and deploy on-site renewable energy through long-term contracts with the private sector, which are in turn paid through savings derived from those investments.

HHS committed to implement \$35.2 million of performance contracting by December 31, 2013, in accordance with the 2011 President's Performance Contracting Challenge (PPCC). By December 31, 2013, HHS awarded \$40.9 million in performance contracts, exceeding its commitment by \$5.7 million. With the extension of the PPCC for another three years into December 2016, HHS committed to awarding an additional \$51.8 million in performance contracts for a total commitment of \$92.7 million of performance contracts implemented over six years.

As of April 15, 2015, an additional \$3 million of contracts were awarded, for a total of \$43.9 million in awards, and an additional \$30.8 million was in the pipeline. Currently, \$63.2 million of contracts are awarded, \$11.8 million is in the pipeline, and CDC, FDA, and NIH are working to award an additional \$22 million by the end of CY 2016 for a total of \$97.5 million (\$4.8 million above the HHS updated PPCC target of \$92.7 million).

CDC completed milestones for both UESC and ESPC projects in Atlanta and Pittsburgh. The Atlanta UESC project team selected a utility and will begin preliminary assessments within the next several

weeks. In Pittsburgh, the project team selected the ESPC model and is currently finalizing the acquisition plan and notice to potential contractors. This project is anticipated to be awarded by December 2016.

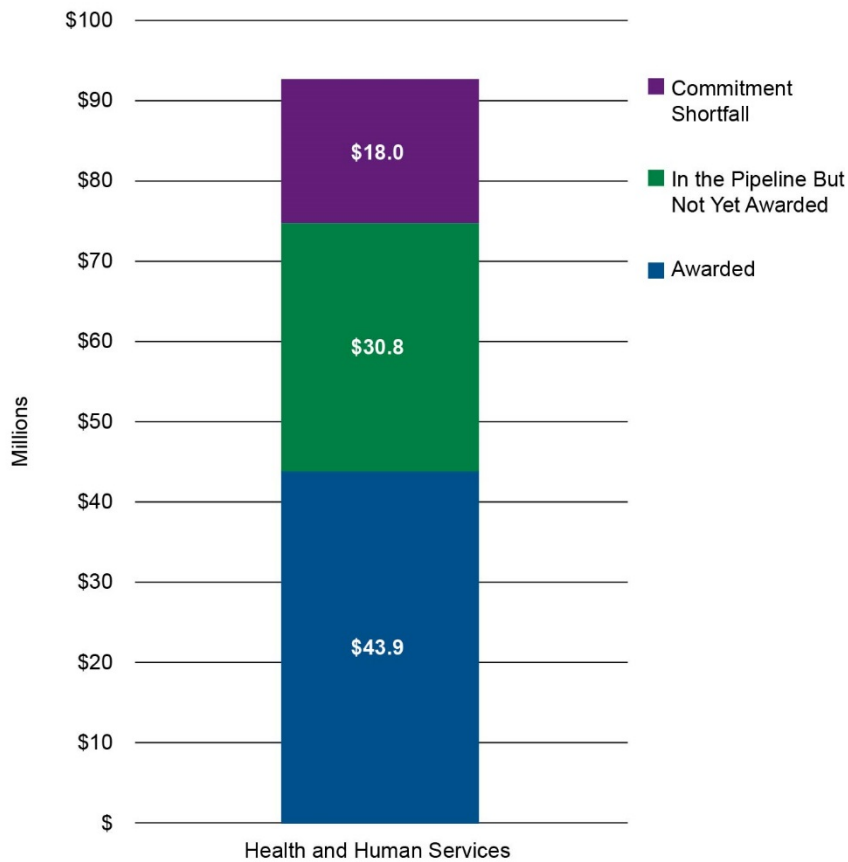
The FDA MRC UESC Phase 5 is near completion. This was a facilities project with non-financed ECMs that included upgrading elevators and replacing outdated controls with DDC and tie-in to the central BAS to improve monitoring of operation. Two elevators were added as a change order to this project. The project cost was \$2.19 million.

FDA completed its IGA for UESC Phase 7, resulting in 21 potential ECMs at MRC. The ECMs would provide an estimated 15,669.2 MMBtu savings per year. The construction cost is estimated at \$2.5 million and the estimated annual cost savings is \$313,700 resulting in a 7.91-year simple payback.

Figure 10-1 Energy Performance Contracts

The chart below represents the agency's performance contracting commitment and progress toward that commitment as reported through April 15, 2014 (for agencies subject to the 2011 President's Performance Contracting Challenge). The bar graph shows the total dollar value (in millions) of (1) already awarded projects, (2) projects in the pipeline but not yet awarded, and (3) the pipeline shortfall or surplus depending on whether the agency has reached their commitment goal.

Progress in Meeting President's Performance Contracting Challenge (PPCC) Goal



Note: This chart indicates agency progress toward the 2016 Performance Contracting goal as of April 15, 2015.

Agency Strategies to Meet Goals of E.O. 13693

To facilitate agency planning and reporting, the majority of the goals for E.O. 13693 take effect in the beginning of fiscal year 2016 (October 1, 2015) and are therefore appropriate for inclusion in this document. As noted previously many of the goals that agencies pursued under the previous executive orders have been carried over into E.O. 13693. This section provides strategies set forth by HHS to meet the E.O. goals in each goal area.

Goal 1: Greenhouse Gas (GHG) Reduction

The HHS Scope 1 and 2 GHG Reduction goal per E.O. 13693 is a 38.7 % reduction by FY 2025 as compared to the FY 2008 baseline year. Table 1-1 outlines strategies to meet this goal. The HHS Scope 3 GHG Reduction goal is a 25.4 % reduction by FY 2025 as compared to FY 2008. Table 1-2 outlines strategies to meet the Scope 3 goal.

Table 1-1: Scope 1 and 2 GHG Reductions Strategies

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Use the FEMP GHG emission report to identify/target high emission categories and implement specific actions to resolve high emission areas identified.	HHS has identified the largest percentage of GHG emitters per the FEMP GHG emission report. The data will be used on an OPDIV basis to prioritize actions.	<ul style="list-style-type: none"> • HHS will provide OPDIV-specific GHG data to energy and water managers by category: August 2015. • OPDIVs to identify specific projects that will reduce GHG emissions in the high emitting categories: December 2015. • OPDIVs to establish an implementation plan for projects: May 2016.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
<p>Identify and support management practices or training programs that encourage employee sustainability and greenhouse gas consideration.</p>	<p>HHS understands that a motivated workforce is necessary to implement sustainable change and reduce GHG emissions.</p> <p>OPDIVs work to increase awareness through Green Teams, outreach events, the Internet and Intranet, training and workshops, communications from the CSO and energy manager, posters, internal TV, and annual Earth Day celebrations at FDA owned and leased sites.</p> <p>Engineers and facility operations personnel are currently attending webinars and classes on energy/water conservation and renewable energy, including FEMP, Labs 21, and other applicable training as resources allow.</p>	<ul style="list-style-type: none"> • OPDIV personnel will attend Energy Exchange 2015: August 2015. • OPDIVs will hold Energy Action Month and Earth Day Outreach events: October 2015 and April 2016. • OPDIVs will participate in the HHS Green Champion Awards, FEMP Energy and Water Management Awards, and 2015 CEQ GreenGov Awards to recognize and promote sustainable efforts: Ongoing. • HHS will explore the development of mandatory sustainability training for all employees: October 2015.
<p>Conceptualize the goals of E.O. 13693 within a projected cost-benefit framework to identify low-hanging fruit.</p>	<p>HHS will review existing audit ECMs and infrastructure projects to prioritize those with favorable economic feasibility with particular emphasis on clean energy.</p>	<ul style="list-style-type: none"> • CDC will select ECMs with favorable ROI for UESC task orders: June 2016. • FDA will perform audits and identify potential ECMs. Convert technical and cost effective ECMs identified in audits to actual construction projects based on the availability of funds: December 2015. • NIH continuously audits for ECMs and subsequent cost effective ECMs for implementation: Ongoing.
<p>Isolate successful measures applied toward the goals of E.O. 13514 that could be expanded to meet the goals of E.O. 13693.</p>	<p>HHS will identify energy saving projects that are cost effective and replicable across facilities heavily promote them with HHS facility managers.</p> <p>CDC, FDA, and NIH will continue the use of performance contracting with particular emphasis on past successful ECMs.</p>	<ul style="list-style-type: none"> • CDC will connect Roybal Campus Building 16 to the CUP loop for efficiency improvement: December 2015. • FDA will replace boilers, chillers, and controls at Jefferson Labs: June 2016. • FDA will upgrade freezers and cold boxes to more efficient units and install instantaneous water heating at MRC: December 2015. • NIH will install variable frequency drives in secondary chilled water distribution systems at the NIH Bethesda Campus: June 2016 • NIH Bethesda Campus will upgrade slip clutch couplings on boiler draft fans: June 2016

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Employ operations and management best practices for energy consuming and emission generating equipment.	HHS OPDIVs will optimize equipment schedules and preventive maintenance to minimize energy use and GHG emissions.	<ul style="list-style-type: none"> • OPDIVs will replace aged equipment with high-efficiency models and Energy Star equipment: Ongoing. • OPDIVs will work together to share best practices on monitoring and utilizing energy consumption through workgroup meetings and training: Ongoing. • NIH is planning to implement Maximo 7.6 for the Bethesda Campus CUP. Maximo is a work-order-management system that will track work orders in the plant and a mobility platform to eliminate paper logs in the Bethesda Campus CUP. NIH will be working with Research Triangle Park and Rocky Mountain Labs to determine if the use of Maximo 7.6 is feasible for their operations: June 2016. • NIH Bethesda Campus will update Standard Operating Procedures for the CUP Steam Plant: December 2015. • PSC will work with the 5600 Fishers Lane lessor to develop preventive maintenance program for the above-standard base building equipment phase 1 and 2 work: Ongoing.

Table 1-1a: Additional Scope 1 and 2 GHG Reduction Strategies Identified by CEQ that are Not a Top Five HHS Strategy

CEQ Suggestion	HHS Response
Identify alternative sources of data or alternative methods of analysis not set forth in E.O. 13693, but with the potential to support its goals.	HHS energy personnel continuously analyze and monitor additional sources of data and analysis. This is not an HHS top five strategy.
Determine unsuccessful programs or measures to be discontinued to better allocate agency resources, human and otherwise.	HHS focuses on mandated programs and successful OPDIV-specific programs. Unsuccessful programs are discontinued as deemed appropriate. This is not considered an HHS top five strategy.

CEQ Suggestion	HHS Response
Determine which goals set forth in E.O. 13693 represent unambitious targets given past agency performance, identify by how much they could be exceeded, and establish new within-agency target.	This is not an HHS top five strategy.

Table 1-2: Scope 3 GHG Reductions Strategies

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Reduce employee business travel (ground and air).	HHS will approach reduction of business ground travel as a paired activity with air travel. While specific strategies are not yet formulated, the HHS approach will be to set up two related workgroups (ground and air) to explore best approaches in increasing managerial and programmatic awareness of need for reductions while offering best practice solutions to GHG reductions.	<ul style="list-style-type: none"> • Establish working groups: August 15, 2015 • Outline awareness strategies: September 15, 2015. • Broadcast suite of best practice solutions: November 15, 2015.
Develop and deploy employee commuter reduction plan and use the employee commuting survey to identify opportunities and strategies for reducing commuter emissions.	<p>The HHS strategy pairs the commuter reduction plan with the development and usage of the employee commuting survey.</p> <p>The first step is to establish a working group that uses the survey to inform the commuter plan.</p> <p>HHS will continue to use the commuting survey data from the CY 2015 survey and design and deploy the survey in the January 2016 timeframe.</p>	<ul style="list-style-type: none"> • Convene a separate working group to develop and implement commuter reduction plan: August 15, 2015. • Working group to outline initial draft of plan: December 31, 2015. • Establish OPDIV level usage of the survey data to help identify areas for reduction of GHGs: October 15, 2015.
Increase number of employees eligible for telework and/or the total number of days teleworked.	Led by the Office of Human Resources and implemented through the HHS Telework Working Group, the strategy is to integrate the data and information from the commuter survey with data from the telework sections of the annual Federal Employee Viewpoint Survey to see where opportunities exist to enhance options and increase telework across HHS.	<ul style="list-style-type: none"> • Revitalize the HHS Telework Working Group: August 15, 2015. • Establish Renewed Targets for telework: August 30, 2015. • Provide guidance documents and process support to the working group to meet targets: September 15, 2015.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Develop and implement bicycle commuter program and provide bicycle-commuting infrastructure.	Led through the Office of Human Resources, PSC Federal Occupational Health, and Operating Division Sustainability Leads, the strategy is to enhance opportunities and supporting activities to encourage bicycle-commuting practices.	<ul style="list-style-type: none"> • Establish dedicated working group: August 15, 2015. • Identify rich opportunities by geographic location for improved bicycle commuting practices: October 15, 2015.
Plan to begin FY 2016: Report Scope 3 greenhouse gas emissions for leases over 10,000 rentable square feet E.O. 3(h)(v)	HHS will begin the process of identifying leased buildings larger than 10,000 rentable square feet and outline an action plan to work with lessors on obtaining energy consumption data.	<ul style="list-style-type: none"> • Obtain list of buildings larger than 10,000 rentable square feet: August 2015. • Prioritize list: September 2015. • Outline strategy to contact lessors and work to obtain energy consumption data: December 2015.

Goal 2: Sustainable Buildings

Building Energy Conservation, Efficiency, and Management

Section 3(a) of E.O. 13693 states that agencies will promote building energy conservation, efficiency, and management. Section 3(a)(i) requires agencies to reduce building energy intensity by 2.5 % annually through the end of FY 2025 (measured in British thermal units per square foot), relative to a FY 2015 baseline and taking into account agency progress to date, except where revised pursuant to section 9(f) of E.O. 13693.

Building Efficiency Performance, and Management

Section 3(h) of E.O. 13693 states that agencies will improve building efficiency, performance, and management.

Section 3(h)(iii) requires that agencies identify, as a part of the planning requirements of section 14 of this order, a percentage of the agency's existing buildings above 5,000 gross square feet intended to be energy, waste, or water net-zero buildings by FY 2025 and implementing actions that will allow those buildings to meet that target. Targets will be established in 2016.

Section 3(a)(ii) of E.O. 13693 states that agencies must improve data center efficiency at agency facilities. Section 3(a)(ii)(C) requires that agencies establish a power usage effectiveness target in the range of 1.2-1.4 for new data centers and less than 1.5 for existing data centers.

Table 2-1: Sustainable Buildings Strategies

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Implement space utilization and optimization practices and policies. 3(a)(E)	HHS is implementing a 170 usable square foot (USF) per person policy that continues to reduce office space.	Department footprint does not increase, even as mission does: June 2016
Include climate resilient design and management into the operation, repair, and renovation of existing agency buildings and the design of new buildings. 3(h)(viii)	HHS will update its Facilities Program Manual to incorporate climate resilience requirements.	Appropriate Facility Program Manual sections will be updated: January 2016.
Install and monitor energy meters and sub-meters as soon as practicable.	HHS will continue to prioritize the installation of energy meters at the building and sub-meter levels. OPDIVs will update metering plans for the installation of natural gas, steam, and chilled water meters.	<ul style="list-style-type: none"> • OPDIVs to update metering plans: August 2015. • CDC has a funded an FY 2015 R&I project to upgrade the Roybal campus power monitoring system. • NIH will install 180 GE Meters and relays to sub-meter motors, pumps, and chillers in Bethesda Campus CUP: June 2016. • NIH will install sub-metering in selected National Heart, Lung, and Blood Institute (NHLBI) laboratories to inform lab users of their energy consumption. This is a pilot study to demonstrate behavior change that is achievable when detailed energy use data is provided to lab personnel after they have been trained and encouraged to use energy efficiently: June 2016.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Collect and utilize building and facility energy use data to improve building energy management and performance.	OPDIVs will evaluate current energy consumption tracking procedures for effectiveness and enhancements, and adjust accordingly. Emphasis will be placed on ensuring facility managers use the data to efficiently operate facilities.	<ul style="list-style-type: none"> • OPDIV energy leaders will meet to outline current energy-consumption data collection and use procedures at OPDIV facilities. Best practices will be shared and actions to improve procedures will be developed: August 2015. • NIH Bethesda Campus will compile data from NIH utility bills into a centralized system to analyze it and identify problems and potential efficiencies: April 2016. • PSC 5600 Fishers Lane team will work with building lessor and GSA to modernize Building Automation System and obtain monitoring/alarm devices in NOC, Security Central, and PSC office: Ongoing.
Incorporate green building specifications into all new construction and major renovation projects.	HHS will update its Facility Program Manual to incorporate new E.O. 13693 requirements.	Appropriate Facility Program Manual sections will be updated: January 2016.

Table 2-1a: Additional Sustainable Buildings Strategies Identified by CEQ that are Not a Top Five HHS Strategy

CEQ Suggestion	HHS Response
Use remote building energy performance assessment auditing technology. 3(a)(A)	This is not an HHS top five strategy.
Participate in demand management programs. 3(a)(B)	HHS facilities participate in demand management programs whenever feasible, but this is not an HHS top five strategy.
Ensure that monthly performance data is entered into the Environmental Protection Agency (EPA) ENERGY STAR Portfolio Manager. 3(a)(C)	All HHS EISA 2007 covered facilities input energy data into EPA Energy Star Portfolio Manager on an annual basis but not a monthly basis. This is not an HHS top five strategy.
Where feasible: Incorporate Green Button data access system into reporting, data analytics, and automation processes. 3(a)(D)	This is not an HHS top five strategy at this time. HHS has not found the Green Button data to be user friendly nor available for many facilities.
Identify opportunities to transition test-bed technologies to achieve the goals of this section. 3(a)(F)	This is not an HHS top five strategy at this time.
Where feasible: Conform to city energy performance benchmarking and reporting requirements. 3(a)(G)	This is not an HHS top five strategy at this time.
Begin planning for FY 2020 requirement: Ensure all new construction of federal buildings greater than 5,000 gross square feet that enters the planning process be designed to achieve energy net-zero and, where feasible, water or waste net-zero by FY 2030. 3(h)(i)	This is not a top five strategy for HHS at this time. New construction projects include analysis of net-zero energy, water, or waste.
In all new agency lease solicitations over 10,000 rentable square feet, include criteria for energy efficiency as a performance specification or source selection evaluation factor. 3(h)(iv)	This is not a top five strategy for HHS at this time. HHS leasing agreements already include these criteria.
In all new agency lease solicitations over 10,000 rentable square feet, include requirements for building lessor disclosure of carbon emission or energy consumption data for leased portion of building. 3(h)(iv)	This is not a top five strategy for HHS at this time.
In planning new facilities or leases, include cost-effective strategies to optimize sustainable space utilization and consideration of existing community transportation planning and infrastructure, including access to public transit. 3(h)(vi)	This is not a top five strategy for HHS at this time.

CEQ Suggestion	HHS Response
Ensure that all new construction, major renovation, repair, and alteration of agency buildings includes appropriate design and deployment of fleet charging infrastructure. 3(h)(vii)	This is not a top five strategy for HHS at this time.

Table 2-2: Data Center Efficiency Strategies

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Install and monitor advanced energy meters in all data centers by fiscal year. 2018 3(a)(ii)(B)	Of the 24 HHS core data centers, 18 are already power metered. The remaining six are being investigated for pricing to install power meters and/or undergoing cost/benefit analysis to determine whether leases should be updated to include metering or if the data centers should be closed.	<ul style="list-style-type: none"> • Receive quotes for installing power meters for three agency-owned data centers by end of CY 2015 and evaluate responses: January 2016. • Conduct cost/benefit analyses for three commercially owned data centers for feasibility of adding metering to the leases or potentially closing these data centers when the leases expire: June 2016.
Improve data center temperature and airflow management.	Measure existing data center ventilation rates and adjust rates to maintain adequate temperature and airflow to reduce energy usage.	<ul style="list-style-type: none"> • Complete data center survey: August 2015. • Implement revised ventilation procedures as soon as possible depending on scope of adjustment: June 2016.
Optimize agency Data Centers across total cost of ownership metrics.	Data center status, financial, and inventory data for the core data centers will be submitted to OMB through the PortfolioStat data call.	HHS will continue to strive to have the Core Data centers meet minimum OMB total cost of ownership standards: June 2016.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Identify and consolidate obsolete and underutilized agency computer servers into energy efficient data centers.	This is a major part of the HHS consolidation effort, and HHS encourages server virtualization wherever possible.	HHS has virtualized a significant number of servers and increased the migration of physical server functionality to virtual machines in energy efficient public cloud providers since the beginning of the Data Center Consolidation Initiative efforts in FY 2010. In data centers that HHS is unable to close, HHS will work to identify other consolidation opportunities, and reassess the current data center inventory to uncover further opportunities for optimization: June 2016.
Ensure the agency chief information officer promotes data center energy optimization, efficiency, and performance. 3(a)(ii)(A)	Review opportunities for HHS Chief Information Officer (CIO) to promote data center energy optimization, efficiency, and performance. Coordinate messaging with OPDIV CIOs, as feasible.	Targets and metrics to measure success will be reevaluated after additional guidance is received for OMB M-15-14: Ongoing.

Goal 3: Clean & Renewable Energy

Agency Clean Energy Share of Total Electric and Thermal Energy Goal

E.O. 13693 3(b) requires that, at a minimum, the percentage of an agency's total electric and thermal energy accounted for by renewable and alternative energy shall be not less than: 10 % in FY 2016-17; 13 % in FY 2018-19; 16 % in FY 2020-21; 20 % in FY 2022-23; and 25 % by FY 2025.

Agency Renewable Energy Share of Total Electricity Consumption Goal

E.O. 13693 3(c) sets a second schedule that addresses specifically renewable energy. It requires that renewable energy account for not less than 10 % of total electric energy consumed by an agency in FY 2016-17; 15 % in FY 2018-19; 20 % in FY 2020-21; 25 % in FY 2022-23; and 30 % by 2025.

Table 3: Clean & Renewable Energy Strategies

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
<p>Install agency-funded renewable on-site and retain corresponding renewable energy certificates (RECs) or obtaining replacement RECs. 3(d)(i)</p>	<p>HHS OPDIVs primarily use performance contracting to install renewable energy projects. Many PV projects have been installed or are under analysis through ESPC/UESC ECMs.</p>	<ul style="list-style-type: none"> • CDC Roybal Campus will investigate on-site PV for the roof of B107 as a UESC ECM: December 2015. • CDC will install pilot PV array for Roybal Campus B45 to supply energy to news vehicles at front entrance: June 2016. • FDA will evaluate additional ground mounted PV arrays for MRC: May 2016. • IHS sets aside two percent of new construction project budgets for on-site renewable energy systems and requires a feasibility study of systems capable of providing at least 7.5 % of the annual electrical load. The maximum capacity system that can be provided within the established budget is designed and constructed: Ongoing. • IHS will fine-tune the 70-kW PV system installed at each of the Pine Ridge and Rosebud hospital compounds in South Dakota: December 2015. • IHS will update the design of Fort Yuma Health Center that will include \$1 million of renewable energy systems: June 2016 • IHS will install a 24-kW PV system at the Southern California Youth Regional Treatment Center: June 2016. • IHS Northern California Youth Regional Treatment Center is in the planning phase and the feasibility of on-site renewable energy systems will be evaluated: June 2016. • NIH continues to analyze facilities for additional PV applications through all available means (UESC, ESPC, PPA, etc.): Ongoing.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Purchase electricity and corresponding RECs or obtaining equal value replacement RECs. 3(d)(iii)	Some HHS facilities purchase renewable energy (RE) directly from suppliers to meet requirements. This practice will continue to increase as prices become more cost effective.	<ul style="list-style-type: none"> • CDC will execute a new contract with Georgia Power Company to procure additional green power to meet the FY 2016 requirement of 15 % electricity from renewable sources according to the latest FEMP Consolidated Renewable Energy Guidance: September 2015. • PSC's 5600 Fishers Lane and the Office of the Secretary Hubert H. Humphrey Building will continue to meet RE requirements through a GSA bulk-buy contract: Ongoing.
Purchase RECs. 3(d)(iv)	Most HHS facilities purchase RECs to meet RE requirements due to the favorable economics. In the near future, this practice will continue to be the most cost effective.	<ul style="list-style-type: none"> • FDA will purchase RECs totaling 10 % of the estimated consumption for FY 2016: June 2016 • IHS will implement a five-year plan to purchase RECs to meet FY 2015 to FY 2019 requirements: September 2015. • NIH will continue to purchase the required amount of RECs through FY 2025: Ongoing.
Install thermal renewable energy on-site at Federal facilities and retain corresponding renewable attributes or obtain equal value replacement RECs. 3(e)(i)	HHS OPDIVs use performance contracting to install thermal renewable energy projects. Many solar thermal projects have been installed or are under analysis through ESPC/UESC ECMs.	<ul style="list-style-type: none"> • Currently, no specific solar thermal projects are planned for installation. • Current energy audits being conducted under performance contract projects are analyzing the installation of solar thermal projects to meet the clean energy requirements: Ongoing.
Increase renewable energy training for facility and energy personnel.	OPDIVs will promote increased completion of renewable energy training and webinars for facility and energy personnel.	<ul style="list-style-type: none"> • OPDIV personnel will attend FEMP, webinars, and complete other online training as funding for course attendance is available: Ongoing. • OPDIV facility and energy personnel will attend local vendor training to the maximum extent possible: Ongoing. • OPDIVs will provide training for building occupants through awareness events and newsletters: Ongoing.

Goal 4: Water Use Efficiency & Management

Potable Water Consumption Intensity Reduction Goal

E.O. 13693 section 3(f) states that agencies must improve water use efficiency and management, including stormwater management. E.O. 13693 section 3(f)(i) requires agencies to reduce potable water consumption intensity by 2 % annually through FY 2025 relative to an FY 2007 baseline (measured in gallons). A 36 % reduction is required by FY 2025.

ILA Water Consumption Reduction Goal

E.O. 13693 section 3(f)(iii) also requires that agencies reduce their industrial, landscaping and agricultural (ILA) water consumption measured in gallons by 2 % annually through FY 2025 relative to a FY 2010 baseline.

Table 4: Water Use Efficiency & Management Strategies

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
<p>Install and monitor water meters; collect and utilize building and facility water data for conservation and management. 3(f)(ii)</p>	<p>HHS OPDIVs will focus on installing additional potable water meters at the building or major-use level to monitor use, identify additional savings, and meet E.O. requirements and Guiding Principles.</p> <p>OPDIVs use on-going leak detection programs to identify leaks in a timely manner.</p> <p>OPDIVs are working to optimize collection of water use data for real-time monitoring of consumption and focus on efficient operations.</p>	<ul style="list-style-type: none"> • CDC will install new building level domestic meters at Roybal campus B16 and Lawrenceville campus Building B: December 2015. • Complete CDC Roybal Campus Water Use Study and internal evaluation of identified water reduction strategies: December 2015. • CDC will complete real-time, building-level meter system via WaterSignal or BAS monitoring for Atlanta campuses: December 2015. • CDC will explore opportunities for campus water study at Chamblee and other CDC campuses: June 2016. • FDA will perform on-going ultrasound inspection and monitoring by an outside contractor at MRC: Ongoing. • FDA performs weekly visual inspections at all sites: Ongoing. • NIH has metering ECMs in current ESPC projects now in progress adding meters, repairing existing meters and re-commissioning the meter fleet: Ongoing.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Install high efficiency technologies (e.g., WaterSense).	<p>Low-flow fixtures are considered and installed at all sites and in all projects with water conservation measures. Most HHS facilities have completed this action and are now investigating specialty equipment, particularly for labs.</p> <p>New construction and renovation projects include WaterSense or other water-saving fixtures and technologies.</p>	<ul style="list-style-type: none"> • At CDC, any remaining non-lab or non-industrial related faucets, showers, urinals, and water closets identified without low-flow technologies will be noted during planned EISA 2007 section 432 audits. • FDA will install low-flow fixtures in 10 restrooms at MRC: December 2015. • FDA will replace Reverse Osmosis (RO) tank at MRC: June 2016. • FDA will upgrade rest rooms in the lab building in San Juan: June 2016. • PSC 5600 Fishers Lane is installing 1.28 GPM toilets, 0.125 GPM high efficiency urinals, and hands-free Toto self-generating ecopower system faucets, which use less than 0.17 gallons of water per cycle.
Design and deploy water closed-loop, capture, recharge, and/or reclamation systems.	HHS OPDIVs have established a best practice to convert all open loop chilled water systems to closed loop. OPDIVs are installing water misers on autoclaves/sterilizers and employing condensate and blow-down recovery systems. Reclamation systems will be highlighted in new ESPC WCMs, and, where economically feasible, in new construction and renovation projects.	<ul style="list-style-type: none"> • FDA will install water recirculation system for distilled water in San Juan: June 2016. • IHS Kayenta Staff Quarters project will include a laundry graywater-reclamation system to be used for landscaping irrigation: June 2016. • NIH is studying a WCM to use graywater from a municipal wastewater treatment plant for make-up water to cooling towers: June 2016.
Develop and implement programs to educate employees about methods to minimize water use.	HHS will continue outreach and water efficiency awareness efforts to improve employee participation. The upcoming year will focus on identifying training and outreach initiatives for key focus groups.	<ul style="list-style-type: none"> • FDA will replace five existing drinking water fountains with bottle filler solutions at Irvine: June 2016 • PSC 5600 Fishers Lane will regularly post information on the building information system and building displays to educate employees about water conservation: Ongoing. • OPDIVs will increase awareness through Green Teams, outreach events, intranet, training and workshops, communications from the CSO and energy manager, internal TV messages, and annual Earth Day celebrations: Ongoing. • OPDIV staff will continue to attend webinars and classes on energy/water conservation and renewable energy, including FEMP, GreenGov, Lab 21, and other training as resources allow: Ongoing.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Ensure that planned energy efficiency improvements consider associated opportunities for water conservation.	HHS OPDIVs are working to ensure facility assessments and audits include WCMs as part of energy efficiency improvements. New projects, renovations, and building designs will assess the potential for water savings in conjunction with energy efficiency measures.	<ul style="list-style-type: none"> • CDC will implement WCMs from ESPC audits focusing on solution for steam distribution system in NIOSH Pittsburgh campus: December 2015. • NIH will continually investigate potential projects and WCMs through its SMART Team, and will act upon potential findings: Ongoing.

Table 4a: Additional Water Use Efficiency & Management Strategies Identified by CEQ that are Not a Top Five HHS Strategy

CEQ Suggestion	HHS Response
Install appropriate green infrastructure features to help with storm and wastewater management (such as rain gardens, rain barrels, green roofs, or impervious pavement). 3(f)(iv)	While HHS implements projects that will sequester rainwater, such as the construction of PSC’s 5600 Fishers Lane green roof, it is not an HHS top five strategy.

Goal 5: Fleet Management

Fleet Per-Mile Greenhouse Gas Emissions Goal

E.O. 13693 section 3(g) states that agencies with a fleet of at least 20 motor vehicles will improve fleet and vehicle efficiency and management. E.O. 13693 section 3(g)(ii) requires agencies to take actions that reduce fleet-wide per-mile greenhouse gas emissions from agency fleet vehicles relative to a new, FY 2014 baseline and sets new goals for percentage reductions: not less than 4 % by the end of FY 2017; not less than 15 % by the end of FY 2020; and not less than 30 % by then end of FY 2025.

E.O. 13693 section 3(g)(i) requires that, as a part of the Sustainability Planning process agencies should determine the optimum fleet inventory, emphasizing eliminating unnecessary or non-essential vehicles. This information is generally available from the agency Vehicle Allocation Methodology (VAM) process that is completed each year. To satisfy this requirement for 2015, VAM results and the appropriate agency fleet management plan are included as appendices of this document. Future versions of this plan will require similar submissions by agencies.

Table 5: Fleet Management Strategies

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
<p>Collect and utilize agency fleet operational data through deployment of vehicle telematics – as soon as it is practicable, but not later than two years after date of order. 3(g)(iii)</p>	<p>HHS is actively engaged in a telematics pilot study using a commercial solution called Drive/Cam to assess telematics with on-board cameras. HHS is analyzing empirical data. The outcome will inform HHS management how commercially available telematics will drive HHS safety, driver behavior, and, ultimately, GHG reduction performance.</p>	<ul style="list-style-type: none"> • Complete technical data and analysis from the study: September 2015. • Selected deployment of Drive/Cam in selected divisions (quantities to be determined): Q2 of FY 2017.
<p>Ensure that agency annual asset-level fleet data is properly and accurately accounted for in a formal Fleet Management System as well as submitted to the Federal Automotive Statistical Tool reporting database, the Federal Motor Vehicle Registration System, and the Fleet Sustainability Dashboard (FLEETDASH) system. 3(g)(iv)</p>	<p>HHS is working towards an executive-led consensus for a new integrated Facilities Management System (FMS). Currently, HHS is using a commercial system for real property, which has a robust fleet data capture component. HHS is exploring licensing options with an eye toward deployment in all divisions. Other options include using GSA FMS system in a pilot mode because of its nominal cost.</p>	<ul style="list-style-type: none"> • Business case for this scenario is under development with planned presentation to HHS senior management: May 2016. • Current HHS Motor Vehicle Management Information System (MVMIS) will continue as the interim resource: Ongoing. • Deploy GSA FMS pilot: December 2016.
<p>Plan for agency fleet composition such that 20 % of passenger vehicle acquisitions are zero emission or plug-in hybrid vehicles by 2020, and 50 % by 2025. Vehicles acquired in other super-high efficiency classes count double toward this target. 3(g)(v)</p>	<p>HHS acquisition of over 550 leased sedans including GSA high-efficiency, low GHG, Hyundai Sonatas through end of FY 2015.</p>	<p>Anticipate 900 sedans in HHS inventory: June 2016.</p>

HHS Strategy to Achieve Goal	Strategy Narrative	Specific Targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Plan for appropriate charging or refueling infrastructure for zero emission or plug-in hybrid vehicles and opportunities for ancillary services to support vehicle-to-grid technology. 3(g)(vi)	HHS fleet community is collaborating with the HHS real estate communities to integrate building data and fleet data systems while planning for building occupancy with charging station configurations. A Chevy Volt (electric) vehicle pilot is ongoing. New E.O. 13693 implementation guidance indicates availability of grants for charging station build-outs.	HHS anticipates increasing acquisition and deployment of the Chevy Volt from the current 2 to 4: June 2016
Optimize/Right-size the composition of the fleet (e.g., reduce vehicle size, eliminate underutilized vehicles, acquire and locate vehicles to match local fuel infrastructure).	HHS is using FleetDash to increase compliance. HHS owned vehicles are being added to the FleetDash database.	HHS sedans are in the range of 4,046. Target 20 % (or reduction of 809) by end of FY 2018. However, if emerging national issues, like Ebola containment or other long-range challenges happen, the target may need to be revised.

Goal 6: Sustainable Acquisition

Sustainable Acquisition Goal

E.O. 13693 section 3(i) requires agencies to promote sustainable acquisition by ensuring that environmental performance and sustainability factors are considered to the maximum extent practicable for all applicable procurements in the planning, award and execution phases of acquisition.

Table 6: Sustainable Acquisition Strategies

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Meet statutory mandates that require purchase preference for recycled content products designated by EPA. 3(i)(i)(A)	Include FAR clauses for recycled content products designated by EPA in all new applicable requirements.	In FY 2015, HHS will increase purchases of recycled content products designated by EPA by 5 % compared to FY 2014: October 2015.
Meet statutory mandates that require purchase preference for energy and water efficient products and services, such as ENERGY STAR qualified and FEMP-designated products, identified by EPA and DOE. 3(i)(i)(B)	Include FAR clauses for energy and water efficient products and services, such as ENERGY STAR-qualified and FEMP-designated products by EPA and DOE in all new applicable requirements.	In FY 2015, HHS will increase purchases of energy and water efficient products and services, such as ENERGY STAR qualified and FEMP-designated products, identified by EPA and DOE by 5 % compared to FY 2014: October 2015.
Meet statutory mandates that require purchase preference for BiopREFERRED and biobased designated products designated by the U.S. Department of Agriculture (USDA). 3(i)(i)(C)	Include FAR clauses for BiopREFERRED and biobased designated products by the USDA in all new applicable requirements.	In FY 2015, HHS will increase purchases of BiopREFERRED and biobased designated products by the USDA by 5 % compared to FY 2014: October 2015.
Update and deploy agency procurement policies and programs to ensure that federally-mandated designated sustainable products are included in all relevant procurements and services.	HHS will update the Sustainable/Green Acquisition Program Guide and policies to strengthen the applicable sustainability requirements.	In FY 2015, HHS will add one additional subject item on reporting to the Sustainable/Green Acquisition Program Guide compared to FY 2015: October 2015.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Include biobased and other FAR sustainability clauses in all applicable construction and other relevant service contracts.	Include FAR requirements for energy efficient, recycled, biobased, and other relevant sustainability factors in all new contract actions and conduct quality assurance review after award.	In FY 2015, HHS will increase purchases of biobased products by 10 %, increase energy efficient product purchases by 5 %, and increase recycled content purchases by 15 % compared to FY 2014: October 2015.
Use Federal Strategic Sourcing Initiatives (FSSI) such as Blanket Purchase Agreements (BPAs) for office products and imaging equipment, which include sustainable acquisition requirements.	HHS will continue to use the FSSI BPAs.	In FY 2015, HHS will increase the use of FSSI such as BPAs for office products, which included sustainable acquisition, by 5 % compared to FY 2015: October 2015.

Table 6a: Additional Sustainable Acquisition Strategies Identified by CEQ that are Not a Top Five HHS Strategy

HHS Strategy to Achieve Goal	Strategy Narrative
Purchase sustainable or products and services identified by EPA programs such as the ones outlined in 3(i)(ii).	This is an ongoing effort, but was not identified as an HHS top five strategy.
Purchase Significant New Alternative Policy (SNAP) chemicals or other alternatives to ozone-depleting substances and high global warming potential hydrofluorocarbons, where feasible. 3(i)(ii)(A)	This is an ongoing effort, but was not identified as an HHS top five strategy.
Purchase WaterSense certified products and services (water efficient products). 3(i)(ii)(B)	This is an ongoing effort, but was not identified as an HHS top five strategy.
Purchase Safer Choice labeled products (chemically intensive products that contain safer ingredients). 3(i)(ii)(C)	This is an ongoing effort, but was not identified as an HHS top five strategy.
Purchase SmartWay Transport partners and Smartway products (fuel-efficient products and services). 3(i)(ii)(D)	This is an ongoing effort, but was not identified as an HHS top five strategy.

HHS Strategy to Achieve Goal	Strategy Narrative
Purchase environmentally preferable products and services that meet or exceed specifications, standards, or labels recommended by EPA that have been determined to assist agencies in meeting their needs and further advance sustainable procurement goals of this order. 3(i)(iii)(A)	This is an ongoing effort, but was not identified as an HHS top five strategy.
Meet environmental performance criteria developed or adopted by voluntary consensus standards bodies consistent with section 12(d) of the National Technology Transfer and Advancement Act of 1995. 3(i)(iii)(B)	This is an ongoing effort, but was not identified as an HHS top five strategy.
Ensure contractors submit timely annual reports of their BioPreferred and biobased purchases. 3(i)(iv)(B)	This is an ongoing effort, but was not identified as an HHS top five strategy.
Reduce copier and printing paper use and acquiring uncoated printing and writing paper containing at least 30 percent postconsumer recycled content or higher as designated by future instruction under section 4(e) of E.O. 13693. 3(i)(v)	This is an ongoing effort, but was not identified as an HHS top five strategy.

Goal 7: Pollution Prevention & Waste Reduction

Pollution Prevention & Waste Reduction Goal

E.O. 13693 section 3(j) requires that Federal agencies advance waste prevention and pollution prevention. E.O. 13693 section 3(j)(iii) requires agencies to annually divert at least 50 % of non-hazardous construction and demolition debris and section 3(j)(ii) requires agencies to divert at least 50 % of non-hazardous solid waste, including food and compostable material, and to pursue opportunities for net-zero waste or additional diversion.

Table 7: Pollution Prevention & Waste Reduction Strategies

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Eliminate, reduce, or recover refrigerants and other fugitive emissions.	This is an ongoing, iterative effort by the landholding OPDIVs	<ul style="list-style-type: none"> • NIH will continue reviewing its refrigerant management standard operating procedures and implement recommended changes: Ongoing. • CDC will continue to dispose of refrigerant using equipment at off-site qualified recyclers: Ongoing.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
<p>Reduce waste generation through elimination, source reduction, and recycling.</p>	<p>The HHS OPDIVs are pursuing and implementing a broad and growing variety of source reduction, reuse, and recycling efforts. These efforts are promoted via Earth Day and America Recycles Day celebrations as well as through agency websites, webinars, and newsletters.</p>	<ul style="list-style-type: none"> • CDC continues to expand its Lab Plastic Recycling programs by adding 14 labs in FY 2014. CDC will begin to add BSL3 labs in late FY 2015. The Styrofoam recycling program is expanding and has added two more buildings at the Chamblee Campus and has four buildings participating on the Roybal Campus. The cafeteria waste composting program has been initiated at the Chamblee Campus and is being analyzed for extension to the Roybal Campus. The battery-recycling program is being expanded to include rechargeable batteries: June 2016. • FDA continues to be very successful in its solid waste diversion efforts by reducing its landfilled solid wastes by 80 % in FY 2014. It continues to collect and recycle rechargeable batteries free of service charge and at a cost avoidance of \$7,850. Likewise, a “Supply Swap” program to facilitate the exchange of surplus office supplies and equipment has resulted in an estimated \$12,000 avoidance of costs. FDA is developing an Environmental Management System (EMS) to be rolled out in July 2015 that will improve FDA’s tracking of its efforts: Ongoing. • NIH, in addition to its broad array of recycling efforts which include cafeteria waste composting, Styrofoam cooler and ice pack take back program and the more conventional material recycling programs, is expanding its spent solvent recycling program to reduce the need to procure virgin solvents as well as its Free Stuff Surplus Chemical Redistribution Program (reuse of surplus reagent chemicals). It also intends to include classroom training on proper recycling and waste disposal in required new employee orientation classes: Ongoing. • IHS faces particular challenges with its widely geographically dispersed organization of small-to medium-sized components. It has a vigorous program of website articles, webinars, and training modules that promote sustainability. The Sustainability Webinar Series will continue through 2015-2016: Ongoing.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Implement integrated pest management and improved landscape management practices to reduce and eliminate the use of toxic and hazardous chemicals/materials.	Integrated pest management (IPM) is mature at some OPDIVs and in development at others.	<ul style="list-style-type: none"> • NIH has pursued IPM since 1991 and has a very mature program, which uses almost no pesticides and continues to search for viable substitutes for those remaining: Ongoing. • CDC is developing and implementing an IPM and will continue to do so: Ongoing. • IHS has sponsored a vector control course that incorporates IPM and is disseminated to its components: June 2016.
Establish a tracking and reporting system for construction and demolition debris elimination.	OPDIVs have been successful in increasing the diversion of construction and demolition wastes.	<ul style="list-style-type: none"> • NIH has achieved a 94 % diversion rate and will continue its efforts to increase the rate: Ongoing. • FDA has achieved an 88 % diversion rate and will continue its efforts to improve the rate: Ongoing. • IHS has developed contract clauses that require a minimum of 50 % diversion rate for new construction projects: Ongoing. • CDC requires contractors to report C&D diversion rates: Ongoing.
Develop/revise Agency Chemicals Inventory Plans; identify and deploy chemical elimination, substitution, and/or management opportunities.	The chemical-using OPDIVs are aggressively pursuing source reduction, repurposing of chemicals through voluntary exchanges, onsite recycling and reuse, substitution, and other opportunities.	<ul style="list-style-type: none"> • NIH has a number of very successful programs that it will continue to build upon: Free Stuff Surplus Chemical Redistribution, Solvent Recycling, Mercury Amnesty, Empty Chemical Bottle Recycling, Substances of Concern, and Toxic Reduction Initiative: Ongoing. • CDC has upgraded its waste tracking system to quantify various aspects of its waste generation, recycling, and disposal activities. The effectiveness of the system is still being evaluated. It will continue its efforts to substitute less toxic chemicals for those currently in use: Ongoing. • FDA initiated development of an enterprise system for chemical inventories in November of 2014 and that effort will continue: Ongoing.

Table 7a: Additional Pollution Prevention & Waste Reduction Strategies Identified by CEQ that are Not a Top Five HHS Strategy

CEQ Suggestion	HHS Response
Report in accordance with the requirements of sections 301 through 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 (42 U.S.C 11001-11023). 3(j)(i)	HHS will continue to comply with EPCRA but this is not an HHS top five strategy.
Reduce or minimize the quantity of toxic and hazardous chemicals acquired, used, or disposed of, particularly where such reduction will assist the agency in pursuing agency greenhouse gas reduction targets established in section 2 of E.O. 13693. 3(j)(iv)	HHS OPDIVs are actively engaged in reducing and minimizing the quantities of toxic and hazardous chemicals acquired, used, and disposed of. This is not an HHS top five strategy.

Goal 8: Energy Performance Contracts

Energy Performance Contracting Goal

E.O. 13693 section 3(k) requires that agencies implement performance contracts for Federal buildings. E.O. 13693 section 3(k)(iii) also requires that agencies provide annual agency targets for performance contracting to be implemented in FY 2017 and annually thereafter as part of the planning of section 14 of this order.

Table 8: Energy Performance Contracting Strategies

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Utilize performance contracting to meet identified energy efficiency and management goals while deploying life-cycle cost effective energy and clean energy technology and water conservation measures. 3(k)(i)	Due to lack of dedicated agency funds for this purpose, HHS OPDIVs rely on performance contracting to meet energy and water efficiency goals. OPDIVs have been very active in performance contracting and have met the goals of the Presidential Performance Contracting Challenge to date.	<ul style="list-style-type: none"> • HHS committed to \$92.7 million of performance contracts by the end of CY 2016. As of April 15, 2015, \$43.9 million in contracts were awarded and an additional \$30.8 million was in the pipeline. Currently, \$63.2 million of contracts are awarded, \$11.8 million of contracts are in the pipeline: December 31, 2016. • NIH plans to acquire enough data to initiate a detailed feasibility study for an 8-MW cogeneration system: June 2016 • NIH also plans to commence a new round of ESPC/UESC multi-site audits working through its SMART Team and associated staff: June 2016.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
<p>Fulfill existing agency performance contracting commitments towards the \$4 billion by the end of calendar year 2016 goal established as part of the GPR Modernization Act of 2010, Climate Change Cross Agency Priority process. 3(k)(ii)</p>	<p>HHS has committed to an additional \$51.8 million (since FY 2013) of performance contracts by the end of CY 2016. As of April 15, 2015, all but \$18 million was awarded or in the pipeline and additional contracts were expected to follow.</p>	<ul style="list-style-type: none"> • CDC will select identified energy and water conservation measures with favorable ROI and initiate a task order under the UESC at the Roybal, Chamblee, and Lawrenceville campuses with a project value goal of \$4.1M: June 2016. • CDC will select a contractor to perform an IGA and identify energy and water conservation measures with favorable ROI to initiate a task order under the ESPC at the Pittsburgh site with a project value goal of \$2.7M: June 2016. • FDA will implement of all or a portion of the 21 ECMs associated with UESC Phase 7 at MRC: February 2016. • FDA is planning to conduct an IGA for UESC Phase 8 with about 10 ECMs at MRC: June 2016.
<p>Identify and commit to include 3-5 onsite renewable energy projects in energy performance contracts.</p>	<p>HHS OPDIVs require ESCOs to analyze opportunities for onsite renewable energy projects as a part of any performance contract. Where cost effective, the RE ECMs will be implemented.</p>	<ul style="list-style-type: none"> • CDC Roybal Campus will investigate on-site PV for the roof of B107 as an UESC ECM: December 2015. • CDC will install pilot PV array for Roybal Campus B45 to supply energy to news vehicles at front entrance: June 2016. • FDA will evaluate and consider additional ground-mounted PV arrays for MRC: May 2016. • NIH plans to acquire data to initiate a detailed feasibility study for an 8-MW cogeneration system: June 2016.
<p>Provide measurement and verification data for all awarded projects.</p>	<p>HHS OPDIVs include M&V in all ESPC projects and in UESC projects were necessary.</p>	<p>NIH and CDC ESPCs will include M&V: June 2016</p>
<p>Enter all reported energy savings data for operational projects into MAX COLLECT (max.gov).</p>	<p>HHS will continue to report performance contracting details and project information into MAX COLLECT.</p>	<p>Provide monthly updates on performance contracting line items in MAX COLLECT: Ongoing.</p>

Goal 9: Electronic Stewardship

Electronic Stewardship Goal

E.O. 13693 section 3(l) requires that agencies promote electronics stewardship and requires ensuring procurement preference for environmentally sustainable electronic products as established in section 3(i);(ii) establishing and implementing policies to enable power management, duplex printing, and other energy-efficient or environmentally sustainable features on all eligible agency electronic products; and (iii) employing environmentally sound practices with respect to the agency's disposition of all agency excess or surplus electronic products.

Table 9: Electronic Stewardship Strategies

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Establish, measure and report procurement preference for environmentally sustainable electronic products. 3(l)(i)	Review HHS and OPDIV standard procurement language to ensure EPEAT, Energy Star, FEMP, and other necessary clauses are included in future procurements.	<ul style="list-style-type: none"> • Conduct analysis of HHS and OPDIV standard procurement clauses for electronic products: December 2015. • Complete all necessary clause revisions within the next 12 months: June 2016.
Establish, measure, and report policies to enable power management, duplex printing, and other energy-efficient or environmentally sustainable features on all eligible agency electronic products. 3(l)(ii)	Review HHS and OPDIV policies for enabling power management, duplex printing, and other energy-efficient or environmentally sustainable features on eligible agency electronic products and revise as needed.	<ul style="list-style-type: none"> • Identify which policies need to be updated to reflect these features: December 2015. • Complete all necessary policy revisions within the next 12 months: June 2016.
Establish, measure, and report sound practices with respect to the agency's disposition of excess or surplus electronic products. 3(l)(iii)	Review HHS and OPDIV practices and policies for disposition of excess or surplus electronic products and identify best practices and areas for improvement.	<ul style="list-style-type: none"> • Conduct analysis of HHS and OPDIV practices and policies for disposition: December 2015. • Complete all necessary updates of practices and policies within the next 12 months: June 2016
Update and deploy policies to use environmentally sound practices for disposition of all agency excess or surplus electronic products and monitor compliance.	Each HHS OPDIV has their own specific policies to ensure their compliance.	Certifying report due by the end of the 12 months: June 2016.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Ensure that power management, duplex printing, and other energy efficiency or environmentally preferable options and features are enabled on all eligible electronics and monitor compliance.	<p>Revise agency policy requiring power management and duplex printing.</p> <p>Initiate survey and corrective action program for agency printers to ensure all environmentally preferable features, including duplexing, are fully enabled.</p>	<ul style="list-style-type: none"> • Complete policy revision: August 2015. • Complete survey of printers: February 2015. • Complete resurvey of non-conformant printers: June 2016.

Goal 10: Climate Change Resilience

Table 10: Climate Change Resilience Strategies

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Update agency external programs and policies (including grants, loans, technical assistance, etc.) to incentivize planning for, and addressing the impacts of, climate change.	CDC's Climate Ready States and Cities Initiative provides cooperative agreements to evaluate grantees' experience with implementing the climate adaptation framework, Building Resilience Against Climate Effects (BRACE). The BRACE framework provides state and local health departments with a process to integrate the best available atmospheric science into its planning and response activities and supports the development and implementation of a climate and health adaptation strategy.	By the end of 2015, CDC will release guidance that determines climate change relevant exposure-response relationships and projects the magnitude of climate-sensitive diseases: October 2015.
Ensure agency principals demonstrate commitment to adaptation efforts through internal communications and policies.	HHS will develop a climate change communications and outreach strategy for specific stakeholders, including environmental justice communities, minorities, women, tribes, state and local health departments, medical responders, and healthcare administrators.	Refine and implement communications and outreach strategy: Ongoing.

HHS Strategy to Achieve Goal	Strategy Narrative	Specific targets/metrics to measure strategy success including milestones to be achieved in next 12 months
Identify vulnerable communities that are served by agency mission and are potentially impacted by climate change and identify measures to address those vulnerabilities where possible.	HHS participates in the Environmental Justice Interagency Working Group (EJ IWG) to develop an interdepartmental approach to climate change adaptation in environmental justice communities. The MOU identifies climate change as an area of focus for agency Environmental Justice strategies and implementation activities.	<ul style="list-style-type: none"> • HHS/NIH plans to host a Climate Justice Conference in June 2015 to discuss the challenges, current HHS climate change related activities, and possible resources and tools: July 2015. • The Children’s HHS Interagency Leadership on Disasters (CHILD) Working Group will discuss the impact of climate change on children: June 2016.
Ensure that agency climate adaptation and resilience policies and programs reflect best available current climate change science, updated as necessary.	HHS plans to convene an OPDIV Adaptation Workshop that will share the latest and best available climate change science from the National Climate Assessment with HHS audiences that will be using climate change science to update policies and programs, including mission-related programmatic planners, emergency coordinators, continuity of operations planners, occupant emergency planners, chief sustainability and facility officers, and HHS climate change experts.	Convene OPDIV Adaptation Workshop: June 2016
Design and construct new or modify/manage existing agency facilities and/or infrastructure to account for the potential impacts of projected climate change.	<p>HHS currently has a policy that requires compliance with the 2010 HHS Facilities Program manual. This manual is to be used by all HHS OPDIVs for construction of new facilities and facility modifications.</p> <p>HHS requires that all landholding OPDIVs have a current Facility Master Plan in place and update the plan every 5 years.</p>	<ul style="list-style-type: none"> • The next iteration of the HHS Facilities Program Manual will include design guidance for potential impacts of projected climate change based upon guidance received from CEQ: June 2016. • HHS plans to organize a working group with the landholding OPDIVs regarding the next iteration of the HHS Facilities Master Plan that will include requirements for including sustainability and climate adaptation resilience planning: June 2016.

Appendix A: FY 2014 HHS Green Champions Winners

FY 2014 HHS Green Champions Winners

Individual Winners

Sarah Field, (OS/OASH)

We are nominating Sarah Field, Senior Program and Management Analyst, Office of the Assistant Secretary for Health (OASH), for a 2014 HHS Green Champion Award in the “Good Neighbor” category to recognize the exemplary role she has played this past year in the development and implementation of the HHS Climate Adaptation Plan and the coordination of the public private partnership of the Sustainable and Climate Resilient Health Care Facilities Initiative (SCRHCFI). Her role support for the Climate Adaptation Plan is in direct alignment with the Executive Order 13653, while her support for the SCRHCFI supports a critical deliverable of the White House Climate Action Plan.

Sarah used her outstanding communications skills and leveraged her network of colleagues to design and implement a three-part strategy for the HHS Climate Adaptation Plan, including convening the first-ever all-HHS briefing on climate change and health, which took place August 5, 2014. She also was instrumental in the success of a White House Roundtable on climate resilient health care facilities, which brought together nearly a dozen top executives from health care systems around the country as well as leaders of public health and health care professional organizations.

Jennifer Szymanski, (FDA)

Ms. Jennifer Szymanski has done outstanding work on developing and implementing an electronic database that enabled cost savings, efficiency increase and an environmental friendly practice at FDA’s WEAC laboratory.

A laboratory's major products are sample analysis worksheets and associated quality control (QC) documents. Traditionally, all the documents are produced in paper format. Each year, many pages of paper and printer toner cartridges are used as they are consumables. Each printed page and the toner used for printing are artificially made burdens to environment. Retaining and managing thousands of paper documents produced each year also add burdens to resources and storage space.

Besides efficiently accomplishing routine work assignments, Jennifer took a great initiative and developed an electronic database that allowed using paperless worksheets and QC documents. The application of the database in one program work alone generated savings of more than 5000 pages of paper and corresponding printer toners each year. The cost savings will not only be continuous but also be expanded when the database is used on analytical documents produced from any other laboratory program work due to eliminating the use of consumables. Furthermore, elimination of paper and toner cartridge usages contributed to green practices at the laboratory.

David Nyweide (CMS)

David Nyweide has been CMMI's champion of green practices within the Windsor Building, to save CMS money and conserve energy. He has initiated several efforts this past year to promote reductions in paper and electricity use, hanging clever signs in the copy rooms encouraging staff to read documents on their laptops rather than printing out hard copies, turn off conference room lights before leaving, recycle containers, turn off water, etc. He also stayed late several evenings to distribute reminders encouraging staff to turn off their laptops, overhead lights, and monitors when not in use. Previously, he initiated a

pilot program where several staff were asked to give up their trash cans for 2 weeks, in an effort to increase recycling. As part of this effort, he developed a survey asking pilot participants about their experience, analyzed the data, and distributed the results to the participants. In addition, he has partnered with the cleaning crew on efforts to reduce waste. He also "practices what he preaches", walking through the building turning off lights in unused rooms, recycling, reusing plastic bags and water bottles, etc.

Brenda Martinez (NIH)

The recycling initiative instituted on the 3 South East Day Hospital (3SEDH) by Brenda Martinez was born out of the observation that a majority of the packaging of healthcare supplies was being disposed of along with the regular solid waste. Brenda, with her knowledge of the recycling programs in Montgomery County, Maryland and at the NIH, realized that most of the packaging waste for healthcare products used on the floor could be recycled. Secure in the belief that a recycling program would benefit the environment and the NIH, Brenda set about to begin a recycling program on the 3SEDH. While collaborating with her nurse manager, Brenda sought out facilities managers responsible for the recycling program at the NIH Clinical Center. An educational session was arranged to inform the 3SEDH staff members of the recycling requirements in Montgomery County, and the recycling programs currently in place at the NIH. Further, information was provided as to what types of materials were recyclable and what each individual staff member could do to make this recycling initiative a success. Following these educational sessions, Brenda sought out feedback from individual staff members regarding their perceived barriers to recycling on the 3SEDH. The overwhelming barrier to recycling, as reported by staff members, was access to recycling containers and timely removal of accumulated recyclables. To overcome these barriers, Brenda coordinated with the 3SEDH Clinical Manager to arrange regular scheduled removal of recyclables from the 3SEDH. To address the barriers to access, Brenda coordinated with NIH facilities managers for placement of additional recycling containers in all patient care and staff office and work areas. To increase staff participation, compliance, and convenience, she consulted with the Green Team to also obtain small blue collection bins. She obtained 20 bins for the patient treatment workspaces and 5 offices. Starting in September 2013 in collaboration with the Green Team and Standardization Committee she was the unit champion for recycling disposable oxygen sensors, as well.

The results of the recycling initiative began by Brenda have been profound. To begin, the 3SEDH now positively contributes to the over 3,600 pounds of recycled waste that is generated daily during NIH Clinical Center operations. She also, periodically sends out recycling reminders and updates as per Green Team, to nursing staff encouraging ongoing participation in recycling. Currently, all items are being discarded into sharps containers. Brenda seeks guidance from the Green Team, regarding proper recycling procedures, including what items can be recycled, how they can be recycled and where they can be recycled. She has also participated and given feedback to the Green Team regarding recycling packaging.

The 3SEDH staff participation in the recycling program has been robust and its reception has been overwhelmingly positive. The program on the 3SEDH supports the NIH in maintaining compliance with Montgomery County recycling requirements. Equally important, Brenda's passion and commitment to protecting the environment has motivated the staff to take action not only in the work place, but also in their lives at home.

Sophia Glezos Voit (NIH)

As NIMH Green Committee Chair, Ms. Sophia Glezos Voit spearheaded events to collect and distribute unused items to recycling centers, assisting the community by reducing items needlessly going into area landfills. The 2014 events included:

January - Four contractor-size bags of coats/sweaters were delivered to the NIH Children's Inn, a residential home for children treated at the NIH, and their families. Families come from around the world. Some have unexpected extended stays and are not prepared for cold weather. Others from tropical climates do not own coats/sweaters.

January – Three large bags of holiday lights were taken to a recycle center.

February – 40 pairs of eyeglasses were taken to a Lions Club International drop-off site for reuse.

March/April – 250 CDs/DVDs were made available to staff.

June – Non-accountable electronic equipment was taken to recycle centers.

September – 15 large bags of shoes were taken to a drop-off location.

Throughout – Towels/blankets were taken to animal shelters/rescue organizations.

Ms. Voit oversaw planning and management of the NIMH's Green Committee's Earth Day event, "Protecting the Earth, Protecting Our Health," open to Neuroscience Center Building occupants. The event included collection of recyclable items; information on recycling, reusing, and reducing waste; and samples of USDA-certified organic healthful foods.

Carl McQueen (FDA)

Carl McQueen, Facilities Technical Specialist, examined the operation of campus HVAC Systems in search of ways to reduce energy usage in accordance with Executive Order (EO) 13423. He found opportunities to improve Building Performance in Building 5D by utilizing the campus Building Automation System (BAS) to initiate night setbacks on the HVAC System. Building 5D is used to conduct Food Mixing, Food Testing, and Quality Assurance of Food Processing for Animal Care. These activities are not conducted between 6pm to 6am Monday through Friday or weekends. Carl implemented the night setbacks to reduce energy consumption with no negative impacts to processes or personnel.

Gary Marquez (NIH)

Mr. Gary Marquez, Chief of the NIH-Supply Center, has consistently been a supporter and promoter of the NIH Go Green initiative by maintaining a robust assortment of green products made available to the NIH. At his direction the Supply Center has been involved in acquiring, obtaining and marketing green products at the lowest available prices among competitive commercial sources. Throughout this year Mr. Marquez directed the acquisition of over 120 Green products to the Supply Center which reduced the usage of non-ecological products, reduced costs, and increased customer satisfaction among NIH buying activities. He also directed the continual support of the NIH Go Green events and constantly advertised the green products available from the two self-service stores on campus and the Gaithersburg Distribution Center. By creating green-friendly plans, policies, standards, partnerships, and services, Mr. Marquez has been able to attract new vendors who support the Green initiative and increase awareness throughout the NIH.

By adhering to and following the NIH Green initiatives the Supply Center has embarked on the clear path of acquiring, stocking, and making available for purchase to the NIH community clean, green and user demanded products.

Angela Wagner (CDC)

This year CDC feels the time has come to honor one of the true perennial stars in Sustainable Design and Regional Planning at CDC. We consider the body of work over the years as a true career “lifetime achievement”. Owing to her past and continued commitment to all things sustainable at CDC, please consider the achievements of Angela Wagner.

Group/Organization Winners

NIH Solvent Recycling Team (NIH)

John Prom, Crispin Hernandez, Mark Marshall, Joanne Malinowski, Annie Merriweather, Chris King, Jorge Chavez, Mark Miller, Charlyn Lee, Roger Weidner, Chuck Carroll, David Mohammadi, Ken Okojie, Sydney Ojeifoh

The NIH Bethesda Solvent Recycling Team, has had significant success in implementing solvent recycling at the NIH. The Team comprised of the Division of Environmental Protection (DEP), Waste and Resource Recovery Branch (WRRB) Chemical Waste Team along with partners from the Division of Veterinary Services (DVR) and key contract staffs are NIH Green Heroes.

Through the recovery of spent solvents (alcohol, formalin, and xylene) for re-use instead of disposal as hazardous waste, the NIH has seen a significant savings in precious research dollars. During 2014, while hazardous waste disposal costs avoidance was a modest \$1400, there was a savings of \$46,000 in procurement for the 3,800 lbs. of recovered/reused solvents. NIH researchers have been pleased with results, reporting no distinction between the use of recycled product and unused commercial product. Successes such as these are attributed to the outstanding support, guidance, and dedication of all involved in this collaborative effort.

Solvent recycling is a sustainable business practice designed to improve NIH environmental performance and conservation of resources. This initiative helps the NIH achieve the HHS Strategic Sustainability Plan (SSPP) goals and NIH Green Initiatives for pollution prevention, resource conservation & toxicity reduction. This program also supports waste minimization goals mandated by environmental regulations and Executive Orders.

CDC DMSO Team (CDC)

Judy F. Asher, Joanne O. Cole, Andrew (Logan) Need

By finding ways to reuse existing CDC furniture rather than buying new furniture the CDC DMSO team has not only diverted significant waste from area landfills, they have saved significant FF&E costs.

By leveraging stock in the Chamblee warehouse, and through thoughtful selection and inventory tracking, the CDC DMSO team was able to divert landfill waste while helping limit expenses in FY 2014. This was a collaborative effort and a good example of communication with the design staff and end users. It is estimated that over \$140,000 was saved owing to these efforts. Some highlights are as follows:

- Chamblee Bldg. 106 Patio Chairs – powder coat (Joanne Cole). Re-used existing patio chairs (92 total) and had them powder coated to prevent future rust problems. Cost = \$11,000. (or approximately \$120/per chair) New purchase would have been \$17,419. Savings = \$6,419
- Chamblee Bldg. 106 2nd Floor GIS Area (Joanne Cole). Re-used 13 Wrightline 5 draw file cabinets that were to be removed to make room for new work stations to accommodate new staffing requirements. GSA cost for files are \$1,093 each. Savings=\$14,209
- Corporate Square 12 Room 3215 (Logan Need). Reused existing furniture for 1 office. New costs estimated at \$4,000. Cost for labor to install re-used furniture = \$295.00. Savings = \$3,705
- Chamblee Warehouse Areas 600 + 400 (Logan Need). Reused existing Wrightline stations salvaged from CS11 Summer 2013. Cost of 7 new stations approx. \$5,000 each or \$35,000 total. Cost for labor to install re-used furniture at \$3,400. Savings = \$31,600
- Corporate Square 12 Station 1120A (Logan Need). Reused existing station from 2nd floor for new station 1120A. New costs estimated at \$3,500. Cost for labor to install re-used furniture = \$350. Savings = \$3,150
- Lawrenceville Building B (Judy Asher). Tagged furniture for the new office (\$4,000), conference room (\$6,000), break room (\$1,600), lateral files (3,000) and all chairs (\$9,950). Savings: \$24,550
- Colgate Building Room 2606 (Judy Asher). Removed existing KI and replaced with Kimball wood from the Warehouse (\$4,000). Savings: \$4,000
- Lawrenceville Building A EOC (Judy Asher). Existing 40 suede chairs (\$52,800) from Building 21 are being used as the conference room chairs in the EOC. Savings: \$52,800

It all adds up to savings and less stress on our local landfills.

Records Management Transformation Project (HRSA)

Mark Scalettar, Angela Tuscani, Sharon Kelsner, Adriane Burton, Benis Reyes, Jeffrey Johnston, Charlene Bishop, Mary Orellana, Beth Tandski, Debbie Allen, JD Fritz, Anne Leitch, Sonya Taylor, Lisa Shelton, Tamara McNair, Jeannette Spruill, Beverly Lonesome, Therman Hawkins, Elyana Bowman, Gena Norwood, Hanock John, Diane Cogger, Kara Kelley-Phillips, Isabel Aeillo, Octvaia Wisseh, Wanda Planas, Shelia Jordan-Mosely, Jacqueline Taylor, Daisy Camps, Carla Williams, Michelle McCord, Lt. Kyle Barrackman, Felicia Johnson, Constance Taylor

In support of the Health and Human Services' (HHS) Environmental Sustainability goals, HRSA transformed its records management program by scanning 25 million pages of paper which resulted in the elimination of 25 file rooms in the Parklawn Building. HRSA's storage footprint was reduced by 85 percent and avoided \$771,000 in offsite storage costs over five years.

HRSA's Office of Information Technology (OIT) led the effort to reduce paper across the agency by moving HRSA's paper-based and independent records repositories to an enterprise-wide electronic solution. OIT collaborated with HRSA Bureau and Office Records Liaison Representatives to identify which paper documents could be disposed, scanned, or electronically formatted. OIT worked with the HRSA's Office of Acquisitions Management and Policy to secure a scanning contract to assist with the

effort. The team updated HRSA's 30-year-old retention schedule and consolidated 873 document schedules into 85 schedules. By September, HRSA recycled nearly 450 tons of paper. Document searching capabilities improved drastically and typical document searches that took days and hours now only takes minutes.

HRSA shared best practices with other HHS operating divisions, including the Indian Health Service (IHS), Substance Abuse and Mental Health Services Administration (SAMHSA), the Agency for Healthcare Research and Quality (AHRQ), the Administration for Community Living (ACL), and some HHS Staff Divisions.

LED Lighting System (NIH RML)

Kelly Hudson, Bucky Kempa, Arthur Broszeit, Bryan Kercher, Jack Veldboom

The Rocky Mountain Laboratories (RML) is a research campus of the National Institutes of Health (NIH) located in Hamilton, Montana. In the fall of 2012 a Site Improvements project was started that included site lighting. Prior to this project there was no comprehensive site lighting system which was a challenge for employee safety as well as security concerns.

With neighboring houses immediately at the campus perimeter it was a challenge to get the right amount of light in the right places without disturbing the neighbors while still conserving energy. It was decided in the design process to go with LED lighting technology with evidence that the technology had matured sufficiently to have reliable fixtures while saving energy.

The existing building mounted fixtures were also replaced with LED fixtures to get the same color of light throughout. This project consisted of approximately 80 pole-mounted fixtures and 55 building mounted fixtures. The estimated annual energy savings is 110,000 kilowatt-hours at a cost savings of about \$11,000. In addition, approximately \$99,864 in rebates were obtained from the utility company. In addition there are life-cycle cost savings due to the long life of the LED fixtures.

National Center for Advancing Translational Sciences Plate Saving Initiative (NCATS)

Samuel Michael, Kyle Brimacombe, Dr. Mohan Viswanathan, Anna Rossoshek, Cordelle Tanega, Lili Portilla

Many federal, academic, and commercial laboratories use costly plastic microplates for high-throughput screening, a method of scientific experimentation that enables researchers to rapidly test thousands of drug candidates for biological activity. Prior to launching the Plate Saving initiative, the National Center for Advancing Translational Sciences (NCATS) at the NIH was disposing of hundreds of thousands of plates each year, creating a large volume of physical and chemical waste and spending thousands of dollars on single-use plates. Researchers at NCATS investigated microplate cleaning methodologies and developed a procedure for cleaning previously used plates in an automated fashion to make them suitable for reuse. This method has now saved NCATS almost \$500,000, and kept almost 50,000 plastic plates from ending up in landfills. Recognizing the potential for commercial application this technology, NCATS solicited a SBIR contract and awarded phase I and II contracts to IonField Systems, a company

that is building on NCATS' work, developing and commercializing an automated plate cleaner that will be both sold as a device and used in an outsourced plate cleaning service. The development of this device and service has transformed labware, turning what was once a disposable waste into a sustainable resource for laboratories and pharmaceutical companies nationwide.

Office of Research Services and Office of Research Facilities Operation Clean Sweep (NIH)

Ken Ryland, Reginald Stewart, Brad Moss, John Veitch, Ericka Reid, Kenny Floyd, William Ketner, Jacquelyn Johnson, LTJG Ariell Lawrence, LT Matthew Hunt, Tom Pfaffman, Tom Meredith, Montae Reeves, Jay Turberville, Matthew T. Harty, James Washington, Al Lee, Michael Kessler, Keimar Clarke, Shomari Hull, Darrel Jackson, Michael Garner

Through the collaborative effort of the NIH Office of Research Services and Office of Research Facilities, team, Operation Clean Sweep was able to de-clutter, beautify and increase egress safety in the common spaces of several buildings on the Bethesda campus. The effort required extensive teamwork and collaboration among many disciplines and divisions including: facilities management, logistics, safety, fire prevention, and environmental. In just 3 months, over 52 tons of non-accountable and accountable electronics, furniture, unclaimed materials, and debris were removed and either recycled or reused. In addition to cosmetic fixes, fire hazards and safety concerns were also addressed.

Shortage Designation Management System (SDMS - Division of Policy and Shortage Designation (DPSD) and Division of Business Operations (DBO) (HRSA)

Melissa Ryan, Cynthia Hodges, Melvin Whitfield, Kae Brickerd, Vickie Hux, Jeanette Spruill, Shanesia Hadley, Anthony Hazel, Michael Arsenault

The Health Resources and Services Administration's (HRSA) Bureau of Health Workforce, Division of Policy and Shortage Designation (DPSD) and Division of Business Operations (DBO) launched a joint initiative in fiscal year 2014 to improve the federal shortage designation process. The initiative led to the digitization of more than 380,000 pages of old application documents—equivalent to nearly two tons or the weight of a Toyota Camry—that had accumulated over years of using the previous application process. This eliminated the need to print, process, and store over 16,000 pieces of paper annually.

The Department of Health and Human Services relies on two federal shortage designations to identify and dedicate resources to areas and populations in greatest need of providers: Health Professional Shortage Area (HPSA) designations and Medically Underserved Area/Medically Underserved Population (MUA/P) designations. HPSA designations are geographic areas, population groups, and facilities that are experiencing a shortage of health professionals. MUA/P designations are areas or populations within areas that are experiencing a shortage of health care services. These federal shortage designations are currently used in a number of departmental programs that provide both federal and state government grant and program benefits for communities, health care facilities, and providers.

To obtain a federal shortage designation for an area, population, or facility, State Primary Care Offices (PCOs) must submit an application to HRSA for review and approval. Both the HPSA and MUA/P

applications request local, state, and national data on the target population, including the health professional to population ratio. Once a HPSA designation is obtained, PCOs must submit an updated application every three years to maintain the designation. The DPSD has the responsibility of reviewing all designation applications or removing HPSAs and MUA/Ps. The previous application process involved the creation of paper files for each application for every service area in every state and U.S. territory. Over the past two years, this process led to the printing of more than 33,000 pieces of paper.

DPSD and DBO retired the previous process in August 2014 and created and implemented the new Shortage Designation Management System (SDMS). The new SDMS is a single automated system that simplifies the designation process with improved data standardization and data integrity, new and improved user-interface, improved external communication functionality, and enhanced system support. The new system eliminates the need to print, process, and store application files and brings visibility and transparency to the shortage designation process. The SDMS continues to improve with the addition of new and enhanced functionality that will lead to further savings of printed paper by eliminating the need to mail out review findings to agencies and applicants. For all its efforts towards resource conservation and increased efficiency, the Bureau of Health Workforce deserves recognition as a Green Champion and as a Change Agent.

Division of Program and Measurement Support (DPMS) Sharepoint Site (CMS)

The Division of Program and Measurement Support (DPMS) in QMHAG/CCSQ/CMS has developed and deployed a comprehensive division Sharepoint site that resulted in the savings of printing supplies, space, as well as drastically increasing staff efficiency in the handling of contract and project documents.

DPMS has embarked on a mission to become paperless. We developed and deployed a comprehensive Division Sharepoint site that we subsequently used for extensive Document Review, Agendas creation and deployment, and Contract Action development and deployment.

Our structure has enabled:

1. Savings of printing supplies including 18000 sheets of paper and toner (45 contract actions, each is one about 100 pages, previously printed at least 4 times during the contract cycle).
2. Reduction of carbon foot print by reducing power used by printing and shredding documents by allowing them to solely remain digital.
3. Elimination of file 2 large cabinets (paper document storage), the space of which has been reallocated for use as cubicle space thus increasing building space utilization efficiency.
4. Improved staff efficiency, particularly in reviewing critical documents. Sharepoint functions have empowered staff to easily maintain version control eliminating the time to print multiple versions, as well as eliminating wasted time of verifying that they have the correct version of any document. Version control has also eliminated the need to redo work due to multiple people editing a document at once.
5. Increased security by utilizing Sharepoint's access control allowing DPMS to control who has access to sensitive contract and project documents. This has eliminated the concern of printed material getting into the wrong hands or being disposed of improperly.

The process of eliminating our paper storage of project-critical documentation has included:

- Restructuring of work flows.
- Development of a storage structure for the division to enhance retrieval of information and encourage usage.
- Training of staff.
- Development of a user friendly Sharepoint site that meets all of our needs.

This project began when we tried to move items to our file share network drive and found it to be non-user-friendly and hard to manage from an access perspective. Using project management resources, we included the elimination of paper documentation and improvement of our search/retrieval capabilities to the effort. Our work is replicable and we have shared our ideas with other divisions in CCSQ.

Food Waste Workgroup (CDC)

Daryl Young, Barbara Blanke, Deena Keeler, Claire Wall, Daniel Carney, Lauren Dufort

In an effort to evaluate opportunities for food waste diversion, the Centers for Disease Control and Prevention (CDC) Quality and Sustainability Office engaged with local community partners to gain knowledge of best practices and lessons learned from composting in cafeteria operations. Employees from the Quality and Sustainability Office and Food Waste Workgroup coordinated group site visits to both Emory University and the Federal Reserve Bank headquarters in Atlanta to observe composting operations in action. During the tours, the groups exchanged ideas and discussed challenges associated with implementation of composting. By showcasing successfully implemented composting programs, the tours improved upon training and awareness of best practices in composting for CDC attendees, which included building managers, facilities personnel and other stakeholders. Establishment of this partnership between thought leaders will provide mutual benefit as each group strives to implement projects related to food waste and shares their respective experiences. This partnership demonstrates success in aligning policies and practices with community partners to achieve the waste diversion goals of Executive Order 13514.

DEP Decommissioning Program Environmental Health Program (NIH)

Jake Deal, Chan-Nhu Nguyen, Mark Miller, Moses Ukaoma, Michelle Coley, LCDR Robert Horsch

The DEP Decommissioning Program aims to ensure environmental health of both indoor and outdoor spaces on a large and small scale. By identifying potential environmental hazards (e.g. mercury, lead, polychlorinated biphenyls, and asbestos) and remediating them from the space, potential regulatory, legal, or environmental risks are eliminated.

Notable decommissioning projects include the NIH Building 7 facility that is scheduled to be torn down in April of 2015. Through extensive Phase I, Phase II, and Phase III work, many hazards were identified and remediated. Additionally, due to the nature of the building's construction, many previously unknown

hazards were discovered and eliminated as well. Similarly, the Gerontology Research Center on the Johns Hopkins Bayview campus completed the decommissioning process in anticipation of transferring the federal facility back to the Johns Hopkins University.

The DEP Decommissioning team has streamlined the decommissioning process in hopes of increasing the volume of decommissioning requests while still maintaining a high quality of service. Utilizing existing technologies made available to DEP, such as Geographic Information Systems, this is entirely possible and has been proven as an effective workflow.

Division of Global Health HIV/AIDS (DGHA) Virtual Objective Review Process (CDC)

Valerie Naglich, Kathleen Sobush, Erin Sexton, Frank Burkybile, Heather Pumphrey

The Division of Global Health HIV/AIDS (DGHA) convenes 30 -90 Objective Review Panels per year. In the FY14 Funding Opportunity Announcement/Objective Review Process there were 86 Objective Review Panels. 100% of these panels were conducted virtually with over 250 reviewers representing 33 international field offices. In past years, objective reviews were convened in person and reviewers traveled to regional locations to participate. CDC staff from Atlanta also traveled to these locations for the reviews.

In FY13, the Special Response Team (SRT) in the Program Budget and Extramural Management Branch (PBEMB) pilot tested Virtual Objective Review Panels and with the Epidemiology and Strategic Information Branch (ESIB) conducted an evaluation. The results were successful and in FY14, 100% of panels were convened by teleconference preventing over 70 metric tons of CO₂ from being emitted for reviewer air travel alone.

The DGHA Virtual Objective Review Process is a reminder that some of our most common technologies like phone and email can be used successfully to accomplish mission critical objectives. This process can be replicated throughout the government and adapted for other processes. DGHA presented the pilot test results at the 2014 American Evaluation Association National Conference in Denver, Colorado disseminating this best practice outside of the Federal government.

White Oak Alternative Transportation Marketing Team (FDA)

Andrew Dempster, Danielle Houpe, John “Jack” Carlile, Kelvin Lawson, Deanna Murphy

This group award recognizes the outstanding work of the Alternative Transportation Marketing Team in promoting all modes of commuting to the White Oak site and as an alternative to single occupant vehicle. This group was selected in 2014 by the Metropolitan Washington Council of Governments to receive their annual commuter services award in the Marketing Category. The Washington Council of Governments is a regional council that addresses concerns that impact Washington, D.C. and the adjoining jurisdictions from Maryland and Virginia. The group and FDA was selected for this award among both private and public sector nominations.

In order to reduce the travel demand and the impact to local roads in the White Oak vicinity, this group uses Transportation Demand Management approach to reducing traffic impact. Techniques include: vanpool and carpool matching, with 29 new vanpools formed in 2014; public transit cooperation and route planning; shuttle bus services; bicycle commuting; and advertising of transit commuter incentives. The marketing of these services have earned the Agency recognition as the leader in Marketing for alternative transportation.

Ultra Low Temp Liquid Nitrogen (LN2)-fueled freezers (NIH NCI)

Kristin L. Komschlies, Ph.D, Michael Baseler, Ph.D, Leonard Wrona, David A. Toke, Ph.D, Gary R. Happel, Craig W. Reynolds, Ph.D., Laura L. Geil

Government and Leidos Biomedical Research, Inc., contractor, staff at the National Cancer Institute at Frederick conducted a 6-month study at their Central Repository comparing energy usage/cost between conventional, -80oc mechanical freezers and new technology, -80oc liquid nitrogen (LN2)-fueled freezers. While mechanical freezers require electricity to power compressors, generating heat as a byproduct and requiring cooling; LN2-fueled freezers only require electricity to power controllers, producing little heat. Electricity/LN2 consumption were monitored for 28 mechanical and 18 LN2-fueled freezers, both groups filled to capacity with the same number of samples. The LN2-fueled group had a reduction in electricity consumption of 681.1 KWH/day compared to the mechanical group. This reduction in energy needed to operate the LN2-fueled freezers, resulted in an additional, equal reduction in energy needed for cooling room air. Overall, the use of LN2-fueled freezers to maintain the same number of samples, resulted in a 31.4% decrease in electricity consumption and greenhouse gas, a net cost-savings of 24.6% after subtracting LN2 costs, and eliminated toxic materials (lubricants/insulation/refrigerant). We are sharing our results with NIH colleagues now interested in this technology, and continuing conversion from conventional mechanical freezers to LN2-fueled freezers to further increase positive impact on the environment and human health.

Double Pedestal Electric Vehicle Charging Station and Transportation Management Branch (NIH)

James Lewis, John Cheatham, Terry Schlegel, Mark F. Miller, Daryl R. Moore, Hakan Bardakci, Mark Minnick, Rees Llewellyn, Erich Poch, Danielle C. Sweeney, John Best, William K. Floyd

The Transportation Management Branch completed an environmental project with the intended purposes of securing significant environmental benefits by increasing the use of renewable energy. The environmental project identified as a Solar Array System includes the introduction of two fully electric vehicles into the fleet, a double pedestal electric vehicle charging station, and the installation of 20kW (20,000 watts of direct current) solar array panels. The installation of a solar array system, on NIH property for agency use, provides a 100% renewable energy source that safely powers an electric vehicle charging station. The total annual cost avoidance is \$8,000. Three extraordinary employees directly contributed to the completion of this exceptional environmental project; Terry Schlegel, John Chatham, and James Lewis. Their contribution in increasing the use of renewable energy directly supports Executive Order 13423, Strengthening Federal Environmental Energy, and Transportation Management.

Determination in improving environmental stewardship in support of the NIH's mission to improve public health reflects greatly upon these three employees and the NIH Transportation Management Branch.

Electric Vehicles (EVs) provide transportation that demonstratively reduce the reliance of fossil fuels and subsequently reduce greenhouse gas emissions. Holistically the engines of EVs are simpler with less moving parts which directly equates to reduced maintenance. Coupled with the reduced costs of fueling, it is estimated by NIH Fleet Management, that cost savings will equate to \$8,000 per vehicle annually. The solar array likewise provides a financial benefit as energy generated from the array is routed back to the NIH grid. EVs produce negligible harmful emissions. Conversely combustible engines emit greenhouse gases, in particular carbon dioxide which is a significant contributor associated with global warming. Indeed according to the EPA the average vehicle produces nearly 5 metric tons. Considering the average life cycle for a federal vehicle is 10 years this project is anticipated to decrease the greenhouse gas emissions by 1000 metric tons.

The project also acquired a 20 kilowatt DC solar array which was subsequently connected to the NIH Grid. This connection facilitates the opportunity for clean renewable energy to be supplied back to the NIH.

This project was the result of collaborative initiatives that crossed across different NIH divisions, institutes and contractors. It was through these collaborative efforts that all NIH rules and protocols were followed. In addition particular attention was expended to ensure that safety, aesthetics, and optimal return upon investment were realized.

An auxiliary benefit gleaned from the project was the identification of older, outdated and inefficient electrical infrastructure. This equipment was subsequently replaced and upgraded accordingly, which improved operational safety and ensured more reliable electrical outputs.

The project accounted for and supplied appropriate training to ensure that the application and use of the EV as well as the solar array are realized. This training included industry standard best practices in regard to maintenance as well as integration with legacy systems. In addition, daily and life cycle performance metrics can be captured due to the EV and solar monitoring systems that were installed.

The NIH in the true spirit of Executive Orders 13423 and 13514 has embraced the alternative approach to fuel usage. Eighty one (81%) of the NIH automotive fleet consists of Alternative Fuel. Using 2005 as a baseline, the NIH has achieved a 225% increase in alternative fuel usage and a 55% reduction in petroleum gas usage.

In summary this project through collaborations across divisions, institutes and with the support of contractors has realized both environmental benefits and fiscal savings. The environmental benefits are an anticipated savings of 1000 metric tons of greenhouse gases released into the atmosphere. The cost benefits anticipate maintenance and fuel savings of \$8,000 per vehicle annually; and the installation of the solar array supplies continuous clean energy back to the NIH grid.

Chamblee Campus Sustainable Highlight Reel 2014 (CDC)

Bruce Jue, Ted Hyatt, Richard Stanford, Darryl Wigington, Craig Belflower, Michael Ruiz, Steven China

Chamblee Campus 2014 Sustainable projects are a collection of "highlighted" efforts by a team of FTE's and contractors at the CDC's Chamblee campus demonstrating innovation and stewardship of agency resources to save energy, water, and fiscal resources.

Q&A with Jack POPI Green Wise 101 (NIH)

Jacquelyn Johnson, LTJG Ariell Lawrence, Brad Moss

We reached out to NIH Parents of Preschoolers (via Carla Ocampo) to create a series of short videos to promote the NIH Environmental Management System and sustainability.

Jack Adams was the most inquisitive and held a rather witty conversation with Brad Moss, OD Communication Director.

Roybal Campus Water Use Mitigation Team (CDC)

Bruce Jue, Stephen Koob, Caryn Womack, Jeff Bowen, Nathaniel Powell, George Lathrop, Jeff Bowen, Greg Rosser, Jelani Williams, Thomas Blanchard, Jeff Williams, Karen (Liz) York

CDC's Roybal Water Use Mitigation Team has terminated significant causes of water usage in B23 and other Roybal buildings that are reducing consumption by 95 Million gallons per year, at an estimated annual savings of \$1,369,900.

In early 2012 that a disproportionate amount of water, nearly 25% of the total Roybal campus usage, was being consumed by Building 23, suggesting a problem within the facility's operations. This high level of consumption was coupled with a spike in campus-wide usage between FY2011 and FY2012 that left the Agency with its only "Red" rating on its Sustainability Scorecard.

Sustainability and Operations leadership within the Office of Safety, Security and Asset Management (OCCO/OSSAM) assembled a team of stakeholders and leadership to pinpoint the cause of Building 23's water consumption and also to identify and implement measures that would mitigate future use across the Roybal Campus. The team examined the possibility for leaks, pored over previous water bills from the local utility, and scheduled and completed a re-calibration of each meter at CDC to ensure that the Agency was being properly charged for its usage.

One of the group's first major projects was facilitating the approval and installation of agency-owned water meters at each building on CDC's Roybal campus to confirm where water was being consumed. After it was determined that Building 23 was by far the largest consumer, team members began to connect with building occupants to determine next steps in water reduction, working in conjunction with their staff to find mutually beneficial solutions that satisfied both sustainability requirements and stringent

biological-safety standards. A concentrated communications effort based on newly available meter information led to the creation of monthly water assessments that detailed water usage by building and was forwarded out to leadership to increase awareness of the water use reduction effort.

As a part of the project, a contracted engineering study with Jacobs Engineering was also carried out by AMSO. The study unearthed a problem within Building 23 in which plumbing trap flush systems were being left on unnecessarily for days at a time. These systems were designed to be used between levels B3 and B4 to supposedly avoid entrapment of any animal waste in the pipes as the vivarium rooms were cleaned. At one point in August, spot checks in the Jacobs study revealed that 10-15 of the 25-30 valves were left open and flowing for multiple days at a rate of 30gal/min, or ~1,600gal/hr, per valve. AMSO coordinated with Jacobs Engineering, CDC's Animal Review Board and OID personnel and determined that these flush systems were not really needed. As a result, AMSO implemented changes through its EMOSO branch to permanently shut these systems off in Building 23. Additional findings that were implemented in other buildings, along with Building 23, have resulted in water-use reductions that will total 95 million gallons per year, for an estimated annual savings of \$1,369,900.

CDC reduced its water use intensity by 30.5% from FY2013 to FY2014, achieving a 10.6% reduction from its FY2007 baseline. The correction of the Building 23 valve issue is expected to result in even larger savings during FY2015, thanks to the quick remediation work being completed by AMSO after the discovery.

Alaska Native Tribal Health Consortium's Rural Energy Initiative (IHS)

Chong Park, Ph.D, PE, David Reed, PE, LT Praveen KC, PE, Christopher Mercer, Kolt Garvey, Carl Remley

Remote communities across rural Alaska face some of the highest energy in the country. In response to this, the Alaska Native Tribal Health Consortium's (ANTHC) Rural Energy Initiative (REI) has been working with Alaska Native communities since 2010 to develop innovative solutions to reducing the cost of running community water and wastewater facilities, including one specific energy technology referred to as "Wind to Heat". Provision of public sanitation services can comprise up to 30 percent of a community's total operational cost. The US Census Bureau reports that 2010 poverty rates were 28.4 percent for American Indians and Alaska Natives compared to 8 percent for the country. The convergence of high energy costs and low household income is straining the ability of many rural Alaskans to afford the basic sanitation benefits of clean water. Lack of in-home piped water and sewer services is directly linked to higher gastric, respiratory and skin infection rates. Through partnerships with communities, funding agencies and utility companies, ANTHC's REI has developed "wind to heat" systems to capture unused energy from community wind turbines to heat public water systems and significantly reduce sanitation system energy costs.

CA Drought: San Francisco Laboratory Water Efficiency and Management (FDA ORA)

Thanh-Thu Huynh, CAPT David Lau, Tom Sidebottom, Deborah Nebenzahl

California is in an Extreme and Critical Drought situation. The average FDA Laboratory steam sterilizer uses 1-5 gallons of water per minute continuously. The water is used to reduce the temperature of hot condensate created in the sterilizing process prior to sending it down the drain. A best practices analysis

was conducted of the laboratory's water usage and it was determined a critical need would be to retrofit our five (5) steam sterilizers with water saving devices. The retrofit eliminates the "tempering" water consumption during the non-sterilizing portion of the sterilizer cycle thereby substantially reducing overall water consumption. Return of investment for money spent to install is 1 year, and the modification is estimated to result in over 10% (avg) saving in water usage over a 12 month period.

As the results of our return in water and financial savings continue to be realized, SFL has recommended all FDA laboratories retrofit their steam sterilizers for more efficiency and cost benefits to the tax-payer may be realized.

Energy Savings Performance Contracting (ESPC) Team (CDC)

Sarah Gray, Bruce Jue, George Raymond, Kenneth Walpole

As Goal Managers for the Sustainability effort for the CDC, Sarah Gray and Bruce Jue were tasked with helping CDC meet the performance contracting goals established the CEQ that expanded the Dec 2011 Presidential Memorandum for an additional \$2B in contracts to be awarded by Dec 2016. CDC committed to contributing \$6.75M between a minimum \$4.1M UESC across the Atlanta owned campuses and a \$2.7M ESPC at the NIOSH/Pittsburgh campus. In FY2014, the project teams and roles were established, a utility was selected for the UESC and statement of work established for the ESPC. Additionally, both performance contract projects will include investment grade energy and water audits to complete the second round of requirements by section 432 of EISA-2007.

CDC ITSO Telework Program (CDC)

Dave Ausefski, Howard Smith, Lee Eilers, Timothy Horner

On September 16th, CDC was fortunate to host a visit by President Obama at the Roybal Campus. The President, accompanied by HHS Secretary Sylvia Burwell and other US government officials, was provided a briefing by CDC officials about the unprecedented Ebola outbreak in West Africa. In anticipation of heightened security activity on campus, CDC leadership encouraged employees to telework on this day if they were able. CDC ITSO noted that the number of staff teleworking that day doubled from the normal two thousand staff daily to a little over five thousand staff who worked remotely that day.

This data provides an optimistic view into the future of teleworking at CDC. We are confident that we have the capacity to provide a network for telework during extreme weather, or other situational events which will provide flexibility to our employees as well as reduce our carbon footprint.

CDC ITSO Depot Multi-Pack Boxes (CDC)

Bill McHarg, Charles Johnston, Alex Null, Karla Eyre, Timothy Horner

Over the last year, the CDC ITSO Depot, and its staff have substantially reduced the number of shipping cartons used to ship and deliver CDC IT Equipment. Specifically, each year, CDC ITSO orders and receive thousands of computers, monitors, printers and other miscellaneous IT related equipment. Typically vendors ship these devices individually requiring each item to be individually wrapped and packaged in typical plastic and cardboard containers. During Fy 2014, and 2015 as well, CDC ITSO requested that our primary vendor, Dell Computers, multi pack all IT equipment being delivered to CDC, thereby saving thousands of cardboard cartons and hundreds of plastic bags.

By utilizing these smart green options and requesting dell multi-pack all IT equipment being shipped to CDC's facilities, CDC saved 3457 boxes and cartons and most of the individual plastic parts involved in the shopping and packaging process. Furthermore, CDC also saved over 700 90 gallon EPS plastic bags. These are the type of bags that cannot be compressed or recycled. This effort alone, led by Mr. Bill McHarg and the ITSO Depot staff has saved our environment immensely.

Office of Acquisition Management and Policy (OAMP) Electronic Contracting (HRSA)

The HRSA/Office of Acquisition Management and Policy (OAMP) have moved from a paper and hard copy procurement process to paperless contracting in FY14. In order to achieve paperless contracting, OAMP issues solicitations electronically, receives large proposals electronically, evaluates proposals electronically, and awards contracts and other award mechanisms electronically. OAMP now maintains electronic records for each phase of the acquisition process and uploads the contract documentation in our existing Procurement Information System Management (PRISM). To achieve paperless contracting, each contracting professional was required to learn how to utilize PRISM to upload and store documents in accordance with the HHS Acquisition Checklists. The transition in using PRISM has resulted in faster access to and retrieval of information; better service delivery and communication; accessible by all acquisition staff; improved overall efficiency of the office; and provides significant cost savings by not having to purchase paper, folders, and other supplies; and is environmentally friendly. In early FY15, OAMP presented to the HHS/Office of Grants and Acquisition Policy and Accountability (OGAPA), Procurement Management Review Team, how our office is uploading and maintaining electronic contract records in PRISM. OGAPA was impressed with OAMP utilizing the functionality of an existing system. Utilizing PRISM to maintain electronic contract records has a high potential to be replicated in other HHS OPDIVs which can result in significant cost savings and significantly reduce the carbon imprint across various contracting offices across the Department.

NIEHS Transhare & Telework Program (NIH)

Jenn Evans, Claire Long

The NIEHS Office of Management combined innovation and resourcefulness to create successful alternative commuting through the NIEHS Transhare & Telework Program. The program utilized creative

ways to overcome alternative commuting challenges of being located in a strategic, yet remote research park in North Carolina. The NIEHS has been able to help mitigate traffic congestion and reduce auto emissions that result in greenhouse gases by offering NIEHS employees effective alternative commuting methods such as the use of regional busing, vanpool programs, carpool programs, teleworking, and bike to work programs. Transshare also supports those who bike to work by partnering with RTP area organizations that sponsor Bike to Work activities and assistance. In 2014, NIEHS had a telework participation rate among the Institute's federal workforce of over 50%. The NIEHS reduced miles driven by employees in 2014 by an estimated 871,782, reducing greenhouse gas emissions by over 300 metric tons and supporting agency goals of Executive Order 13514 to reduce greenhouse gas emissions. In recognition of the Institute's innovative alternative transportation program, the Triangle J Council of Governments awarded NIEHS the "2014 Best Workplace for Commuters".

Kayenta Staff Quarters (IHS)

CDR Michael Young, CDR Stephen Christopher

The Kayenta Staff Quarters is a housing project of 129 Single Family, Multi-Family, and Transient units. The Staff Quarters are intended to support the recruitment and retention of health care staff serving the new Kayenta Health Care Center on the Navajo Reservation in Kayenta, Arizona. Construction is being accomplished via a Design/Build (D/B) model. Design began in October 2013 and construction began in February 2014. Construction completion is projected for April 2016, though the transient quarters (a 29-unit apartment building) and an additional number of single and multiple family units will be completed in Spring 2015. Completion of the remaining units will occur throughout the duration of the project. CDR Stephen Christopher serves as the Project Manager and CDR Michael Young serves as the Sustainability Coordinator on the project. The two carefully crafted a design and construction scope of work that ensures the project not only meets Federal sustainability standards, but exceeds them where possible.

The Kayenta Staff Quarters project fully incorporates the Federal Sustainability Guiding Principles and the goals established under Executive Order 13514. In addition, the project will be the first in IHS to be certified under the LEED for Homes v3 template and is expected to achieve a gold certification.

Specific innovations incorporated into the project that may be useful for consideration and implementation on future projects include the use of solar hot water heating (for domestic hot water and supplemental heating), LEED for Homes Certification, and a virtually air-infiltration free exterior building envelope.

Honorable Mentions:

HHS Program Support Center and HRSA Change Management Team (PSC and HRSA)

NIEHS Site Ecology Team (NIH)

Winchester Engineering and Analytical Center (FDA)

AMSO Freezer equipment modifications (CDC)

NIH Waste Diversion (NIH)

Communicating Green Features on the NIH Bethesda Campus (NIH)

NCI Green Teams (NIH)

Contract Property Administrative Tool (CPAT) (NIH)

LED Lighting Project at Winchester Engineering and Analytical Center (FDA)

Appendix B: 2014 HHS Climate Adaptation Plan

Appendix C: HHS FY 2015 Vehicle Allocation Methodology & FY 2015 Fleet Management Plan