

Department of Homeland Security

Sustainability Report and Implementation Plan

2020



June 2020

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Executive Summary

1. MISSION

The Department of Homeland Security (DHS) was established by the Homeland Security Act of 2002 (6 U.S.C. 101) and came into existence on January 24, 2003. Administered under the supervision and direction of the Secretary of Homeland Security, the Department's mission is to safeguard the American people, our homeland, and our values. DHS is comprised of over 240,000 employees and has a very diverse mission set which includes fourteen distinct operational and support Components, including U.S. Customs and Border Protection (CBP), Cybersecurity and Infrastructure Security Agency (CISA), Federal Emergency Management Agency (FEMA), U.S. Immigrations and Customs Enforcement (ICE), Transportation Security Administration (TSA), U.S. Coast Guard (USCG), U.S. Citizenship and Immigration Services (USCIS), U.S. Secret Service (USSS), Science and Technology Directorate (S&T), and the Federal Law Enforcement Training Centers (FLETC), Office of Intelligence and Analysis (I&A); Office of Operations Coordination (OPS); and Management Directorate.

DHS has 8,123 owned facilities and 4,324 leased facilities in its real property portfolio. The real property assets are very diverse, consisting of a variety of use types, including office, warehouse, family housing, laboratory, shore facilities, and structures such as navigational aids and utility systems. Real property is one of the Department's largest expenses. DHS Real Property Program obligations in 2019 were in excess of \$8 billion for a portfolio of more than 100 million square feet of owned and leased space.

The DHS Mobile Assets Program is comprised of 50,810 foreign and domestic vehicles which include 40,796 agency-owned, 9,899 GSA-leased and 115 commercially-leased vehicles. It includes a wide variety of vehicles, encompassing everything from small plug-in electric and light-duty flex-fuel sedans to mobile cargo shipment screening units. Due to the varied and diverse missions, the DHS organizational fleet management structure is decentralized - each Component operates, maintains, acquires, and funds its own motor vehicle program.

2. OPERATIONS

The DHS Sustainability Report and Implementation Plan (Sustainability Plan) reflects the Department's strategic vision for doing business more efficiently and sustainably. Components develop and deploy tactical implementation plans in accordance with their mission objectives. These plans are called Operational Sustainability Performance Plans (OSPPs) and support the Department's efforts by driving sustainability at the Component level. This allows for Components to meet their mission needs and requirements, manage their owned facilities and motor vehicle program, and institute sustainable practices in alignment with departmental policy and guidance. Information from the latest versions of the OSPPs are incorporated into this year's DHS Sustainability Plan.

3. LEADERSHIP

Strong leadership remains the key to achieving sustainability goals – strengthening the departmental unity through improved accountability between strategic objectives, budgeting, acquisition, decisions, operational planning and mission execution. The Department leadership and accountability roles for the Sustainability Plan are as follows: The Deputy Under Secretary for Management (DUSM) is designated by the Secretary to serve as the Chief Sustainability Officer (CSO) for the Department. The DUSM is accountable for DHS conformance with Executive Order 13834, *Efficient Federal Operations*. The following key functions, referred to as the Chief Executive Officers (CXOs), report to the DUSM and are responsible for implementation of the Sustainability Plan: Chief Readiness Support Officer (CRSO) with responsibility for fleet, energy, resilience, personal property, real estate, operations support, sustainability and environmental compliance; Chief Financial Officer (CFO); Chief Human Capital Officer (CHCO); Chief Procurement Officer (CPO); and Chief Information Officer (CIO). The CRSO provides coordination and management for the Chief Sustainability Officer on the Sustainability Plan and performs the following functions: maintains the Sustainability Plan and coordinates input from the Sustainability and Environmental Committee, CXOs, and Components; reports progress on the Sustainability Plan to the Chief Sustainability Officer and others as required; monitors and reports on EO 13834 compliance; and prepares required reports and metrics for submittal to the Office of Management and Budget (OMB) and the Council on Environmental Quality (CEQ).

4. PROGRESS TABLE

Metric Item	FY 2019 Goal	Status	Comments
OMB Scorecard Targets and Status			
Water Efficiency	24%	31.2%	Achieved Goal and is on track to achieve 36% by 2025
Facility Energy Intensity	30%	28.6%	Did not achieve goal of 30% reduction compared to FY 2003 baseline but did achieve a reduction from prior year
Sustainable Acquisitions	Contract Actions/Dollar	2.8%/-3.1%	Achieved Goal. Contract actions increased 3.0%, but dollar amount decreased 1.0%
Renewable Electricity	7.5%	6.6%	Did not achieve goal. Renewable electricity comprised less than 7.5% of total electricity use and renewable electricity combined with non-electric renewable sources (thermal+mechanical) did not equal or exceed 7.5% of total electricity use
Petroleum Fuel Use	-20%	117.5%	Did not achieve goal. *DHS mission has increased significantly since 2005 baseline
Sustainable Buildings	15%	13.4%	Did not achieve goal. DHS percentage point difference from prior year is -0.1% but is on track to achieve DHS internal goal of 20.7% by 2025
DHS Established Goals			
Scope 1&2 GHG	33%	32.9%	DHS achieved. Reduced scopes 1&2 Greenhouse Gas (GHG) emissions by 33%
Scope 3 GHG	13%	40.1%	Achieved Goal and exceed goal of 19.2% by 2025
Electronics Stewardship	EPEAT 95% Power Mgmt 100% End-of-Life 100%	EPEAT 94.36% Power Mgmt 99%	DHS was recognized with Green Electronics Council EPEAT Purchaser Award for the 6 th year in a row
		End-of Life 100%	

* In FY 2019, while implementing the new asset level data requirements for the Federal Automotive Statistical Tool (FAST), the Department experienced challenges with providing vehicle designations data for submission into the FAST, all of which will be corrected going forward. In this instance, most of the designations uploaded into the FAST system were listed with a law enforcement designation, this designation impacted our fuel consumption of the internal fleets domestic, non-law Enforcement (LE) vehicles (of any weight) operating in or out of Metropolitan Statistical Areas (MSA). As a result, DHS experienced an erroneous decrease in petroleum fuel consumption numbers. The status above reflects the actual and corrected figures.

SUCCESES

DHS analyzed enterprise-wide data and developed methodologies to evaluate the economic and intrinsic value that federal sustainability, environmental planning, historic preservation, innovative energy management, and resilience programs bring to the Department. The CRSO SEP Economic Valuation Report represents the commitment and collaborative efforts of DHS Operational and Support Components, leadership, and employees, fundamental in advancing initiatives that support mission resilience and readiness. The report covers the period of FY 10 – FY 18. During this time period, over \$314M in savings was realized by the sustainability and environmental programs. Forecasting for FY 19 – FY 25 indicates that continued program implementation, coupled with recent structural improvements, are estimated to yield an additional \$234M in savings. The DHS continues to fine-tune these data points.

DHS has demonstrated success that is being continually encouraged through internal recognition programs. In FY 2019 the CRSO integrated the DHS Sustainable Practices awards into the CRSO Awards Program. This change allows for a deeper integration of sustainability with operations. Awards were given for exemplary performance in Fleet, Sustainability & Environment, Real Property, and Data Management. Four of our Components were recognized for their efforts in advancing the Department's strategic objectives in the areas of Sustainability, Environmental Planning, and Resilience. The winning nominations were in the following categories: Sustainability Hero, Resilience Role Model of the Year, Leading Edge Environmental Planning Innovation of the Year, representing USCG, FEMA, and CBP. The winners were recognized at the 2020 DHS CRSO Symposium ceremony.

The DHS continues to set internal goals to support a robust Electronic Product Environmental Assessment Tool (EPEAT). DHS was recognized by the Green Electronics Council for accomplishments in EPEAT purchasing in 2019. DHS earned three gold stars for having a sustainable purchasing policy, setting EPEAT specifications in contracts, and establishing a tracking system for accurate reporting. DHS's EAGLE II and FirstSource II strategic sourcing contracts provided the mechanism for the purchase of green products, including televisions, computers, printers, monitors and copiers. In FY 2019 DHS purchased 71,235 EPEAT registered units that consume less energy resulting in a reduction of 13,241 metric tons of greenhouse gas emissions and \$2,208,000 in cost savings over the life of the products. DHS will continue this program in FY 2020.

5. TOP STRATEGIES

The Department continues to focus on efforts to formalize and implement a Department-wide process for mission resilience. This framework integrates the mission assurance continuity processes to improve the security, reliability, and performance of our high value critical infrastructure and assets. This process ensures sustained resilience of mission essential functions and related supporting infrastructure during all phases of mission operations (normal operations, disruptive event, response, and recovery). The Resilience Framework focuses on four critical infrastructure areas: 1) Energy and Water; 2) Facilities; 3) Information and Communication Technology; and 4) Transportation.

In August 2019, the Components submitted their "Plans for Resilience", which were evaluated by the Critical Infrastructure Security & Resilience (CISR) working group. The group was stood up officially in October 2019 to support the Resilience efforts throughout the Department, develop tools (such as the Resilience Baseline Assessment Scoring (RBAS) tool) and processes for the Department to use in developing their Plans for Resilience, and be the central resource for the Department's implementation of mission resilience. This working group is comprised of Headquarters offices and Operational Components.

I. SUSTAINABLE BUILDINGS

The Department's internal goal is to reach at least 20.7% sustainable buildings by 2025 and is on track to meet it. As directed by the Sustainability Council, DHS developed a Sustainable Buildings Plan template to identify this new and realistic target. In FY 2016, each Component developed a Sustainable Buildings Backlog, which included an accurate building inventory, planned construction, budget information, and timelines to achieve compliance. Annual goals were established by each Component and compiled to develop the Department's goals from FY 2017 through FY 2025. These plans provide the roadmap to improve the Department's sustainable building inventory. The Component Sustainable Building Plans were updated in FY 2019 and identified that DHS exceeded its internal annual goal of 10%, achieving 13.4% sustainable buildings. Also, in FY 2019, the Sustainability Building Policy was reevaluated, and the Department maintains that the policy will continue to apply to buildings over 5,000 square feet to encourage Components to consider smaller buildings for sustainability features where applicable. The Department's sustainable building inventory above 5,000 square feet but less than 10,000 square feet comprise more than 50% of our sustainable building stock. These smaller structures add considerable success in reaching DHS's sustainable buildings goal by 2025.

II. FLEET ELECTRIFICATION

The DHS Motor Vehicle Program is currently developing a 10-year plan to electrify a portion of the Department's fleet. The Department currently has about 51,000 vehicles within its fleet inventory and over the next 10 years, plans to replace fossil fuel vehicles with electric vehicles where appropriate to optimize fleet. Electrification Vehicles (EV) infrastructure will be required to support the transition to an electric fleet, which will include charging infrastructure at the level 3 to adequately support DHS owned, operated, and managed facilities. It is estimated that if the Department replaced an estimate of 10,000 fossil fuel vehicles, the transition to electric vehicles will cost approximately \$910 million. The initiative will boost progress in applying sustainable buildings principles to DHS facilities involving EV charging (Integrated Design and Management and Infrastructure Utilization and Optimization criteria) and reducing GHG emissions. Currently GSA electric vehicles have higher initial costs and higher operating costs than conventional vehicles, but the trend is toward converging overall costs and eventually lower costs than conventional vehicles. Initial deployments are likely to target optimal locations (i.e., where electricity costs are low, vehicle usage is suited to EV range and capabilities, incentives for infrastructure are available) and expand to more locations as technology improves.

III. DATA ANALYSIS AND IMPROVED APPLICATION OF ENERGY AND WATER CONSERVATION MEASURES (EWCM) EVALUATIONS

DHS and FEMP collaborated on creating new reports, data sets and tools for evaluating EWCM and for comparing evaluated and implemented EWCMs to derive estimates of remaining EWCM potential. The analysis is limited by the aggregated nature of the evaluation data loaded into CTS, which basically combines all the financial data for all EWCMs identified at a Covered Facility into a single data record. This is an improvement over having no easy comparison of implemented versus unimplemented EWCMs and the reports are regularly shared/discussed at monthly Energy Management Committee meetings to encourage Component follow-up. However, the way CTS data is structured means it is impossible to separate out the cost and energy/water characteristics of individual EWCMs. CTS also focuses on EWCM implementation that follows from evaluations, yet some investments occur through UESCs or direct investments outside the evaluation process and thus are missed in CTS. DHS is taking the initiative to improve its EWCM data and tracking to make EWCM data more effective for developing projects. DHS' Building Assessment Tool (BAT) does maintain individual EWCM data from evaluation through implementation and even measurement and verification. FEMA has already conducted one set of evaluations with the BAT. This serves as our initial starting point for improving our ability to data mine past EWCM evaluations to identify unimplemented projects that can be reassessed without the expense of greenfield energy/water audit. CBP is actively testing the BAT for on-site and remote audits and in combination with their Tririga system have the potential to make their EWCM data easier to mine, and thus reduce the cost of energy/water evaluations by avoiding duplicating analyses that have been completed in earlier evaluations. Instead re-evaluations can focus on sensitivity analyses focused on changed conditions and on other EWCMs that have not yet been considered. CBP also reinstituted the use of virtual assessments to assess sites with potentially less payback (e.g., smaller, more remote sites, with less energy consumption). FY 2019 also included the successful deployment of Facility Efficiency Analytics Tool (FEAT) to EEMD users. The tool provides the EEMD team with a platform to improve the accessibility and understanding of CBP facility and utility data and to identify opportunities for increasing efficiency, optimizing performance, and eliminating unnecessary resource use.

Implementation Summary: Facility Management

1. FACILITY ENERGY EFFICIENCY

FY 2019 Energy Intensity Progress (Btu/GSF):

28.6% reduction from FY03

0.1% reduction from FY18

FY 2020-FY 2021 Plan:

1.5% reduction in FY20 from FY19

1% reduction in FY21 from FY20

Through the Mission Sustainable Energy program, the DHS community contributes to America's energy security by cultivating sustainable energy practices to strengthen energy independence, promote resilience, and foster environmental and fiscal stewardship. The Department's strategy is to implement energy and water conservation measures (EWCs) through alternative finance contracts as available, assessing our facilities every 4 years through comprehensive energy and water evaluations, tracking our utility use through our Consolidated Asset Portfolio and Sustainability Information System (CAPSIS), Sustainability Performance Management (SPM) program, and deploying new tools, such as the BAT to facilitate comprehensive and standardized facility assessments across the Department.

Implementation Status

In FY 2019, CBP undertook several strategies, initiatives, and actions to develop and implement programs and improve performance. For example, CBP continued to emphasize the performance of energy audits as a means of identifying opportunities to reduce energy consumption and improve efficiency. In FY 2019, the CBP Energy and Environmental Management Division (EEMD) conducted 17 physical assessments. In addition, CBP reinstituted the use of virtual assessments to assess sites with potentially less payback (e.g., smaller, more remote sites, with less energy consumption). FY 2019 also included the successful deployment of Facility Efficiency Analytics Tool (FEAT) to EEMD users. The tool provides the EEMD team with a platform to improve the accessibility and understanding of CBP facility and utility data and to identify opportunities for increasing efficiency, optimizing performance, and eliminating unnecessary resource use.

In FY 2019, the Coast Guard Energy-Planned Obligation Prioritization (POP) funded 33 energy projects totaling approximately \$2.6M with a projected energy savings of 18 billion Btu/year. During FY 2019, the Coast Guard awarded a centralized Energy Data Management System (EDMS) Dashboard and Data Storage contract to enable real-time, active energy management and optimization strategies by its facilities engineers to monitor and identify out of range consumption and adjust Building Automation Systems set points, set-backs, and operations. In FY 2019, the Coast Guard completed construction on the Coast Guard Academy Utility Energy Service Contract (UESC). This project was the largest UESC in Coast Guard history (implementation cost of \$39M) and is projected to save 84 billion Btu/year in FY20.

ICE Sustainability conducted Measurement and Verification (M&V) site visits and analysis for a \$5.5 million Energy Savings Performance Contract (ESPC) ENABLE project for which construction ended in early FY 2019. This project encompassed comprehensive facility retrofits of lighting, water, and HVAC controls. ICE Sustainability conducted and completed the quadrennial Energy Independence and Security Act (EISA) 432 energy and water audits in FY 2019.

FEMA is developing agency-wide Installation Master Plans centered on short and long-range goals for facility infrastructure improvements as well as implementation strategies for reducing risk across the agency portfolio, optimizing resources, developing renewable energy opportunities, and coordinating program foresight and value across lines of business. FEMA also has a Utility Demand Management System (UDMS) to capture utility, water, and fuel invoice data and associate it with each building and facility. This is a substantial improvement over the past in providing accurate and timely data and dashboards to show performance profiles of buildings across the portfolio and areas with high and low energy use and energy intensity. FEMA is now working with site personnel to use the system to analyze their rates, consumption, and costs and use that to better manage their assets and to search for energy and water savings opportunities, contributing to their installation Master Plans and associated goals. FEMA is planning on implementing its next four-year cycle of audits in FY21, which will help translate their improved data and a better understanding of their facility energy and water profile into feasible EWCs.

Priority Strategies & Planned Actions

In August 2019, Operational Component submitted their Plans for Resilience to the CRSO team. These plans identified stakeholders supporting their most critical or high value assets, organizational mission and priority, and the initial population of the Resilience Baseline Assessment Scoring (RBAS) tool. In 2020, the CISR working group will work with the Operational Components to develop timelines to support the full population of the RBAS tool, focusing first on the most critical assets within the Department. In conjunction with this effort, the Energy Team will also work closely with the CISR working group to identify potential projects to optimize EWCMs. Through the population of the RBAS tool, the team will identify assets with highest vulnerability and potential projects for reduction of these vulnerabilities, improved resilience and reliability, and energy and water efficiency. Through our energy management program, our Components will continue to improve their energy footprint, while increasing their resilience in our mission critical assets. The Department will also focus on efforts to incorporate renewable technology where beneficial for resilience. The initial resilience planning effort (completed August 2019) focused on identifying and characterizing critical assets, while the update to the planning began the process of project identification using the RBAS tool, which will continue through FY20-21. Two related resilience projects were implemented in late FY19 – two PV microgrids at ICE mountaintop antennae installations on St. Croix and St. Thomas partially funded by a FEMP grant. The proposal for the grant was distributed to other DHS Components to use as a template for similar resilience projects.

The Department also recognizes that COVID-19 adaptation has unknown consequences for the Sustainability and Environmental Programs for DHS. Telecommuting has moved some plug loads out of our buildings and into employee homes, but how much and for how long is uncertain while return to workplace plans are under development and are subject to state/local restrictions that may adjust to changing COVID-19 conditions during the year. Furthermore, data on individual energy usage is often not captured due to minimum or no metering below the master meter level at most facilities the Department leases or owns so it is difficult to separate which specific buildings/adaptations are increasing or decreasing energy demand. Increased air changes, the possibility of ultraviolet (UV) disinfection, changes in occupancy schedules to spread arrivals and departures over longer periods, more aggressive disinfection, and changes in layout for social distancing will impact space conditioning, lighting, plug loads and many other aspects of energy consumption for DHS. The Department will consider implications of plans for returning to the workplace for energy efficiency with the intent to maintain or improve energy intensity. However, given prevailing uncertainties, DHS is only planning for moderate continued progress in improving energy intensity.

2. EFFICIENCY MEASURES, INVESTMENT, AND PERFORMANCE CONTRACTING

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

\$0/0 new projects/\$x.xM / x project(s) in FY19

FY 2020-FY 2021 Plan:

\$4.3M/2-3 projects in FY20

\$4.3M/2-3 projects in FY21

Through DHS Energy Management Committee (EMC) and CISR Working Group, our Components are encouraged to focus on executing projects that support high-value assets and incorporate resilience. Through our DHS EMC and external sources, such as DOE FEMP training, our Components are encouraged to complete projects immediately to gain energy efficiencies and avoid potential costs for inefficient equipment and systems.

Implementation Status

In FY19, no new alternative financing projects were completed. As explained in the next section, the groundwork for projects in FY 2020 and FY2021 was started by completing evaluations, revisiting previous evaluations to identify unimplemented EWCMs, and pursuing grants to combine with alternative financing was undertaken.

Priority Strategies & Planned Actions

In addition to the project pipeline explained below, DHS plans to increase data analysis of CTS and Component databases for unimplemented EWCMs that can be re-evaluated for alternative finance energy performance contract opportunities in FY 2021. CBP anticipates completion of construction and acceptance of UESC Projects at eight locations in the San Diego Sector in FY 2020. CBP is working to execute a single ESPC that will address investments at more than 10 facilities. In FY 2019, CBP undertook analysis of utility data for CBP-owned buildings to improve data quality, evaluate trends, and identify potential project opportunities. CBP reviewed performance assurance reports for UESC Project Number 1, at four locations in the San Diego Sector, to evaluate performance and savings. CBP began work on an ESPC in FY 2019 and is implementing the Project Lifecycle Process and defining responsibilities for third-party financing efforts.

Late in FY 2019, ICE submitted two U.S. Department of Energy (DOE), Federal Energy Management Program (FEMP) Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) Grants for solar/battery/generator microgrid projects at two ICE-owned facilities. The grant funding was not completed until January 2020 and an ESCO selection to implement an ESPC to leverage the grant funds is not expected until the first quarter of FY 2021. Approximately half of this contract will be dedicated to critical infrastructure and controls upgrades that also improve energy efficiency.

ICE also conducted M&V site visits and analysis for a \$5.5 million ESPC ENABLE project, implemented in FY 2018 and completed in early FY 2019, that encompassed comprehensive facility retrofits of lighting, water, and HVAC controls which was reported in FY 2018. ICE also conducted and completed quadrennial EISA 432 energy and water audits in FY19. ICE will propose and implement EWCMs identified by the audits in FY 2020, FY 2021, and FY 2022. ICE plans to consolidate these recommendations into a larger ESPC that spans the ICE portfolio and continues to plan for increasing resiliency across its portfolio.

3. RENEWABLE ENERGY

FY 2019 Renewable Electricity Use:

6.6% of total electricity in FY19

FY 2020-FY 2021 Plan:

7.5% of total electricity in FY20

7.5% of total electricity in FY21

DHS encourages efforts that support on-site renewable projects for resilience and grid relief or for energy and water conservation measures that decrease demand and increase efficiencies. DHS CRSO has contracted with the U.S. Department of Energy's National Renewable Energy Laboratory to provide training and technical assistance to DHS Components to help them identify renewable energy opportunities and implement projects, especially on-site renewable energy generation. Many of the on-site renewable energy efforts conducted by the Components were assisted by this DHS-wide contract resource.

Implementation Status

The Department experienced a reduction in on-site renewable electricity generation from 9,228 MWh in FY 2018 to 5,563 MWh in FY 2019 because the USCG Baltimore Yard Renewable Energy Center in Maryland was off-line due to various mechanical and electrical issues for much of the FY19. Output declined more than 95% from 4056.9 MWh in FY 2018 to 111.9 MWh in FY 2019. The Baltimore Yard Renewable Energy Center was only partially back online in Summer 2019, and full capability was not restored in late November 2019. In FY 2018, the shipyard facility accounted for 44% of all DHS on-site renewable electricity.

In FY 2019, FLETC purchased Renewable Energy Credits (RECs) through the Defense Logistics Agency (DLA) to supplement installations and purchases of renewable energy to achieve renewable goals.

In FY 2019, ICE utilized several renewable energy generation projects and renewable energy procurement strategies to meet its 7.5% renewable energy requirement. ICE currently owns and operates two solar Photovoltaic (PV) installations at facilities in Texas and Puerto Rico and receives renewable energy provisions through a GSA power purchasing contract at its Batavia Service Processing Center (SPC). To supplement the remaining renewable energy requirement, ICE also purchased additional RECs through the Defense Logistics Agency (DLA). The GSA power purchase at the Batavia SPC increased from 10% to 20% in FY 2019, further increasing renewable energy usage at ICE.

Priority Strategies & Planned Actions

Enhancing facility energy resilience is a priority for the Department. The Component Plans for Resilience, submitted in August 2019, began to include renewable energy as part of their resilience planning.

ICE is currently in the process of developing two solar PV microgrid projects for two facilities in the USVI. These Photo Voltaic (PV) microgrids will eliminate the two facilities' dependence on existing unreliable electrical grid infrastructure and increase the overall resiliency of the facilities.

FEMA is planning to increase overall solar capacity to offset annual electricity (7.5%) by integrating requirements for energy, green technology, and resilience into its capital investment strategy.

USCG's Baltimore Yard Renewable Energy Center is expected to be back to full output following repairs completed in FY 2019. That should bring on-site generation closer to the FY 2018 level.

4. WATER EFFICIENCY

FY 2019 Water Intensity Progress (Gal/GSF):

- 31.2% reduction from FY07
- 5.4% reduction from FY18

FY 2020-FY 2021 Plan:

- 2.5% reduction in FY20 from FY19
- 2.5% reduction in FY21 from FY20

The Department's strategy is to continue progressing in reducing water and strive to implement EWCMs through alternative finance contracts as available. The Department will also assess its facilities every 4 years through comprehensive energy and water evaluations, tracking utility use through CAPSIS and SPM programs, and deploying new tools such as the DHS BAT to facilitate comprehensive and standardized facility assessments across the Department.

Implementation Status

The Coast Guard recapitalized its Advanced Metering Initiative (AMI) and Energy Data Management System (EDMS) in FY 2019. Tracking and managing water at locations with advanced water meters is becoming more effective. The 5.4% improvement in water intensity was almost all attributable to improvements by the Coast Guard, which makes up over 60% of DHS potable water consumption. The improvement was not attributable to any single factor, although as noted Coast Guard has improved its metering and water management infrastructure so that there is increased awareness of changes. As noted in our variance report to FEMP, the 5.4% improvement in water intensity is mostly a continuation of past progress in water management and conservation rather than a new surge in water efficiency.

Priority Strategies & Planned Actions

Enhancing resilience is a priority for the Department. Components will continue to identify potential water conservation measures in current and future projects. Through resilience assessments using the DHS RBAS tool, Components will also identify vulnerabilities in water assets and begin to identify solutions and technology to improve resilience of critical water assets. There are significant uncertainties concerning how facility water intensity will be affected in FY 2020 and FY 2021 from adaptation to COVID-19. COVID-19 adaptation has unknown consequences for water usage, such as more handwashing and disinfecting, offset to an unknown extent by fewer people and fewer

fixtures (social distancing in lavatories). Telecommuting will move some water use out of our buildings and into employee homes, but how much and for how long is uncertain while return to workplace plans are under development and are subject to state/local restrictions that may adjust to changing COVID-19 conditions. DHS will consider implications of plans for returning to the workplace for water use and water intensity with the intent to maintain or improve water efficiency. Given the uncertainties, DHS expects moderate continued progress in reducing water intensity, although better performance improvements may be possible depending on how the current situation develops.

The Coast Guard prioritized FY 2021 funds to replace water fixtures at Sector Buffalo. This project is projected to reduce water consumption at Sector Buffalo by 416,246 gal/year.

5. HIGH PERFORMANCE SUSTAINABLE BUILDINGS

FY 2019 Sustainable Buildings Progress:

123 sustainable Federal buildings

13.4% of buildings / 12.4% of gross square footage (GSF)

FY 2020-FY 2021 Plan:

14% of GSF in FY20

14% of GSF in FY21

DHS plans to continue its emphasis on integrating sustainable buildings in its design and capital planning processes. Component Sustainable Building reports are included on the CRSO internal scorecard metrics with progress tracked quarterly. The Department's Sustainability Building Policy incorporates sustainable principles and applies to buildings over 5,000 square feet.

Implementation Status

The Sustainable Buildings Program at DHS continues to be strong, its total square footage remains above the DHS FY 2019 goal and is on track to meet the agency's FY 2025 goal of 20.7%. Each Component develops an annual Sustainable Buildings Plan, incorporates sustainability into its capital planning efforts, and reports on sustainable buildings during its annual program management review.

The new National Bio and Agro-Defense Facility in Manhattan, KS, being built by the S&T, will enable the U.S. to conduct comprehensive research, and develop vaccines and anti-virals. Once transferred to the U.S. Department of Agriculture and operational, the facility will provide enhanced diagnostic capabilities to protect our country from emerging and zoonotic diseases to help protect our food supply, the nation's agriculture economy, and public health. The facility's design process includes sustainability goals and plans to meet the Guiding Principles for Sustainable Federal Buildings. Final design underwent external risk assessments and reviews, including by the National Academies of Science. Construction has surpassed 90% and remains within schedule and budget estimates. The facility is on-track to realize all sustainability goals including Leadership in Energy and Environmental Design (LEED), Silver Level Certification. In FY21, after the construction is complete for this facility, it will be transferred to USDA and the Departments' real property will be updated.

In FY 2019, the USCIS leased facility inventory meeting the LEED reached 28%, exceeding the DHS internal FY 2025 goal of 25%.

Priority Strategies & Planned Actions

The overarching strategy of emphasizing sustainable design in capital planning and holding Components accountable through quarterly performance metrics will continue to be the main driver for progress. Sustainable Buildings in the pipeline created by this strategy include new buildings and renovations. TSA will begin its move to the new HQ consolidation building in FY 2021 (Fall 2020). The facility will be a LEED certified sustainable building with a total of 639,000 square feet.

TSA will continue to hold outreach events to communicate energy conservation throughout the year. Outreach communication with personnel is achieved via TSA iShare, newsletters, and outreach events such as Earth Day and Green Up Your Fall.

CBP seeks to implement HPSB principles when modernizing or renovating buildings with historical significance. The historic San Juan Custom House is a two-story 65,500 square-foot building completed in 1930. The renovations will save and repair historical elements, include sustainable design considerations, and will improve the function and resilience of the structure to meet current and future mission needs. Examples of sustainable features include converting pavement to green space, improving insulation and vapor barriers, improving the thermal performance of windows and doors, replacing HVAC components, adding air handling units with energy recovery, LED lights, and installing occupancy sensors. Similarly, CBP has initiated renovations at the historic Fajardo Custom House, a two-story 4,750 square-foot building completed in 1930. These renovations also will preserve the historical elements of the house while conserving energy, reducing water consumption, and improving the comfort and functionality of the building.

6. WASTE MANAGEMENT AND DIVERSION

FY 2019 Non-hazardous Waste Management and Diversion:

84,430 metric tons of non-hazardous solid waste generated*
16% diverted and 84% sent to treatment and disposal facilities

FY 2020-FY 2021 Plan:

50% reduction in non-hazardous solid waste generated in FY20 from FY19
%TBD diverted and %TBD sent to treatment and disposal facilities in FY20

50% reduction in non-hazardous solid waste generated in FY21 from FY20
%TBD diverted and %TBD sent to treatment and disposal facilities in FY21

**not including construction and demolition waste*

The overarching effort for waste management and diversion at the Department resides in the 2012 Sustainable Practices Directive Number 025-01-01, Section V.A.9, with an established policy and goal to achieve a waste diversion rate of at least 50% and maintain cost effective waste prevention and recycling programs. The DHS strategy for meeting this goal is still intact and implementation is progressing. This combined with the Departments' plan to re-engage Component Procurement Offices to ensure maximum achievement of the goal and to understand any impacts or adaptation to COVID-19 early in FY 2020 undermined efforts to set reasonable targets because many of DHS' owned buildings had major changes in occupancy and usage patterns that impact waste generation. Assumptions about levels of waste generation and final disposal embedded in DHS estimation tools need to be updated and combined with better data on occupancy levels to understand how adaptations have impacted waste generation and disposal, and a better scenario for how long some of these adaptations may persist (e.g., levels of teleworking).

Implementation Status

Oversight and governance are provided through required auditing, program management reviews, and the Component Operational Sustainability Performance Plans. To improve this process, in FY 2018 DHS finalized its Recycling Directive Number 023-06, *Recycling Funds*, that establishes the Department's policy to maintain positive control over the receipt and expenditures of recycling funds. The purpose of the Directive is to encourage recycling, realize economic value added, track recycling funds and ensure they are used in accordance with established procedures.

FLETC's Recycling Program received recognition during the DHS 2019 Sustainable Practices Award ceremony. The FLETC sites generated almost \$500,000 in gross revenues from the sale of recyclables during FY 2019. FLETC sites also diverted over 400 tons of recyclables from landfills.

Priority Strategies & Planned Actions

Under the Recycling Funds Directive, each Component now tracks recycling revenue as part of their Operational Sustainability Performance Plan. This will be reviewed in FY 2020 and FY 2021 to ensure funds are being used appropriately.

FLETC produced an educational awareness video on recycling and shared it with other federal agencies at the Federal Environmental Symposium at the National Institute of Science and Technology in October 2019.

USSS continues to recycle and executed a solid waste contract for the RTC that will include separate dumpsters for waste and recycling. Along with the new contract, USSS will increase its focus on educating all employees to maximize recycling as appropriate. USSS expects to increase its recycling percentage for FY 2020 and FY 2021.

Implementation Summary: Fleet Management

1. TRANSPORTATION / FLEET MANAGEMENT

FY 2019 Petroleum Reduction Progress (Gal):

117.5% increase in petroleum fuel since 2005
87.7% increase in petroleum fuel since FY18

FY 2019 Alternative Fuel Use Progress (Gal):

82.41% increase in alt fuel since 2005
69.72% decrease in alt fuel since FY18

FY 2020-FY 2021 Plan:

20% reduction in FY20 from FY19
20% reduction in FY21 from FY20

FY 2020-FY 2021 Plan:

10% increase in FY20 from FY19
10% increase in FY21 from FY20

In FY 2019, while implementing the new asset level data requirements for the Federal Automotive Statistical Tool (FAST), the Department experienced challenges with providing vehicle designations data for submission into the FAST, all of which will be corrected going forward. In this instance, most of the designations uploaded into the FAST system were listed with a law enforcement designation, this designation impacted our fuel consumption of the internal fleets domestic, non-law Enforcement (LE) vehicles (of any weight) operating in or out of Metropolitan Statistical Areas (MSA). As a result, DHS experienced an erroneous decrease in petroleum fuel consumption numbers. Furthermore, CBP implemented the new Fleet Management Live (FMLive) system which allowed to omit non motor vehicle fuel use at the bulk fuel locations, providing a more accurate breakdown of fuel use at the asset level.

Implementation Status

The CRSO team is working with the Operational Components to resolve challenges with the data input and designations. Future reports will be more accurate and will reflect more precise data along with revised result percentages.

Additionally, our commitment to right-sizing the vehicle fleet and improving its efficiency was evident by another reduction in fleet size and \$250,000 savings in fleet costs. The Coast Guard's meticulous analysis demonstrated that by acquiring conventionally fueled vehicles where alternative fuels were not available, the Coast Guard could save \$250,000 in 2019 by avoiding superfluous vehicle fees attached to the acquisition of E85 vehicles. As a norm, the Coast Guard continues to scrutinize every vehicle replacement, and is making strides to acquire smaller and more fuel-efficient automobiles (such as, electric vehicles) whenever possible.

In FY 2019, CBP used telematics to routinely analyze data obtained during inventories, audits, and assessments to improve allocations and better align the vehicle fleet according to existing missions. CBP now tracks over 35 fleet management performance metrics and measurements quarterly, which are then analyzed to support vehicle programs and mitigate enterprise risks. Since 2011, CBP has reduced its vehicle fleet by 5,368 vehicles, resulting in approximately \$212 million in cost savings. CBP has also partnered with CRSO to complete the first-ever DHS-wide set of contingency fuel requirements to include a statement of work based on lessons learned from the 2017 hurricane season.

In FY 2019, TSA's alternative fuels consumption saw an increase of 165 percent, as compared to the FY 2005 baseline; further, TSA plans to install 29 charging stations for plug-in hybrid vehicles, with space for a possible expansion of an additional 20, at the new HQ facility.

Priority Strategies & Planned Actions

The DHS Motor Vehicle Program is currently working with the National Renewable Energy Laboratory (NREL) to develop short and long-term plans to electrify the Department's fleet. The Department currently has about 51,000 vehicles and over the next 5 to 10 years, plans to replace fossil fuel vehicles with electric vehicles where feasible to optimize the fleet. As expected, changes to the infrastructure to support the Electrification initiative will be required to fully support the transition to an electrified fleet. Some of these upgrades will include charging infrastructure to adequately support DHS owned, operated, and managed facilities. The initiative will boost progress in applying sustainable buildings principles to DHS facilities involving EV charging (Integrated Design and Management and Infrastructure Utilization and Optimization criteria) and reducing GHG emissions. Currently GSA electric vehicles have higher initial costs and higher operating costs than conventional vehicles, but the trend is toward converging overall costs and eventually lower expenses than conventional vehicles. Initial deployments are likely to target optimal locations (i.e., where electricity costs are low, vehicle usage is suited to available EV ranges and capabilities, and incentives for infrastructure are available) and expand to more locations as technology improves.

Lastly, the Coast Guard continues with its focus on acquiring electric vehicles at a rate of 20-40 per year. The Coast Guard has 59 electric vehicles in service and anticipates having at least 100 in service by FY 2022 and significantly more after that with additional investments into electric charging infrastructure.

Implementation Summary: Cross-Cutting Operations

1. SUSTAINABLE ACQUISITION / PROCUREMENT

FY 2019 Sustainable Acquisition Progress:

10.51% of contract actions and 11.64% of obligations (in dollars), for a total of \$2,027.9M in contract actions with statutory environmental requirements

FY 2020 - FY 2021 Plan:

12% of contract actions and 19% of obligations (in dollars)

12% of contract actions and 19% of obligations (in dollars)

The DHS sustainable acquisitions guidance is included in the Homeland Security Acquisition Manual (HSAM) and the DHS Affirmative Procurement Plan (updated in June 2019). Sustainable acquisitions are reviewed during the Departmental Program Management Reviews (PMRs). This allows for environmental and procurement subject matter experts to discuss status, goals, challenges and successes to improve the sustainable acquisitions program. In FY 2019 DHS awarded 585 biobased actions, for a total of \$104,938,746. In FY 2020 DHS plans to award 600 biobased actions for a total of \$107,950,459 dollars.

Implementation Status

To advance the DHS sustainable acquisition program, the Department issued a Sustainable Acquisitions Checklist for the acquisition workforce. The checklist assists program and contracting staff in selecting sustainable products and services for procurement. DHS continues to hold quarterly Sustainability Acquisitions Work Group (SAWG) meetings. The SAWG was established in 2017 to advance sustainable acquisitions and compliance with FAR Part 23 throughout the Department. It is co-chaired by headquarters sustainability and procurement staff with management support from both Sustainability and Environmental Programs and the Office of the Chief Procurement Officer. Component subject matter experts from sustainability and procurement offices participate to develop and implement guidance that meets their respective mission requirements.

CISA established and implemented policies to purchase sustainable products and services identified by EPA programs, including SNAP, WaterSense, Safer Choice, and Smart Way. CISA reduced copier and printing paper use and acquired uncoated printing and writing paper containing at least 30 percent postconsumer recycled content or higher.

Priority Strategies & Planned Actions

DHS Office of the Chief Procurement Officer developed a Federal Acquisitions Regulation (FAR) Part 23 checklist, which was rolled out to the Components through the DHS SAWG, which consists of environmental and contracting personnel. In FY 2020 and -FY 2021, DHS plans to increase the use of the checklist to improve sustainable acquisition clauses in contracts. Ongoing dialogue will continue at the Component level between the contracting offices and sustainability officers.

2. ELECTRONICS STEWARDSHIP

FY 2019 Electronics Stewardship Progress:

94.36% 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*

DHS has continued its robust program in Electronic Stewardship. The Federal Strategic Sourcing Initiative Contracts, FirstSource II and Eagle II, were utilized to purchase 71,235 EPEAT registered units in FY 2019. By using EPEAT registered units, the Department consumes less energy resulting in a reduction in 13,241 metric tons of greenhouse gas emissions and an estimated \$2,208,000 in cost savings over the life of the products. DHS Directive 025-01-001, Duplex Printing, and DHS Directive 025-01-002, Systems Power Management, continue to be implemented.

Implementation Status

The DHS Sustainability team promotes engagement through the SAWG as well as the purchase of electronics using the EPEAT, between the Components Office of the Chief Information Officer and the Procurement Office to develop and implement suitable electronics and print management to reduce operating expenses, streamline printing and I.T. device inventory, cost, and increase resource efficiency through improved management of office printers and scanners.

One example of successfully implementing the Duplex Printing Directive was by ICE, which developed a Printer Management and Device Acquisition Policy to improve efficiencies and reduce cost burdens. ICE hardware purchases follow the EAGLE contract to maintain energy compliance.

TSA will continue its current sustainable acquisition activities that have resulted in the program procuring 100 percent EPEAT registered electronic products. TSA has written into Information Technology's multiyear personal computer hardware contract specifications that all monitors procured must meet EPEAT and Energy Star requirements.

USSS has environmentally sound practices regarding the entire life span of its electronics equipment. All products acquired are EPEAT registered, and one hundred percent of newly purchased or leased equipment met energy efficiency requirements.

Priority Strategies & Planned Actions

DHS will continue to comply with FAR 13.201 (f) "The procurement requirements in subparts 23.1, 23.2, 23.4, and 23.7 apply to purchases at or below the micro-purchase threshold and use its Federal Strategic Sourcing Initiative Contracts, FirstSource II and Eagle II, through the end of the base years. While both contracts are being recompeted DHS will continue to evaluate all available options to ensure the government-wide strategic sourcing vehicles support effective electronics stewardship. DHS Directive 025-01-001, Duplex Printing and DHS Directive 025-01-002, Systems Power Management, will continue to be implemented. DHS Sustainability and Environmental Programs will publish new training materials and memos to educate key lines of business to improve program effectiveness.

ICE plans to expand the installation of print management software throughout the agency that defaults to duplex printing as well as implementing OneDrive throughout the network, which will move file storage to the cloud and eliminate the use of file servers.

3. GREENHOUSE GAS EMISSIONS

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

32.9% reduction from FY 2008

9.5% increase from FY 2018

The Department's strategy is to implement energy and water conservation measures through alternative finance contracts as available, assessing our facilities every four years through comprehensive energy and water evaluations, tracking our utility use through CAPSIS and the SPM program, and through deploying new tools such as BAT to facilitate comprehensive and standardized facility assessments across the Department. Scope 1 and 2 GHG emission reductions are driven most significantly by energy use reductions. Therefore, the same strategies for energy efficiency improvements apply.

Implementation Status

In FY19 the increase in GHG emissions was a product of the above reference requirement to move to the new asset level reporting within the Motor Vehicles Management across the Agency (and Federal government) and the challenges with this new reporting and increased accuracy of their fuel consumption in Law Enforcement vehicles (LE) versus Standard vehicles. When fuel use swings from Standard to LE vehicles, it also impacts GHG emissions as LE vehicle fuel use is excluded from the GHG calculations. See the Fleet Management section for a discussion of how the Department is working to resolve these issues.

Emissions from facility-energy consumption was adversely affected because the USCG Renewable Energy Center at the shipyard in Maryland was offline for almost 90% of the year due to equipment failures. As a result, DHS' on-site renewable electricity generation fell from 9,228 MWh in FY18 to 5,563 MWh in FY19. The generation had to be replaced with conventional electricity from the grid. The facility is back online for FY 2020 and output should be close to previous output. Another source of unexpected variation is hurricane and other disaster supplemental work at the Coast Guard, ICE, and FLETC which leads to surges in electricity demand. These Components are focusing on energy reliability and resiliency, which will increase distributed generation capacity at several locations across the Department, allowing the decrease of source energy (electricity) and thus emissions even during disaster surges. For example, the Coast Guard implemented distributed generation at the Coast Guard Academy, Base Elizabeth City (demand management generator), and at the Coast Guard Yard (repair and restoration followed by expansion of the renewable energy center output) to reduce source emissions.

Priority Strategies & Planned Actions

Through our sustainability, resilience, and energy management programs, our Components will strive to continue to improve their footprint, while increasing their resilience in our mission critical assets. However, DHS recognizes that COVID-19 has unknown consequences for Sustainability and Environmental Programs. The Department will consider implications of plans for returning to the workplace for energy efficiency with the intent to maintain or improve energy intensity but given the uncertainties DHS is only planning for moderate continued progress in improving energy intensity, and therefore the same progress in reducing GHG emissions.

The U.S. Coast Guard Academy energy infrastructure project in Notable Projects below is an excellent example of sustainability, resilience, GHG emission and energy demand reduction.

NOTABLE PROJECTS AND HIGHLIGHTS

In late FY 2019, the U.S. Coast Guard Academy completed an unprecedented energy infrastructure project to increase resilience and efficiency across its 87-year-old campus. In addition to the resilience and reliability benefits these improvements will reduce energy demand overall and reduce emissions from electricity by substituting more efficient

natural gas and renewable on-site generation options. This should directly and consistently reduce emissions. The two-year holistic energy management project brought \$39 million in capital improvements to the Academy. It is designed to reduce overall energy consumption by 43 percent (based on site-source calculations) reduce the amount of utility supplied electricity by 82 percent, and thus directly reduce GHG emissions. As added benefits the improvements will save the Academy more than \$2 million in annual energy costs (an 80 percent reduction). The GHG emission reduction is estimated at 7,824 metric tons per year – equivalent to taking more than 1,600 cars off the road. The project was funded through energy cost savings and a \$72.6 million UESC – the largest ever awarded by the U.S. Coast Guard and the Department of Homeland Security.