

Department of State
2019 Sustainability Report and Implementation Plan

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2019

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Executive Summary

To support U.S. citizens and American interests abroad, the U.S. Department of State operates more than 25,000 real estate assets in 190 countries. The Department's facilities see a wide range of environments – from war zones to megacities and deserts to swamps. Across all of them, sustainability plays an important role in ensuring operational resilience, cost avoidance, and demonstrating U.S. solutions.

For 2020, the Department's top four priorities for global energy and environmental performance are:

- **Continued build-out of its Internet of Things (IoT) network for energy and environmental sensors** to advance efficient and resilient operations for equipment and facilities. The Department will review actual versus modeled performance of facilities, and identify opportunities for future buildings and equipment installations. The Department is also working to utilize cloud computing and artificial intelligence to further automate data collection, analysis, and planning.
- Revising, streamlining, and modernizing energy and water-related internal policies and procedures.
- **Educating employees and encouraging behavior change for conservation.** The Department is updating and expanding an energy and water conservation toolkit and will deploy it worldwide.
- **Continued development of, and participation in, innovative partnerships** that improve the Department's sustainability footprint while also advancing U.S. environmental interests.

These priorities stem from past years' successes. One highlight is that the Department has continued to exceed its domestic renewable energy goal, with more than 30 percent of its domestic demand met by renewable energy. Overseas, the solar portfolio is expanding, with nearly 1500 kilowatts of photovoltaics installed in fiscal year 2019 in Department facilities in Ouagadougou, Burkina Faso; Port-Au-Prince, Haiti; Amman, Jordan; and Matamoros, Mexico. Wind turbines are operational at Valletta, Malta; Nouakchott, Mauritius; and Bridgetown; Barbados. With supply chain vulnerabilities from severe weather, market forces, and insecurity, renewable energy adds operational resilience and avoids energy costs.

All scorecard progress numbers in this report are based on domestic data only. When possible, anecdotal information on overseas operations is included and is noted as such. Over the next year, the Department will establish parameters for global reporting to support the Executive Order Regarding Efficient Federal Operations (E.O. 13834).

Implementation Summary: Facility Management

1. FACILITY ENERGY EFFICIENCY

FY18 Energy Intensity Progress (Btu/GSF):

14.4% reduction from FY03

1.8% increase from FY17

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FY19-FY20 Plan:

2% reduction in FY19 from FY18

2% reduction in FY20 from FY19

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. Our domestic strategy is based on targeting the highest energy consuming facilities and 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 incorporating energy efficiency into contracting for domestic facilities. In FY 2018, the Department awarded new facilities operation and maintenance contracts for ten buildings/campuses that include services for an energy manager, energy audits, and energy conservation metrics.

Priority Strategies & Planned Actions

- For new domestic construction and renovation projects, the Department will use the *2016 Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings* to ensure compliance with Federal energy intensity mandates. This will minimize costs and schedule impacts to the government associated with third-party verification and documentation. Projects underway will continue with Leadership in Energy and Environmental Design (LEED) certification.
- The Department will leverage its smart metering IoT program, MeterNet, to conduct remote energy audits in domestic facilities to further improve efficiency and identify savings. The Department will invest in training in-house staff to allow for minor system optimizations without significant contractor costs.
- The Department will continue to communicate about behavioral changes that personnel can make on its internal platform. In FY2020, the Department will advertise an "eco-office" toolkit to employees to solicit engagement in reducing energy intensity and waste.
- For overseas facilities, the Bureau of Overseas Buildings Operations' (OBO) 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.

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2. EFFICIENCY MEASURES, INVESTMENT, AND PERFORMANCE CONTRACTING

FY18 Performance Contracting – Investment value and number of new projects awarded:

\$7.9M / 2 projects in FY18

FY19-FY20 Plan:

\$0.7M / 1 projects in FY19

\$2M / 1 projects in FY20

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.

Priority Strategies & Planned Actions

- The Department, in conjunction with GSA, is undergoing a two-year building modernization program at our headquarters building that includes energy and water efficiency measures. In FY19 and 20, \$2.7M in performance contracts will be used to continue to upgrade HVAC equipment.
- The Department has requested proposals through existing performance contracts to implement additional energy conservation measures at two of our facilities.
- The Department will continue to evaluate the possible use of UESCs or Energy Savings Performance Contracts (ESPC) at other domestic facilities.

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3. RENEWABLE ENERGY

FY18 Domestic Renewable Electricity Use:

32.5% of total electricity in FY18

FY19-FY20 Domestic Plan:

32.5% of total electricity in FY19

33% of total electricity in FY20

Implementation Status

- The Department exceeds its targets mainly through power purchase agreements, which provide solar and wind energy to our 16 D.C. and Maryland facilities.
- The Department has solar panels at three of our facilities – including on our headquarters – that provide approximately 1 GW of energy for facility use. One facility in Charleston, South Carolina utilizes a Photo Voltaic array for solar water heating. In addition, in 2019 three new buildings at a training center in Fort Pickett, Virginia included geothermal wells for heating and cooling.
- Overseas, the Department forecasts more than forty separate photovoltaic systems and three wind turbines at embassies and consulates by the end of FY2019. The Department installs renewable energy systems where their use will be lifecycle cost effective. In FY19, OBO completed the installation of solar PV systems at Embassy Ouagadougou (375kW), Embassy Port-Au-Prince (500kW), Port-Au-Prince Housing Compound (211kW), Embassy Amman (681kW), and Consulate Matamoros (1181kW). Wind turbines are operational at Embassy Valletta, Embassy Nouakchott, and Embassy Bridgetown.

Priority Strategies & Planned Actions

- The Department will continue to renew power purchase agreements and incorporate additional facilities into the contracts as life cycle costs dictate.
- The Department will continue to evaluate facilities, energy costs, and market realities for future cost-effective alternative energy opportunities.
- Overseas, the Department will continue to explore power purchase agreements where the local markets and regulations may allow it. 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 we are 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).

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4. WATER EFFICIENCY

FY18 Domestic Water Intensity Progress (Gal/GSF):

26% reduction from FY07

0% reduction from FY17

FY19-FY20 Plan:

1% reduction in FY19 from FY18

1% reduction in FY20 from FY 19

Implementation Status

- The Department installs and monitors water meters in domestic facilities to ensure proper operation and infrastructure integrity. Smart meters are used when possible. 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.
- New construction and renovation activities are evaluated for adherence to appropriate long-term water reduction goals. New diplomatic facilities overseas include advanced water conservation systems. Consumption inside the buildings is reduced with air-cooled chillers, and low-flow plumbing fixtures.
- Overseas, U.S. diplomatic posts implement behavior change campaigns and rainwater harvesting to reduce use of potable water.

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.
- In fall 2019, the Department will implement a domestic “Turn It Off” campaign for energy and water consumption to encourage behavior change.
- 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.
- Overseas, the Department encourages the preferential selection of native, adaptive, and drought tolerant landscape plantings as practicable. The Department continues to share information on its internal platforms about native species and drought tolerant landscaping to reduce consumption.

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5. HIGH PERFORMANCE SUSTAINABLE BUILDINGS

FY18 Domestic Sustainable Buildings Progress:

12 sustainable Federal buildings

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

FY19-FY20 Plan:

22% of buildings in FY19

23% of buildings in FY20

Implementation Status

- For all domestic new construction and major renovations over 5000 square feet, the Department follows the 2016 Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings (GP) and continues to seek Leadership in Energy and Environmental Design (LEED) certification for grandfathered projects. 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 uses LEED Silver as its minimum for new construction and major renovation. There are over 45 LEED certified facilities in the overseas portfolio, with one prestigious LEED Platinum Certification, and fourteen LEED Gold certifications for embassies and consulates. The remaining certifications were awarded Silver or Certified. These facilities are often the first green certified building in the country or region

Priority Strategies & Planned Actions

- The Department plans to ensure future domestic activities are scoped to the GP standards and are appropriately documented. Though the use of GP standards is a departure from the LEED standards utilized through 2017, the Department continues to document projects with the LEED scorecard without seeking certification. The scorecard provides a valuable metric for the measurement of sustainable achievement on each project. Projects whose design started prior to the implementation of GP will continue to submit for LEED certification.
- The Department continues to meet or exceed the Office of Management and Budget's Reduce the Footprint target Utilization Rate (usable square feet per occupant) of 180 in its domestic facilities.

6. WASTE MANAGEMENT AND DIVERSION

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FY18 Non-hazardous Domestic Waste Management and Diversion:

1,564 metric tons of non-hazardous solid waste generated*

50% sent to treatment and disposal facilities

*not including construction and demolition waste

Implementation Status

- The Department is meeting its 50% domestic waste diversion goal. Highlights include:
 - All classified paper waste from the Department headquarters, representing 9% of the total waste, is converted to energy at a waste-to-energy plant or recycled as paper pulp.
 - The remaining waste diversion percentage is achieved through traditional recycling.
 - Waste diversion is part of all domestic construction and demolition activities. In FY 2018, the Department diverted 40% of nearly 3.5 million metric tons of construction and demolition waste from our capital projects.
- Overseas, new U.S. embassy and consulate facilities are constructed using base building materials containing high quantities of recycled content. Recycled and locally sourced materials are given preference in the design and construction process and OBO works with contractors and local partners to ensure as much construction and demolition waste is diverted from landfills as possible.
- U.S. diplomatic posts face a wide variety of waste management schemas - from no municipal waste management at all, to ambitious city waste plans that surpass those of U.S. municipalities. Posts have created partnerships with local nonprofits, worked with cafeteria providers to reduce or eliminate single-use plastics, and conducted internal waste audits to improve recycling collection and reduce waste.

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.
- The Department will continue to support embassies and consulates working to enhance availability of municipal recycling in their host cities.

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Implementation Summary: Fleet Management

1. TRANSPORTATION / FLEET MANAGEMENT

FY18 Domestic Petroleum Reduction Progress (Gal):

58.5% reduction in petroleum fuel since 2005

45.4% reduction in petroleum fuel since FY17

FY19-FY20 Domestic Plan:

3% reduction in FY19 from FY18

3% reduction in FY20 from FY19

Implementation Status

- The Department's security requirements and round-the-clock mission instruct the vehicle type chosen, as well as fuel consumption. While the Department has reduced total domestic vehicle petroleum consumption significantly, the Department is working on a potential data reporting issue from FY 2018 with International Boundary and Water Commission (IBWC), which may alter those numbers slightly. For historical reasons, IBWC's domestic fleet is included in the Department of State's fleet reporting. The Department will work with IBWC stakeholders to see if data in FAST can be modified and that reporting procedures are corrected moving forward.
- Like many agencies, the Department has not met the alternative fuel consumption goal. The Department is working to increase the proportion of alternative fuel consumption and has procured alternative fuel and electric vehicles for its domestic motorpool. At this time, alternative fuel use is mostly stagnant, except for a rise in ethanol consumption. However, the lack of alternative fuel in the National Capitol Region (NCR) remains a hurdle.
- The Department evaluates the domestic fleet annually to right-size its composition and distribution.

Priority Strategies & Planned Actions

- The Department will continue with reduction measures, such as encouraging dual-fuel vehicle custodians to use alternative fuels.
- The Department will continue working with owners of leased facilities for potential installation of level II electric vehicle charging where feasible.
- The Department will continue acquiring and locating alternative fuel vehicles (AFVs) to match AF infrastructure.
- 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.

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Implementation Summary: Cross-Cutting Operations

1. SUSTAINABLE ACQUISITION / PROCUREMENT

FY18 Sustainable Acquisition Progress:

4.1% of contract actions and 13.1% of obligations (in dollars), for a total of \$1,301M in contract actions with statutory environmental requirements. This information was acquired from the Federal Procurement Data System (FPDS) that were labeled as Recovered Materials: Bio-based, Energy Efficiency, and Environmentally Preferable. Of the \$1,301M in obligations, 90% was for overseas and 10% was domestic.

Implementation Status

- The Department has focused on training our contracting professionals in sustainable procurement. To that end, the Department conducted mandatory two-hour training sessions, offered at six different times, to ensure all Contracting Officers received sustainability information. The Department also mandated the use of GSA's Office Supplies 3 IDIQ, which offers recycled products such as paper and toner cartridges. The Department also uses the best-in-class 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.

Priority Strategies & Planned Actions

- The Department will continue our strategy of training our Contracting Officers on bio-based and greening initiatives.
- In FY19 and FY20, the Department anticipates a 1% increase in percentage of domestic sustainable contract actions.
- In FY19 and FY20, the Department anticipates a 1% increase in the percentage of domestic sustainable contract dollars.
- In FY20, the Department has a target to award 10 bio-based-only domestic contracts, estimated at \$48.5M.
- Data accuracy is a continual focus and the Department has invested resources in tools that review FPDS data for accuracy. In FY2020 we will focus these tools on identifying and appropriately coding bio-based actions.
- The Department will review furniture procurements, with the goal of increasing the amount of sustainable furniture purchased.

2. ELECTRONICS STEWARDSHIP

FY18 Global Electronics Stewardship Progress:

100% of newly purchased or leased equipment met energy efficiency requirements

100% of equipment with power management enabled*

100% of electronic equipment disposed using environmentally sound methods

**excluding exempted equipment*

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Implementation Status

- The Department of State implements the following strategies: 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.
- The Department's Global IT Modernization (GITM) program office builds the requirement for Energy Star and EPEAT compliance into all of its technical specifications. Therefore, whenever the GITM contract vehicle is used by other bureaus within the Department, we are assured that the products purchased are energy efficient. Bureaus are required to utilize GITM's Government-wide Acquisition Contract (GWAC), unless they have special requirements not offered through the vehicle, for which they need to receive a waiver. The Department continues to evaluate new capabilities with a desire to increase control to streamline out-of-office hours maintenance, by enabling administrators to collectively wake a segment of machines at a site. The Department continues to use GSA Xcess to dispose of all equipment that is at end-of-life.
- The ClassNet Regionalization (CNR) project has reduced CO2 emissions by 8,550 tons through the migration of mini-data centers at overseas facilities to one of six central hubs to more efficiently use of space and energy. Through June 2019, 100 CNR installations have been completed. Forty-two additional CNR Installations are expected to be complete by FY 2021.
- As part of the Department's efforts in the Data Center Consolidation Initiative, the Bureau of Information Resources Management (IRM) is working to reduce standalone data centers. In April 2019, the Enterprise Server Operations Center (ESOC) East data center was closed. This data center, located in northern Virginia, was one of the Department's largest data centers and provided customers a variety of data service offerings. Customers have been migrated to other modernized data centers or cloud computing services to minimize the Department's IT footprint. No information regarding cost savings or CO2 emissions are available at this time, but the Department anticipates the closure of this data center will result in significant reduction of both over time.

Priority Strategies & Planned Actions

The Department will continue moving forward with the ClassNet Regionalization (CNR) project as well as focus on the following goals in FY 2020 – FY 2021:

- 100% of the Department's equipment acquisition meets Energy Star and EPEAT requirements
- 100% of eligible equipment has power management enabled
- 100% of equipment at end of life is disposed of through GSA Xcess
- Support the Data Center Optimization Initiative and close unneeded data centers
- Continue to message about energy efficient computer operations to employees bi-annually through Department Notices
- Continue migration of operations to the cloud

3. GREENHOUSE GAS EMISSIONS

FY18 Domestic Scope 1&2 Greenhouse Gas (GHG) Emissions:

54.2% reduction from FY 2008

11.9% reduction from FY 2017

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Implementation Status

- The Department is well positioned to continue to exceed its domestic reduction goal of 38.5% 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.
- Cumulatively, since 2005, overseas Department renewable energy systems have avoided more than 6,300 metric tons of carbon emissions.

Priority Strategies & Planned Actions

- Review annual Federal Energy Management Program (FEMP) GHG emission report to identify/target high emission categories. Take action and implement specific programs or projects to address high emission areas.
- The Department will continue to advertise tools like alternative commuting and virtual business meetings to reduce non-essential business travel. In addition, the Department will leverage MeterNet and other “Internet of Things” data to maintain and monitor systems remotely as much as possible.
- The Department will continue to monitor efficiencies gained from consolidating servers and using cloud computing.