Department of Commerce

Sustainability Report and Implementation Plan

2020

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Executive Summary

The mission of the U.S. Department of Commerce (subsequently referred to as "the Department") is to create the conditions for economic growth and opportunity. The Department has approximately 46,608 employees working across every U.S. state and territory and in more than 86 countries worldwide, providing U.S. based companies and entrepreneurs invaluable tools through programs such as the Decennial Census, the National Weather Service, the National Marine Fisheries Service, and the Foreign Commercial Service. The Department is headquartered in Washington, D.C. and has thirteen operating units (OUs), including: the Office of the Secretary (OS); Office of the Inspector General (OIG); Bureau of Industry and Security (BIS); Bureau of Economic Analysis (BEA); U.S. Economic Development Administration (EDA); U.S. Census Bureau (Census); International Trade Administration (ITA); Minority Business Development Agency (MBDA); National Institute of Standards and Technology (NIST); National Oceanic and Atmospheric Administration (NOAA); National Telecommunications and Information Administration (NTIA); National Technical Information Service (NTIS); and the U.S. Patent and Trademark Office (USPTO). The Department's facilities have very diverse missions and operations ranging from large, complex research laboratories at NIST campuses to small NOAA weather stations. NOAA, NIST, and NTIA have all the Department's owned facilities. Other OUs occupy General Services Administration (GSA) owned or leased facilities, some of which are delegated and operated by the OUs. In addition, NOAA occupies several direct- leased facilities. The Department currently has 13 covered facilities, per the Energy Independence and Security Act (EISA) Section 432's definition, that constitute 75% or more of the Department's total facility energy consumption. The Department uses the Environmental Protection Agency's ENERGY STAR Portfolio Manager® to track energy, water, sustainable buildings, and project investment data; waste data will also be included starting in FY2021.

The Department is committed to fulfilling the vision set forth in Executive Order (EO) 13834, *Efficient Federal Operations*, to meet energy and environmental statutory requirements in a manner that improves and optimizes performance, reduces operating costs, increases efficiency, and makes its facilities more resilient and effective. The Department's 2020 Sustainability Report and Implementation Plan (SRIP) describes how the Department will continue in FY2021 to integrate sustainability into its mission to create conditions for economic growth and prosperity. The Department's top strategic sustainability priorities for FY2021 include:

- Continue to improve the accuracy of the Department's energy and water consumption data and real property portfolio through data validation, evaluations, and assessment of the Department's covered facilities.
- Continue to develop a pipeline of projects and/or energy conservation measures (ECMs) with potential for performance contracting through Energy Savings Performance Contracts (ESPCs) and Utility Energy Services Contracts (UESCs).
- Pursue energy and water efficiency upgrades concurrently with all construction and major renovation projects.
- Improve the collection and accuracy of non-hazardous solid waste data by using the ENERGY STAR Portfolio Manager® Waste Module and amending the Department's Portfolio Manager Business Rules.

In FY2020, the Department continued several successful initiatives to:

- Recognize Department employees for outstanding performance in implementing exceptional, cost-saving projects or programs that help the Department achieve its mission while improving energy and water conservation and environmental performance through the Department's Sustainability, Energy, and Environmental Ambassadors program and the Energy and Environmental Stewardship Awards.
- Provide no-cost, engaging Department-wide training on key sustainability, energy, and environmental compliance topics to maintain a knowledgeable and effective workforce.
- Continue to build strong partnerships with leading experts at the Department of Energy (DOE) Federal Energy Management Program (FEMP), DOE National Laboratories, and other federal agencies to meet current statutory requirements, EO 13834 goals, and Office of Management and Budget Scorecard (OMB) metrics.

In FY2019, the Department made significant progress toward meeting and exceeding EO 13834 goals, most notably in the area on facility energy intensity, which achieved a 6.9% reduction compared to the previous year. Major

contributors to this success were NIST's 7.9-megawatt (MW) combined heat and power (CHP) system and 4.4-MW solar array at its Gaithersburg campus, which became operational in FY2019. NIST facilities represent the most energy intensive facilities in the Department; therefore, these projects had significant impacts on the Department's overall energy reduction.

Implementation Summary: Facility Management

1. FACILITY ENERGY EFFICIENCY

FY 2019 Energy Intensity Progress (Btu/GSF):

33.5% reduction from FY03
6.9% reduction from FY18

FY 2020-FY 2021 Plan:

1.6% reduction in FY20 from FY19
2.3% reduction in FY21 from FY20

The Department's approach to reducing energy consumption and increasing energy efficiency includes maximizing opportunities through current building renovation schedules; continual assessment of performance contracting feasibility and implementation where suitable; and education and awareness through robust online training programs.

Implementation Status

In FY2019, the Department made significant strides in improving energy efficiency at its facilities, which contributed to a 6.9% reduction in energy intensity compared to FY2018. A few examples include:

- NIST began operation of a 7.9-megawatt (MW) combined heat and power (CHP) system and a 4.4-MW solar array at its Gaithersburg campus. The two systems produced on average 49% of all electricity required for the Gaithersburg campus in the first three months of operation.
- The Census National Processing Center (NPC) reduced energy consumption and increased energy efficiency through installing programmable thermostats combined with automatic setbacks, high efficiency light fixtures and lamps, and lighting with motion detection controls, replacing and insulating steam valves and steam pipes, and re-commissioning water fixtures. Additionally, expanded telework and increased use of non-traditional works schedules helped to reduce energy consumption by 4% in FY2019 at the NPC campus, as compared to the previous year.
- The Department's Headquarters building, the Herbert C. Hoover Building (HCHB), completed energy upgrades including installing energy-efficient windows and upgrading electrical and mechanical systems to maximize efficiency. In addition, HCHB completed a project to add additional water heaters and pumps to the central building automation system for improved scheduling and efficiency.
- NIST completed construction of the Boulder Computing Facility, which included modern and energy efficient cooling systems uniquely suited to support energy intense data centers. The building is fully equipped with light-emitting diode (LED) luminaires, occupancy sensors and cold/hot aisle technology.
- NTIA continued a multi-year renovation project at its Table Mountain research campus, which included improving building insulation, replacing single pane windows with insulated multi-pane windows, utilizing natural lighting, and upgrading the HVAC systems to improve overall energy efficiency.
- The USPTO Alexandria campus reduced energy consumption by 3.8% in FY2019. Measures that contributed to the reduction included: the installation of 8,250 energy efficient LED lamps in three office buildings, reducing energy usage by 51 watts per fixture, extending lamp life by 20,000 hours, and reducing labor replacement cost; implementing an internal energy curtailment program which reduced energy demand by roughly 850 kilowatts (KW) for up to 6 hours on the scheduled day and reducing campus electricity usage by roughly 241,000 kWh and saving roughly $17,000 in utility costs; creating a monthly energy dashboard comparing the current 12 months of energy consumption to the same 12 months in the previous period and displaying the dashboard on digital monitors in all campus buildings and on the USPTO website to track and report progress. According to EPA,

USPTO Alexandria campus is among the top 25 percent in energy efficiency performance for similar office buildings nationwide and the campus earned the EPA ENERGY STAR certification in 2019 for the 8th year in a row.

Priority Strategies & Planned Actions

One of the Department's top five strategic priorities for FY2021 is to continue to assist OUs in developing pipelines for energy efficiency projects that can be utilized when either direct investment or performance contracting opportunities arise. This will provide OUs with measured, planned actions to improve energy efficiency of Department facilities and reduce costs and deferment of mission funds on higher utility bills. In addition, the following energy efficiency strategies and projects are planned for FY2020 and FY2021:

- HCHB will implement several energy and water conservation measures identified in the multi-year GSA renovation project plan, including upgraded fixtures, hydronic heating, replacement of core systems, and upgraded envelope insulation.
- The NIST Gaithersburg campus will undergo a complete renovation, expansion, and modernization of its existing facilities, both the labs and administrative buildings over the next several years. In FY2021 and FY2022, NIST will continue to focus on roof replacements, central HVAC renovation projects, updating aging, buried utilities and research buildings' major electrical equipment.
- USPTO plans to install LED office lighting in five buildings on its Alexandria campus, which will complete the installation for all eight campus buildings. Once all buildings have been completed, USPTO expects energy consumption will be reduced by approximately 3,783 MW-hours and save approximately $264,789 in utilities per year.

2. EFFICIENCY MEASURES, INVESTMENT, AND PERFORMANCE CONTRACTING

FY 2019 Performance Contracting – Investment value and number of new projects awarded:

$0/0 projects in FY19

FY 2020-FY 2021 Plan:

$1M/1 project in FY20

$2M/1 project in FY21

The Department's approach to evaluating and investing in cost-effective energy and water efficiency projects includes utilizing existing data collection and benchmarking tools, such as ENERGY STAR Portfolio Manager®, the DOE FEMP Compliance Tracking System, and the US Army Corps of Engineers' BUILDER software and database program. These tools identify and track potential energy and water conservation measures, develop a pipeline of prioritized projects that can be implemented when direct funding or performance contracting opportunities arise, and measure and verify existing project data and savings.

Implementation Status

The Department completed 100% of its EISA-required facility energy assessments for FY2019. NOAA and NIST utilized integrated technology to conduct virtual audits of their facilities to identify potential ECMs and cost-saving opportunities. In FY2019, NIST awarded a contract to implement BUILDER, a US Army Corps of Engineers developed Sustainment Management System software program and database for conducting facility condition assessments, tracking backlog of facility maintenance and repair deficiencies, and forecasting repair/replacement workload requirements up to ten years into the future. The contract also included conducting future EISA-required energy and water assessments and entering the findings and future project recommendations in the Guiding Principles Checklist for Existing Buildings.

Due to the award of two significant ESPC ENABLE contracts in FY2018 at NIST and NOAA facilities, the Department did not see additional awards in FY2019. The small number and size of owned facilities in the Department makes it difficult to continually identify viable performance contracts. NOAA's National Marine Sanctuaries awarded a successful ESPC ENABLE project in FY2018 that shared savings across five sanctuaries in five different states. NOAA is working with other Line Offices to use this project as a model for similar facilities.

Priority Strategies & Planned Actions

In FY2020 and FY2021, the Department plans to continue assessment of Department facilities and identification of potential cost-effective energy conservation measures; direct investment through building renovation and construction projects; and evaluation and implementation of performance contracting opportunities at NIST and NOAA facilities, where viable.

3. RENEWABLE ENERGY

FY 2019 Renewable Electricity Use:

25.5% of total electricity in FY19

FY 2020-FY 2021 Plan:

25.8% of total electricity in FY20
26% of total electricity in FY21

The Department's approach to deploying and/or purchasing renewable energy includes: assessing opportunities to utilize the direct investment opportunities, the ESPC ENABLE program, and other performance contracting vehicles in order to implement on-site renewable energy projects where cost-effective; encouraging OUs to purchase renewable energy through utility providers where available; and purchasing Renewable Energy Certificates (RECs) to offset electricity consumption and reduce greenhouse gas emissions, when other opportunities identified above are not feasible.

Implementation Status

The NIST Gaithersburg campus's new 4.4 MW solar array became operational in December 2018 and since then has regularly produced at the 114% level, or 14% above the contractually guaranteed level. The array is the largest erected on federal property, outside of the Department of Defense, in which all electric solar energy produced is consumed by the hosting federal facility. The array's production meets 5% of the total annual electricity consumption for the Gaithersburg campus. The project has estimated savings of $3.5M over the 20-year contract, another $8.3M for years 21-30 when NIST outright owns the array and should reduce greenhouse gas emissions by 3,700 tons of CO2 per year.

Additionally, in FY2019 the Department continued its commitment to purchasing Renewable Energy Certificates at NOAA, NIST, NTIA, and USPTO facilities.

Priority Strategies & Planned Actions

The Department continues to meet the renewable electricity statutory requirements primarily through the purchase of RECs. In FY2020 and FY2021, the Department expects to maintain or slightly increase the consumption of renewable energy due to existing solar installations, as well as a commitment to purchasing RECs to offset energy consumption at facilities where on-site renewable projects are not viable. In FY2022, there is the potential to install more solar panels and add battery storage at the NIST Radio Station Kauai.

4. WATER EFFICIENCY

FY 2019 Water Intensity Progress (Gal/GSF):

17.6% reduction from FY07
22.4% increase from FY18

FY 2020-FY 2021 Plan:

8.4% reduction in FY20 from FY19
9.2% reduction in FY21 from FY20

The Department's approach to reducing potable water consumption and increasing efficiencies includes: increasing the use of advanced meters at all facilities to acquire more accurate data; utilizing building renovation and

construction projects to install more efficient fixtures and systems; and reducing unnecessary use of potable water for non-potable purposes.

Implementation Status

In FY2019 the Department had both successes and setbacks in meeting potable water consumption reduction metrics. Even though most of the Department's OUs reduced potable water consumption by implementing cost-effective water conservation measures through both direct investment and performance contracts, an incident at the NIST Gaithersburg campus caused a significant increase. A leak in one of the NIST Gaithersburg campus' steam condensate lines caused the system to lose between 50 and 70 kilogallons of water per day and required an urgent repair. The system is only operating at 80% capacity after piping repairs were installed above ground as temporary, emergency solution. A FY2019 funded design-build project will focus on permanent repairs. Since the NIST Gaithersburg campus is by far the Department's largest consumer of potable water, this incident caused an increase to the Department's total water use intensity by 22.4% for FY2019.

Priority Strategies & Planned Actions

In FY2020 and FY2021, the Department anticipates significant improvement in the potable water intensity metric due to the following plans and projects:

- NIST repairs of the Gaithersburg campus steam condensate lines that caused the system leak in FY2019. These repairs and mitigation will return the Department's total water use intensity to more normal levels.
- Census plans to use mulch to eliminate and reduce the need to water the grounds at the NPC campus.
- NIST will install a filtration system for the sub-ground and rainwater as it is transported from the Advanced Measurement Laboratory complex and Building 245, respectively, to the cooling tower. The new Building 245 rainwater collection system is estimated to save 500,000 gallons per year. In addition, NIST will be funding new water meters in FY2020 and FY2021 at the Gaithersburg campus.
- NTIA will include low volume flush toilets in the Table Mountain modernization project which are expected to increase water efficiencies for the campus.

5. HIGH PERFORMANCE SUSTAINABLE BUILDINGS

FY 2019 Sustainable Buildings Progress:

19 sustainable Federal buildings

18.8% of buildings **19.8%** of gross square footage (GSF)

FY 2020-FY 2021 Plan:

20% of GSF in FY20

20.5% of GSF in FY21

The Department's approach to advancing high performance and sustainable buildings to its portfolio includes utilizing OU master plans and building renovation schedules to identify future candidate sustainable buildings. Master plans specifically detail sustainable design approaches – energy efficiency, water efficiency, storm water management, daylighting, adaptive reuse, landscape architecture, and renewable energy.

Implementation Status

Most building space occupied by the Department is leased from GSA. NIST and NOAA are the only OUs that own property. NIST continues to increase square footage that qualify as sustainable. The NIST Boulder campus completed partial building renovations of its largest building, with two of its six wings qualifying as sustainable under Leadership in Energy and Environmental Design (LEED). The additional sustainable building space associated with the two wings (63,144 square feet) is not reflected in the FY 19 progress metrics, because the building wings are not tracked individually in the Federal Real Property Profile (FRPP), the database of record for Federal building space. Renovation of the largest wing of this building, 22% of building space, was awarded in 2020. The project's next phase should begin in 2020, with the intent of achieving LEED-Gold certification.

NOAA is undertaking a Real Property Validation (RPV) exercise to verify square footage of its owned buildings, many of which did not have supporting documentation for GSF recorded in the FRPP. The first phase is focused on the larger campuses and cities with larger concentrations of NOAA buildings. Where RPV's GSF is different, the GSF in the FRPP is corrected as discovered. The summation of variances in GSF resulted in a reduction in the percentage of GSF counted as sustainable. Due to the RPV and fluctuations as building square footage is corrected, the Department may continue to see fluctuations in calculated percentages for sustainable buildings.

Priority Strategies & Planned Actions

The Department will continue to support GSA improving building efficiency and meeting sustainable building specifications in its leased buildings and continue to seek opportunities to expand its inventory of sustainable buildings through renovations or new construction, as feasible and cost-effective.

NIST will continue to review master plans and building renovation schedules to identify future candidate sustainable buildings. NIST forecasts that by 2024, it will add one more to the list of sustainable buildings. NOAA will continue its RPV to support accuracy of its GSF data in the FRPP. NOAA does not anticipate adding sustainable buildings in the foreseeable future.

6. WASTE MANAGEMENT AND DIVERSION

FY 2019 Non-hazardous Waste Management and Diversion:

5429.8 metric tons of non-hazardous solid waste generated*
56.6% diverted and **43.4%** sent to treatment and disposal facilities

FY 2020-FY 2021 Plan:

1.0% reduction in non-hazardous solid waste generated in FY20 from FY19
57.6% diverted and **42.4%** sent to treatment and disposal facilities in FY20

1.0% reduction in non-hazardous solid waste generated in FY21 from FY20
58.6% diverted and **41.4%** sent to treatment and disposal facilities in FY21
**not including construction and demolition waste*

The Department's approach to reducing hazardous and non-hazardous waste generation and increasing waste diversion includes: implementation of ENERGY STAR Portfolio Manager's® Waste Module to improve tracking of non-hazardous waste generation and diversion; enhancement of currently successful recycling programs, such as the Department's Green Store; and education and awareness programs to promote reuse and recycling.

Implementation Status

The Department and its OUs make a concerted effort to divert solid waste from landfills and treatment facilities, reduce disposal costs, and save costs of purchasing new property or materials through re-use. The Department's OUs have established waste diversion programs such as: single-stream recycling; water bottle refilling stations to reduce plastic water bottle disposal; recycling and donation of excess usable property (e.g., office furniture, office supplies, electronics); double-sided printing or sharing electronic files; and used battery recycling programs. OUs that are in leased facilities and do not directly pay for their waste disposal have set up internal recycling programs and work with the lessor to institute waste diversion and recycling programs. Examples of projects implemented in FY2019 include:

- NIST recycled over 100,200 pounds of mixed paper; 61,200 pounds of corrugated cardboard; 954 pounds of co-mingled materials; 400 pounds of aluminum cans; 1,800 pounds of glass bottles/jars and plastic bottles/containers; 463,228 pounds of scrap metal; 2,979,200 pounds of yard trim; 13,493 pounds of batteries; 195,220 pounds of electronic waste; 2,971 pounds of lights; 450 gallons of motor oil; 140,000 pounds of construction/demolition debris; and 800 pounds of wood/sawdust. NIST reports this kind of recycling information to Montgomery County, Maryland annually.

- The Census NPC campus generated approximately 613 tons of non-hazardous solid waste. Of the waste generated, 545 tons were sent to treatment and recycling facilities. $32,937 in proceeds were generated from recycling. This amount does not include construction and demolition waste.
- USPTO's Alexandria campus worked with its cafeteria food vendor to enable customers to use their own reusable mug for hot and cold beverages, which helps to cut down on beverage cups and plastic lids.
- The Department held an America Recycles Day event to promote recycling at HCHB and promoted recycling during its Earth Day event.
- The Census NPC increased online training opportunities to educate employees on waste management practices.

Other on-going waste reduction and recycling projects within the Department include:

- HCHB and USPTO Headquarters and regional offices are equipped with water bottle refilling stations to encourage reusable water bottles, thereby reducing the use of single-use plastic water bottles.
- HCHB provided a centralized trash collection option to offices to cut down on deskside waste. Instead of using individual deskside bins, staff in these offices share centralized trash and recycling bins. This voluntary program has reduced daily deskside trash collection and encourages more thoughtful waste and recycling habits.
- The Department and USPTO operate "Green Stores" that collect and redistribute used or unused office supplies/electronics at no cost to offices that need these supplies.
- NIST, USPTO, and HCHB collect excess furniture for re-use within their respective organization, or for donation, as applicable.
- USPTO utilizes a state-of-the art energy-from-waste facility in Alexandria where non-recyclable waste is converted to renewable electric energy.

Priority Strategies & Planned Actions

The Department anticipates a decrease in non-hazardous solid waste generated in FY2020 as a result of increased telework due to COVID-19. The Department will continue to identify opportunities to track, divert, and increase waste and recycling efforts through the following actions:

- Implement a new method to collect measured nonhazardous solid waste data in the ENERGY STAR Portfolio Manager® Waste Module, similar to how the Department tracks energy and water consumption and cost. The Department plans to update its Portfolio Manager Business Rules in FY2020 to include guidance on waste tracking and reporting and provide targeted training to OU personnel on how to input and use data.
- Host events such as Green Fair, Earth Day, America Recycles Day, and recycling drives to promote sustainability, waste reduction, and recycling.

Implementation Summary: Fleet Management

1. TRANSPORTATION / FLEET MANAGEMENT

FY 2019 Petroleum Reduction Progress (Gal):

34.4% reduction in petroleum fuel since 2005

2.3% reduction in petroleum fuel since FY18

FY 2019 Alternative Fuel Use Progress (Gal):

2,173% increase in alt fuel since 2005

3.4% increase in alt fuel since FY18

FY 2020-FY 2021 Plan:

1.0% reduction in FY20 from FY19

1.0% reduction in FY21 from FY20

FY 2020-FY 2021 Plan:

1.0% increase in FY20 from FY19

1.0% increase in FY21 from FY20

The Department's approach to improving fleet efficiency includes replacement of vehicles with low greenhouse gas (LGHG) vehicles and hybrids, implementing enhancements to Fleet Information Management System, and implementation of telematics. The Department's inventory consists of domestic and international vehicle fleets across eight OUs: BIS, Census, ITA, NIST, NOAA, NTIA, USPTO, and OS.

Implementation Status

In FY2019, the Department's fleet consisted of 1,945 vehicles, the majority of which are GSA leased. The Department's fleet is diverse (e.g., heavy-duty trucks, medium-duty pickups, sedans, vans, sports utility vehicles) with vehicles serving various purposes (e.g., administrative support, maintenance/snow removal/landscaping, shuttle services, emergency response, scientific measurement and research, law enforcement) to support the Department's missions. The fleet is a mix of conventional and alternative fuel vehicles (AFVs), such as low greenhouse gas, hybrid, E85, and clean natural gas (CNG). Using E85 remains a challenge due to limited to no E85 infrastructures; therefore, the Department is replacing E85 vehicles with hybrid and LGHG in locations where E85 is unavailable.

The Department showed the following progress on compliance and efficiency in FY2019:

- Alternative fuel (AF) as a percentage of total fuel used in FY 2019: 3.6%.
- Acquisitions of efficient or alternative fuel vehicles: 165 AFVs purchased.
- Change in fleet size or composition: No change in fleet size.
- Change in vehicle miles traveled: 5% decrease in vehicle miles traveled.

Notable projects and programs implemented in FY2019 included:

- Replacement of conventional vehicles with low greenhouse gas (LGHG) vehicles and hybrids.
- Decreased fuel cost from $280,000 to $220,000.
- Completion of the Department's Smart Pay 3 interface with its property management database system to better manage fleet activity.
- Conducting annual internal policy review to ensure management oversight and fleet program control measures are enforced.

Priority Strategies & Planned Actions

The Department has set an internal target to increase AF usage by at least 1% annually. Replacing E85 vehicles in FY2020 with LGHG vehicles in areas where E85 is unavailable will improve the Department's AF footprint, which should improve fleet fuel data. Replacing law enforcement vehicles with LGHG remains a challenge, because AFV have generally not met vehicle size and flexibility needs to meet this mission.

Future strategies include improving fleet efficiencies by enhancing the Department's ability to see fuel utilization in real-time by implementing enhancements to fleet management information systems (FMIS) Fleet solutions, continued implementation of fleet telematics, and conducting a current Vehicle Allocation Methodology. The Department is currently implementing telematics on agency owned and commercial leased vehicles with a goal to have telematics installed on GSA vehicles when new vehicles are acquired in FY2021.

Implementation Summary: Cross-Cutting Operations

1. SUSTAINABLE ACQUISITION / PROCUREMENT

FY 2019 Sustainable Acquisition Progress:

6.9% of contract actions and 8.9% of obligations (in dollars), for a total of $482,109,702 in contract actions with statutory environmental requirements

FY 2020-FY 2021 Plan:

7.0% of contract actions and 9.0% of obligations (in dollars)
7.0% of contract actions and 9.1% of obligations (in dollars)

The Department's approach to complying with statutory requirements and increasing acquisition of sustainable products and services include review of the Federal Procurement Data System (FPDS) element of EPA-Designated Products and Recovered Materials/Sustainability, management of the Department's portfolios through an enterprise services organization to provide shared services, streamline, and centralize acquisition and procurement procedures;

and utilization of government-wide category management vehicles. Government-wide category management vehicles advance sustainable acquisition by requiring delivery of appropriate sustainable or "green" products and services in accordance with the following: Bio-Preferred, Comprehensive Procurement Guidelines, Safer Choice, Energy Star, EPEAT, Federal Energy Management Program (FEMP), Significant New Alternatives Policy (SNAP), and WaterSense.

Implementation Status

In FY2019, the Department continued to emphasize to the acquisition community available resources, training, award programs, and the importance of sustainable acquisitions across all categories. Specific projects and programs included:

- Hosting Department-wide training webinars on the Electronic Product Environmental Assessment Tool (EPEAT), a resource for finding sustainable electronic products, and sustainable acquisitions in FY2019 and FY2020 respectively, to promote general awareness on sustainable acquisitions and resources.
- Continuing to implement the Independent Verification and Validation (IV&V) program that requires quarterly and annual data accuracy reviews of acquisition information entered by contracting officers into FPDS. Though not required for review by OMB, the Department requires review of EPA-Designated Products and Recovered Materials/Sustainability.
- Continuing to implement Category Management and the use of shared services contracts awarded by the Enterprise Services Acquisition organization to obtain common use items for all OUs. Through shared services, the Department obtains common use items such as software products, cellular services, network equipment, office supplies, small package delivery, office furniture, personal and laptop computers and accessories.
- Implemented 185 biobased only actions for $74.4M.

Priority Strategies & Planned Actions

The Department will continue to manage data accuracy through its IV&V program to include review of FPDS environmental elements. In FY2020, the Department is targeting 194 contracts of biobased only contracts for an estimated value of $8.1M.

2. ELECTRONICS STEWARDSHIP

FY 2019 Electronics Stewardship Progress:

89% of newly purchased or leased equipment met energy efficiency requirements

100% of electronic equipment disposed using environmentally sound methods*

**Reuse, donation, recycling, transfer, sale, or demanufacturing.*

The Department's approach to increasing electronic stewardship includes acquiring and managing electronic equipment that promotes energy efficiency and environmental stewardship, meeting sustainable electronics criteria (e.g., ENERGY STAR), using shared services, as well as data center consolidation and implementation of cloud infrastructure.

Implementation Status

Over the past five years, the Department has taken great strides in the area of data center optimization to decrease its data center footprint and ensured efficient performance from remaining space. In FY2019, the Department data center consolidation resulted in the closure of 34 data centers, totaling 29,863 square feet, which exceeded its FY2019 closure goal of 29. For FY2019, the Department significantly improved power usage effectiveness. Factors contributing to the Department's success include implementation of cloud infrastructure, such as: replacing hundreds of physical servers with cloud-based services; reduction of the number of equipment racks via server room consolidation/data center co-location; purchase of ENERGY STAR compliant equipment; deployment of power monitoring systems; and installation of efficient close coupled air conditioning systems. Notable projects in the area of data center optimization include:

- Migrated nearly 100% of its email to cloud-services that replaced costly in-house and third-party collaboration tools.
- Implemented improved, no cost public access to the Commercial Cloud through NOAA's data center consolidation as part of the Big Data Project Cooperative Research and Development. Metrics include more data users, more data accessed, shorter delivery time, decreased loads on NOAA's IT systems, and faster product development.
- Created USPTO's next generation systems for Patent End to End processing and Patent Trial and Appeal Board End to End replaced several physical servers and allowed the USPTO to retire a decade's old legacy Electronic Desktop Application.
- Leveraged Census Enterprise Data Collection and Processing to conduct testing associated with the 2020 Decennial Census. Census is utilizing a robust and secure architecture and database service provisioning capabilities for cost-effectively computing resources and scalability, "availability zones" for strong High Availability architecture, and security expertise to establish a strong security posture.

Notable projects and programs in the area of electronic stewardship include:

- Implemented category management vehicles to ensure procurement of equipment that meets sustainable electronics criteria. The Department also has an established enterprise services organization to provide shared services, streamline, and centralize acquisition and procurement procedures for common IT and electronics products, (e.g., laptops, desktops) and services (e.g., printing, copying). Shared services for computers and printers incorporate environmentally friendly and cost-saving practices through default settings, such as automated sleep mode and double-sided printing. Use of these shared service contracts is either a mandatory or a first consideration acquisition requirement Department-wide.
- Tracked acquisition data through FPDS and the Department's personal property management database system.
- Realized a cost avoidance of $467K in energy savings and $15K in solid waste disposal costs through purchasing EPEAT personal computers (e.g. laptops, tablets, desktops).
- Implemented a cross-functional electronic stewardship Department-level workgroup to open channels of communication and improve electronic stewardship within the Department.

Priority Strategies & Planned Actions

In FY2020 and FY2021, the Department plans to continue efforts to improve electronic stewardship by:

- Refining the Department's strategy to incorporate cost savings and avoidance through the establishment of a Data Center Optimization Initiative Community of Interest which meets or collaborates quarterly.
- Continued consolidation, including closing two data centers in FY2020 and two in FY2021.
- Continued migration to cloud-services and aggressive adoption of collaboration services to replace costly in-house and third-party collaboration tools.
- Continued establishment of category portfolios for electronic stewardship leveraging government-wide acquisition vehicles to the extent they are available and to operate and manage the Department's portfolios through the enterprise services organization.
- Establish a single portal to purchase information technology equipment that meet ENERGY STAR® and FEMP requirements.

3. GREENHOUSE GAS EMISSIONS

FY 2019 Scope 1&2 Greenhouse Gas (GHG) Emissions:

43.7% reduction from FY 2008

4.6% reduction from FY 2018

Implementation Status

The Department's focus on energy intensity reductions and increasing renewable electricity have provided positive outcomes in reducing Scope 1 and 2 greenhouse gas emissions. In FY2019 the Department reduced its Scope 1 and 2 greenhouse gas emissions by 4.6%, due in large part to the implementation of NIST's 7.9-MW CHP system and 4.4-

MW solar array at its Gaithersburg campus. Since NIST facilities represent the most energy intensive facilities in the Department, these projects had significant impacts on the Department's overall greenhouse gas emissions.

In addition, the Department's OUs that are in fully serviced lease facilities without direct influence on Scope 1 and 2 greenhouse gas emissions continue to make significant progress in reducing Scope 3 greenhouse gas emissions through the following actions: the increase in the number of days and number of employees eligible for telework; reductions to business travel and increases in combined group travel; increase in the use of video-conferencing and webinars; and providing appropriate accommodations for commuters who bike and walk.

Priority Strategies & Planned Actions

The Department anticipates more reductions in greenhouse gas emissions in upcoming years due to future phases of renovations at NIST, HCHB, NTIA and USPTO facilities with planned energy efficient upgrades to existing equipment and building envelopes. In addition, the NIST-Gaithersburg CHP plant will eliminate an estimated 82,300 tons of carbon dioxide emissions during the duration of the contract.