2020
Sustainability Report and Implementation Plan

Submitted: June 30, 2020

Solar installation at the U.S. Mission in Geneva.

U.S. DEPARTMENT *of* STATE

Department of State

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Executive Summary

The Department of State operates more than 24,000 real estate assets across the United States and 190 countries to support American foreign policy objectives. These facilities not only serve as a platform to support complex and changing missions, but also as visible and tangible reminders of American technology, policies, and best practices. The novel coronavirus, CoVID-19, has presented operational challenges for the Department across the globe. The pandemic has also highlighted the importance of enhancing resiliency and efficiency in global operations and for improving remote access to data. The Department, like much of the world, is evaluating what additional lessons it can learn from the past several months related to sustainability, but it will be some time before that analysis is complete.

Despite the global challenges, the Department has advanced several important projects related to environmental performance. Domestically, the Department continues to leverage data and partnerships to advance sustainability, whether through closing excess data centers and virtualizing servers, or through using Best in Class contracts and government-wide IDIQs to increase efficiency and reduce overall contract actions while ensuring sustainable procurement requirements are met. The Department continues to meet its renewable energy goal using both onsite solar infrastructure and renewable power purchase agreements to provide nearly a third of the Department's domestic energy requirements. Electronics stewardship and efficiency in information technology (IT) also continues to be a highlight, with the Department responsibly disposing of IT waste, continuing optimization of data centers, and procuring new, more energy efficient equipment to reduce energy usage.

An important note about the report: All progress numbers in this report are based on domestic data only. The domestic portfolio includes more than 5 million square feet, primarily located in the National Capital Region, and nearly 15,000 direct hires. The domestic fleet has more than 1,700 vehicles. The Department is currently in a multi-year planning process to expand relevant reporting to global facilities to comply with statutory reporting requirements. However, to show how the Department is managing overseas facilities in line with the goals of Executive Order Regarding Efficient Federal Operations (E.O. 13834), anecdotal information on overseas operations is included when possible and is noted as such.

Overseas the Department is investing in solar, wind, and geothermal energy technology to reduce reliance on the local grid and improve operational resilience. By the end of FY20, the Department forecasts the completion of 40 photovoltaic (PV) systems at our overseas posts. To support innovative approaches globally, the Department created a resilience grant in FY2019 as part of the Department's annual Greening Diplomacy Initiative Awards, which continues into FY2020. The Department continues to support nearly 100 Green Teams worldwide that work to reduce energy and water consumption, implement responsible waste management, and more.

One of the cornerstones of the Department's continuing automation and data-informed decision-making efforts is MeterNet, the Department's automated smart metering system that collects and disseminates real-time energy data. Over the last six years, MeterNet has been installed at more than 96 locations (85 overseas and 7 domestic). While the Department originally developed the system in response to regulatory requirements for both energy reporting and installing smart meters, the network architecture now supports additional business data requirements, such as power quality meters, water sensors, and air quality monitors. This flexibility helps alleviate some of the Department's structural challenges that hinder enterprise

investment in smart meters and energy efficiency, including that (1) domestic and overseas building operations are managed and funded separately, and (2) that overseas, one bureau builds and maintains the facilities, whereas other bureaus pay the utility bills. The Department will continue to look for ways to meet multiple business goals and build an enterprise-wide data-driven sustainability strategy.

For 2021, the Department's top five priorities to advance sustainable initiatives, increase environmental performance and resiliency, and improve efficiency are:

- Continued implementation and increased utilization of the Department's Internet of Things (IoT) network for energy and environmental sensors. The Department will re-establish dedicated staff domestically to review and evaluate metrics to improve data-informed decision-making and identify and implement additional efficiency measures.
- Evaluating the impact of maximum telework implementation due to CoVID-19 on energy and water consumption and waste management. The Department will use this analysis to inform the conversation about telework after CoVID-19, planning for shutdown protocols for equipment and facilities for future work disruptions, and investment in equipment and operational support.
- Updating and expanding training to educate employees to ensure accurate reporting, encourage behavior change for conservation, and utilize data to make informed decisions. We will also deploy training for overseas personnel to continue increase data literacy for facility operations.
- Continued development of a reporting schema for overseas facilities.
- Continued development of and participation in innovative partnerships and programs that improve the Department's sustainability footprint while also advancing U.S. environmental interests.

Implementation Summary: Facility Management

1. FACILITY ENERGY EFFICIENCY

FY 2019 Energy Intensity Progress (Btu/GSF):*

8.3% reduction from FY03

7.1% increase from FY18

FY 2020-FY 2021 Plan:

2% reduction in FY20 from FY19

1% reduction in FY21 from FY20

*The numbers and goals refer to domestic operations only.

The Department constantly works to improve our facilities energy efficiency through building modernization, upgrades, and personnel education. Looking forward it will evaluate data more regularly and analyze the impacts of increased telework to reduce overall energy consumption.

Implementation Status

While the nature of the Department's mission-critical activities often requires 24/7 operation and redundant equipment, the Department is hard at work to reduce energy consumption. The Department's FY 2019 energy intensity increase is largely due to a new facility acquisition in the National Capital Region. Our domestic strategy includes:

- **Utility Energy Service Contracts (UESC):** The Department awarded a $13.7M UESC in FY 2017 and another for $7.9M in FY 2018 to reduce energy and water consumption at our most energy intensive buildings. These UESCs are expected to result in a 6 GWh reduction in electricity usage at the headquarters building and an 11% reduction in domestic energy usage overall.

- **Revamping O&M Contracts:** The Department is adjusting its contracts to incorporate energy efficiency into operations and maintenance contracts. In FY 2018, the Department awarded facilities operation and maintenance contracts for ten buildings/campuses that include services for an energy manager, energy audits, and energy conservation metrics. Since the Department is early in the performance period of the contracts, the success of the initiative has not been fully determined.

Priority Strategies & Planned Actions

- The Department will re-establish dedicated staff to collecting and analyzing domestic utility data on a monthly basis. This will allow the Department to rapidly identify erroneous data or respond to leaks, faulty equipment, or changes in mission.
- The Department will leverage its smart metering program, MeterNet, at both domestic and overseas locations, to conduct remote energy audits to improve efficiency and identify savings. The Department will invest in training in-house staff to allow for minor system optimizations without significant contractor costs. Once an IDIQ contract is established to perform this service overseas and the Bureau of Overseas Buildings Operations (OBO) will be able to access the smart meters, energy audits could be accomplished remotely. OBO will only be a consumer of the raw Power Quality meter data.
- The Department will continue to communicate to personnel about important behavioral changes for conservation. In FY20 and FY21, the Department will evaluate the impact of maximum telework on facilities utilization and provide more guidance and resources on facilities management during telework.
- OBO's Lifecycle Asset Management (LCAM) initiative will cost effectively reduce utility consumption, while improving resiliency, decreasing our dependence on local resources, and increasing the duration we are able to stand alone without relying on local grids during emergency events. LCAM is an integrated component of the Embassy After Next (EAN) strategic priority focused on refining OBO's Building Program to identify the most cost-efficient building design, construction, and maintenance strategies over the facility's initial 50-year total cost of ownership. The Facility Performance Evaluation (FPE), a critical element of the Life Cycle Asset Management initiative, will establish industry-aligned metrics to measure long-term project cost-effectiveness and sustainability for projects and legacy facilities. The FPE reporting is centered on data collections for the following industry-based KPIs: Facility Condition Needs Index (FCNI), Building Condition Index (BCI), Normalized Maintenance Cost, Energy Use Intensity (EUI) and Facility Management Operations and Maintenance. OBO piloted the FPE program in Panama City, Lima, Bridgetown, Kingston, Santo Domingo, and Dakar. In FY2020 OBO will conduct FPE surveys, based on funding availability in Cotonou, Mbabane, Paramaribo, Matamoros, The Hague, and Oslo.
- The Department will continue to require new overseas commercial facilities (embassies, consulates, and multi-family housing) to meet energy reduction requirements set forth in the Energy Independence & Security Act of 2007 and 10 CFR 433.

2. EFFICIENCY MEASURES, INVESTMENT, AND PERFORMANCE CONTRACTING

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

$0.6M / 1 project in FY19

FY 2020-FY 2021 Plan:

$1.058M / 1 project in FY20

$1M / 1 project in FY21

The Department continues to rely on UESCs to provide sustainable energy and water efficiency improvements to its facilities over the long-term. It will continue to investigate and evaluate other

authorities, partnerships, and frameworks to achieve energy, water, building modernization, and infrastructure goals.

Implementation Status

- The Department awarded a $7.9M UESC in FY 2018 to reduce energy and water consumption at two of our domestic facilities through updating lighting fixtures to light emitting diodes (LEDs), HVAC and cooling tower metering and recommissioning, and water system motor replacement. While the results of ongoing implementation of this investment are visible, the full results may not be measurable for another two years.

Priority Strategies & Planned Actions

- The Department, in conjunction with GSA, is undergoing a multiyear building modernization program at our headquarters that includes energy and water efficiency measures. Due to CoVID-19 office closures, there will be a delay in measurable energy savings. Energy savings will likely be measurable 6 months after the Department returns to full opening. This may however be mitigated by installation of data centers. Post-CoVID HVAC operational profiles may also negatively mitigate energy savings.
- The Department has requested proposals through existing performance contracts to implement additional energy conservation measures at our delegated facilities. Current projects include upgrading the building automation systems (BAS) at the Department's headquarters and upgrading the BAS and cooling towers at the newly acquired NCR facility.
- The Department will continue to evaluate the possible use of UESCs or Energy Savings Performance Contracts (ESPC) at other domestic facilities.
- The Department will be performing BAS updates, increasing our in-house technical support, and optimizing chilled water loops. BAS updates are performed as part of the Annual Building Maintenance Expense (BME) service contracts. Posts with BME are receiving this service. Upgrade needs are a constant requirement for all stand-alone IT networked systems. Patches, updates and enhancement are provided by each of the vendors for their respective system software. There are currently over 300 BAS networked systems in OBO's inventory. In-house technical support is available via IDIQ Contractors, with 80 existing BME service contracts. OBO performs on average 23 software upgrades per year.
- The Department will investigate statutory authorities and other agencies' programs regarding revolving funds to potentially invest energy and water utility savings into future efficiency projects, both domestically and overseas.
- In FY19, the Department established a Resilience Innovation Grant, sponsored by the Bureau of Overseas Buildings Operations, as part of the Greening Diplomacy Initiative awards, to fund innovative projects that increased the environmental resiliency of overseas embassies, consulates, and residences. This grant supported installation of metered water dispensers and developing recycling programs to reduce waste, equipment upgrades to reduce energy and water usage, and establishment of photovoltaic systems to improve renewable profiles and reduce reliance on local grids. The Department will continue this grant competition in FY20.

3. RENEWABLE ENERGY

FY 2019 Renewable Electricity Use:

32.5% of total electricity in FY19

FY 2020-FY 2021 Plan:

32.5% of total electricity in FY20

32.5% of total electricity in FY21

Renewable energy is a core tenant of the Department's overall energy strategy to improve overall resilience and emission reductions, which it supports through ongoing participation in purchase power agreements and installation of on-site solar installations where cost effective.

Implementation Status

- The Department exceeds its targets mainly through power purchase agreements, which provide solar and wind energy to 16 Washington, D.C., and Maryland facilities.
- The Department has solar panels at three domestic facilities – including on the headquarters – that provide approximately 1 GW of energy for facility use. In addition, in 2019 three new buildings were constructed at a training center in Fort Pickett, Virginia, included geothermal wells for heating and cooling.
- Overseas, the Department of State's facilities produced an estimated 11.7 GWh during FY19. The Department installed 9.2MW of renewable energy systems during FY19, including at Embassy Port-Au-Prince, Embassy Amman, and Consulate Perth.

Priority Strategies & Planned Actions

- The Department will continue to evaluate facilities, energy costs, and market realities for cost-effective alternative and renewable onsite and offsite energy opportunities.
- The Department will continue deployment of the OBO Lifecycle Asset Management (LCAM) initiative to cost effectively reduce utility consumption while improving resiliency, decreasing our dependence on local resources, and increasing the duration the Department is able to stand alone without relying on local grids during emergency events. Planning, design and/or construction of renewable energy systems is underway at Embassy Djibouti (360kW), Embassy Praia (62kW), Embassy Niamey (700kW), Embassy Colombo (213kW), Embassy Port Moresby (203kW), Embassy Beirut (1.2MW), Consulate Hyderabad (275kW), and Embassy Mexico City (546kW). A micro-grid system is being designed for Embassy Harare to eliminate extensive generator use as the host-nation grid load sheds from 05:00-22:00 daily. Embassy Majuro, Embassy Kolonia, Embassy Koror, and DCM Apia all have micro-grid systems under design and anticipate achieving "net-zero" energy upon completion. Design awards for renewable energy systems at Embassy Yaounde, Embassy Suva, Embassy Kigali, Embassy Kingston, Embassy Harare, and Embassy Bridgetown are anticipated this summer. Wind turbines are operational at Embassy Valletta and Embassy Nouakchott. The wind turbine at Embassy Bridgetown will be repaired in a planned PV project.

4. WATER EFFICIENCY

FY 2019 Water Intensity Progress (Gal/GSF):

21.1% reduction from FY07

5.8% increase from FY18

FY 2020-FY 2021 Plan:

1% reduction in FY20 from FY19

1% reduction in FY21 from FY20

The Department implements a combination of technology and manual solutions to monitor its water usage to ensure efficient operations. The core of this strategy encourages more efficient use of water resources through installation of efficient plumbing for potable and non-potable water, as well as incorporating drought-tolerant landscaping to minimize water usage.

Implementation Status

- The Department did not meet our reduction goals this year likely due to underreporting in FY 2018. The Department continues to face problems receiving reliable data from the utility company in charge of supplying our largest-consuming facilities. The Department implements a combination of technology and manual solutions to monitor its water usage to ensure efficient operations. The core of this strategy encourages more efficient use of water resources through installation of efficient plumbing for potable and non-potable water, as well as incorporating drought-tolerant landscaping to minimize water usage.
- The Department installs and monitors water meters in domestic facilities to ensure proper operation and infrastructure integrity. Smart meters are used when possible.
- Overseas, new diplomatic facilities include advanced water conservation systems. Consumption inside the buildings is reduced with air-cooled chillers, and low flow plumbing fixtures. The preferential selection of native, adaptive, and drought tolerant landscape plantings reduced water demand for landscaping. In addition, water re-use strategies are selectively implemented such as rainwater collection and using waste-water treatment plant effluent for irrigation purposes

Priority Strategies & Planned Actions

- For all domestic new construction and major renovations, the Department evaluates the life cycle cost effectiveness of installing appropriate green infrastructure features to help with storm- and wastewater management. All new construction for Department facilities includes cost-effective water conservation systems and features.
- In FY 2018, the Department awarded new facilities operation and maintenance contracts for ten buildings/campuses that include water conservation metrics. The Department will be evaluating the effectiveness of this strategy and incorporating the requirement into future contracts. The requirement was for a 2% reduction in water consumption per year.
- Domestic building managers have been instructed not to install new irrigation systems unless an alternative water source is unavailable. All new landscape design is required to be native/drought tolerant/low water consuming plants.
- The Department has been consulting with the U.S. Environmental Protection Agency and others to identify technology that can remotely monitor water usage and quality for domestic and overseas applications.

5. HIGH PERFORMANCE SUSTAINABLE BUILDINGS

FY 2019 Sustainable Buildings Progress:

12 sustainable Federal buildings
17% of buildings / 6% of gross square footage (GSF)

FY 2020-FY 2021 Plan:

18% of buildings in FY20
19% of buildings in FY21

The Department incorporates federally recognized standards to measure its building performance, constantly aligning new buildings procurements and upgrades to these standards, both domestically and overseas.

Implementation Status

- Domestically, the Department has nine buildings that comply with the Guiding Principles for Federal Sustainable Buildings. Recent achievements include a completed project in the basement of the

Department headquarters building that was certified LEED-CI in October 2018, a project at SA-24 that was awarded a LEED-CI Silver Certificate in January 2019, and a project at SA-39 that was awarded a LEED-CI Gold Certificate in February 2019.

- Overseas, the Department has 50 LEED certified facilities. Sample strategies used in these facilities include solar power, solar shading, solar hot water, occupancy and daylight sensors, LED lighting, highly efficient HVAC strategies, highly reflective roofing materials that reduce the absorption of solar heat, and electric traction elevators.

Priority Strategies & Planned Actions

- The Department is evaluating its enterprise policy for ensuring new domestic construction and renovation projects meet the Guiding Principles for Federal Sustainable Buildings.
- The Department continues to meet or exceed the target Utilization Rate (usable square feet per occupant) of 180 square feet per person in all new construction projects.
- Overseas, the Department continues to use LEED Silver certification as the minimum level of performance to plan, build, and commission New Embassy or Consulate Compounds.

6. WASTE MANAGEMENT AND DIVERSION

FY 2019 Non-hazardous Waste Management and Diversion:

3,246 metric tons of non-hazardous solid waste generated*
49% diverted and 51% sent to treatment and disposal facilities

FY 2020-FY 2021 Plan:

1% reduction in non-hazardous solid waste generated in FY20 from FY19
50% diverted and 50% sent to treatment and disposal facilities in FY20
4% reduction in non-hazardous solid waste generated in FY21 from FY20
50% diverted and 50% sent to treatment and disposal facilities in FY21

*not including construction and demolition waste

The Department utilizes targeted and single steam recycling and waste-to-energy contracts to ensure high diversion rates. It will continue to encourage overall waste reduction in our domestic and overseas facilities.

Implementation Status

- This is the first year the Department did not meet its domestic waste diversion goals of 50% or greater. All classified paper waste from the Department headquarters, representing 9% of the total non-hazardous waste stream, is converted to energy at a waste-to-energy plant or recycled as paper pulp. The decrease in waste diverted is likely due to a renegotiated contract for the Department's headquarters building, which included less dedicated recycling staff. Phase 1C of the Department's headquarters building modernization was also completed, and re-occupation of that portion of the building led to an increase in waste generation without a corresponding increase in recycling. Additional contributing factors included the lowered volume of paper being processed by our waste-to-energy providers.
- Waste diversion is part of all domestic construction and demolition activities. In FY 18, the Department diverted 40% of nearly 3.5 million metric tons of construction and demolition waste from capital projects.

- The Department has awarded a composting contract for the headquarters building, which will significantly increase the waste diversion rate for the facility in the long-term; however, due to CoVID-19 personnel restrictions, implementation and initial results may be delayed.

Priority Strategies & Planned Actions

- Domestically, the Department will continue to utilize both targeted and single stream recycling/disposal contracts to ensure the maximum amount of material is diverted from the traditional waste stream. The Department is evaluating how to increase the amount of its waste that is converted to energy and evaluating composting feasibility.
- After the headquarters composting contract is proven to be implemented successfully, lessons learned will be incorporated into contracts for other facilities.
- The Department plans to roll out a waste reduction campaign in FY20 and FY21 to encourage behavior change and other creative ways to reduce waste and increase recycling rates at all Department facilities.

Implementation Summary: Fleet Management

1. TRANSPORTATION / FLEET MANAGEMENT

FY 2019 Petroleum Reduction Progress (Gal):

11.2% increase in petroleum fuel since 2005

168.2% increase in petroleum fuel since FY18

FY 2019 Alternative Fuel Use Progress (Gal):

87% reduction in alt fuel since 2005

70% reduction in alt fuel since FY18

FY 2020-FY 2021 Plan:

3% reduction in FY20 from FY19

3% reduction in FY21 from FY20

FY 2020-FY 2021 Plan:

3% increase in FY20 from FY19

3% increase in FY21 from FY20

The Department regularly analyzes its fleet size and usage to improve reporting and efficiency of its overall operations and continually looks to increased market accessibility of alternative fuels to readjust its fleet profile.

Implementation Status

- Each year the Department's fleet becomes more fuel-efficient and "greener" with the acquisition of newer vehicles and more alternative fuel vehicles (AFVs), including electric vehicles (EVs). Fuel and cost savings are expected to be realized, especially with the EVs, which use less fuel and cost less to maintain than other vehicles. Expected benefits to operations are more dependable vehicles and less overall fleet costs.
- The Department's fleet consists of four sub-fleets: the Bureau of Diplomatic Security (DS); the Fleet Management and Operations Division (FMO); the International Boundary and Water Commission IBWC); and the Overseas Fleet (OF). The domestic FY 2019 inventory included 1,768 vehicles, with 1,551 of them being owned by the Bureau of Diplomatic Security (1,396) and IBWC (155). Of the domestic vehicles, 23 percent (408) were agency-owned, 7 percent (125) were commercially leased and 70 percent (1,235) were GSA-leased.
- The Department under-reported petroleum consumption in FY 2018 due to an error. The reporting anomaly has been corrected for future reporting through additional training and communications with the sub-fleet involved. If the corrected data is utilized, the Department did meet the vehicular petroleum

reduction target for FY 2019 even though appearing to substantially increase total petroleum consumption since the previous year.
- The Department has continued working to increase the proportion of vehicular alternative fuel (AF) consumption, but the lack of availability of alternative fuels (AFs) in the National Capitol Region (NCR) remains a challenge.
- The Department evaluates one-third of the fleet annually to right-size its composition and distribution.
- Overseas, the lack of local expertise for maintaining electric cars is a hurdle for deployment.

Priority Strategies & Planned Actions

- The Department will continue with reduction measures, such as encouraging the custodians of dual-fuel alternative fuel vehicles (AFVs) to refuel with AFs.
- The Department will continue working with owners of leased facilities for potential installation of fast charge stations for electric vehicles where feasible.
- The Department will continue acquiring and locating AFVs to match AF infrastructure.
- The Department will conduct a feasibility study for facility charging stations.
- The Department will continue to encourage overseas and domestic fleet operators to use existing tools, such as the Vehicle Allocation Methodology tool, to reduce fuel use.
- The Department will continue to evaluate lifecycle costs for determining investments in more electric vehicles.

Implementation Summary: Cross-Cutting Operations

1. SUSTAINABLE ACQUISITION / PROCUREMENT

FY 2019 Sustainable Acquisition Progress:

5.4% of contract actions and 3.6% of obligations (in dollars), for a total of $176.5M in contract actions with statutory environmental requirements

FY 2020-FY 2021 Plan:

5.4% of contract actions and 3.8% of obligations (in dollars)
5.4% of contract actions and 4.0% of obligations (in dollars)

The use of energy efficient, recycled content, and bio-based products, and the acquisition of environmentally preferable products and services, is included in training for all Department Contracting Officers.

Implementation Status

- Following OMB Category Management direction per OMB Memorandum M-19-13, the Department has increased the use of Government Wide Acquisition Contracts (GWAC) and Best In Class (BIC) contract vehicles, meaning more purchasing is being achieved via existing contracts rather than negotiating new single-use contracts. BIC solutions are vetted by OMB to ensure they comply with all current and applicable Federal government regulations, policies, and priorities in sustainable acquisition. The BIC solutions allow for modification of the contract vehicle as regulations, policies, and priorities change. The result of using a BIC solution is an increase in our support of sustainable acquisition. It also reduces our total number of contract actions which continue to go down from year to year.
- The Department relies on OMB and GSA's inclusion of sustainability in overarching terms and conditions in government-wide, BIC, or IDIQ contracts. Some examples include that the Department continues to mandate the use of GSA's Office Supplies 4 IDIQ, which offers recycled products such as paper and toner

cartridges. The Department also uses the government-wide Next Generation Delivery Services (NGDS) contract for domestic and overseas shipping, which requires contractors to report greenhouse gas emissions at the customer agency level. As an example of the success of these initiatives, the Department is procuring 47% of Information Technology through BIC contracts.

- Based on the 6-year summary figures, the new targets of FY 2020-21 for sustainable acquisitions are a decrease of 1.5% for actions and an increase of 1.0% for dollars per fiscal year. The decrease in the number of actions is due to the increasing use of Tier 1, 2 and Best In Class (BIC) contracts to reduce contract duplication, which decreases the total number of contracts required to procure the same or increased amount of product and services.
- Based on our FY18 performance, combined with our Department efforts to consolidate contracts, our FY 2019 goal for bio-based-only domestic contracts was $55M and 60 contract actions. The Department successfully met the dollar target by awarding $68.1M and nearly met the number of actions, completing 58.
- The Department has actively researched and applied existing and new sustainability classifications. For example, certain window glass being used for embassy construction is now classified as sustainable. Since costs each FY for embassy construction and maintenance can vary significantly, the percentages of sustainable procurement will also fluctuate. Per Department policy, new embassy compounds must meet requirements for LEED Silver or above. Since overseas spending is not included in the target or the actual numbers, this major sustainable spend is excluded from the program measurements.
- The Department's acquisition office actively supports the reduction of paper and the preference for contract documents is to submit and sign electronically. To support this initiative, the Department invested in the development of several applications using a workflow management technology. The applications are used to create and route contract documents for review and approval. This investment began pre-CoVID but has certainly assisted the Department in awarding contracts during the pandemic. This investment and use of applications to modernize acquisitions workflow has replaced what was once a paper heavy process.

Priority Strategies & Planned Actions

- For FY20 and FY21, the Department's focus is on increasing the utilization of BIC contract vehicles as well as other GWAC contract vehicles, to conform to sustainability requirements and achieve management efficiencies and cost savings.
- Starting FY20, the Department will start tracking sustainability metrics for acquisition and sustainment by quarter.
- DOS will also focus on greening elements in FPDS data reviews and highlight areas of applicability in reporting, as well as ensuring inclusion of sustainable acquisition language in contracts, in order to ensure reporting accuracy.
- FY20 target is to award 10 bio-based-only domestic contracts, estimated at $48.5M. FY21 target is to award 15 bio-based-only domestic contracts, estimated at $70M.

2. ELECTRONICS STEWARDSHIP

FY 2019 Electronics Stewardship Progress:

100% 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 of State implements the following strategies in its electronics stewardship: use government-wide strategic sourcing vehicles to ensure procurement of equipment that meets sustainable electronics criteria; maintain power management on all eligible electronics; ensure environmentally sound disposition of all agency excess and surplus electronics consistent with federal policies on disposal of electronic assets, and measure and report compliance.

Implementation Status

- The Department is replacing older equipment to realize savings. In FY19, the Department decided to move from small form factor (SFF) desktops to micro desktops that consume less energy. Changing from the SFF to the mini form factor reduced desktop energy consumption by more than fifty percent. Additionally, the smaller footprint facilitates increased efficiency in shipping, storage, and end-of-life e-waste. More than 10,000 units have been sent to domestic offices for deployment.
- All equipment purchased in FY 2019 for enterprise data centers are Energy Star certified. To continue virtualization efforts, State procured hyperconverged Energy Star equipment to refresh the legacy Enterprise DMZ infrastructure. State partnered with the General Services Administration (GSA) to excess the legacy equipment from this upgrade.
- The Department also uses software and policies to reduce energy consumption. As an example, the Department utilizes global power management software for our network computers to centrally deploy power management policies across the globe. For 2019, these power management policies avoided an estimated $1M in energy costs and 12.8 GWh in energy consumption worldwide.
- The Department continues to maximize efficiency in our data centers as well. In the past year, State closed two data centers bringing the total number of data center closures to 36 in the Continental United States (CONUS). Because of this, State was able to achieve its internal cost savings goal through FY19.
- The ClassNet Regionalization (CNR) project maximizes electronics and energy stewardship through the migration of mini-data centers at overseas facilities to six central hubs to more efficiently use space and energy. Through June 2020, 138 CNR migrations have been completed for an estimated $24 million in cost avoidance. Sixty-four additional CNR migrations are currently planned.

Priority Strategies & Planned Actions

The Department will continue to focus on priority strategies and actions like the following in FY 2020 - FY 2021:

- Close unneeded data centers, per the Data Center Optimization Initiative (DCCOI). The DCCOI team is planning on updating the current closure model in order to identify the next set of closures, consolidations, and optimizations for next year. The previous model helped State identify over 50 data centers to close.
- Consolidate Department help desks within the Bureau of Information Resource Management, with future plans to consolidate IT help desks outside of the bureau as well, enabling footprint reductions in both cost and energy efficiency.
- Upgrade servers within the enterprise data centers to models that are 100 percent Energy Star certified.
- Ensure 100 percent of equipment at end of life is disposed of through GSA Xcess.
- Continue to migrate customers out of physical data centers and into the cloud where applicable, enabling further data center optimization.
- Evaluate the impact of telework on in-office systems and data centers and establish technology protocols for telework.
- The Department will continue to share information about energy efficient computer operations to employees bi-annually through Department Notices and cables.

3. GREENHOUSE GAS EMISSIONS

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

46.1% reduction from FY 2008
17.6% increase from FY 2018

Implementation Status

- The Department is well positioned to continue to exceed its domestic reduction goal of 38.5% from the FY 2008 baseline for Scope 1 and 2 Greenhouse Gases. The Department achieved this goal primarily through reductions in the Steam and Hot Water and Net Electricity Emissions categories.
- While there are several factors that have contributed to the Department's year-over-year increase of GHG emissions, major drivers include increases in energy intensity and fleet statistics. Fleet data increased largely due to reporting errors in FY 2018.
- Due to the inclusive nature of this number, there is significant noise from the variability of several operations across the agency. Some of this noise can be attributed to irregular refueling of emergency generators, particularly at the Department's headquarters and a warehouse. As the agency continues to replace less fiscally efficient heating systems with Natural Gas systems, we will continue to see the scope 1 portion of the emissions factor increase. Fleet operations also have a significant factor on scope 1 emissions. Additionally, the GHG calculations do not have a per square footage or per capita component.
- Since 2005, overseas renewable energy systems have avoided the emittance of more than 6300 metric tons of CO2.

Priority Strategies & Planned Actions

- The Department will continue to review annual Federal Energy Management Program (FEMP) GHG emission report to identify/target high emission categories and implement specific programs or projects to address these areas.
- The Department will continue to monitor efficiencies gained from consolidating servers and using cloud computing.
- The Department will continue to procure alternative fuel vehicles, including electric vehicles, to reduce its overall fleet greenhouse gas emissions.