

U.S. General Services Administration

Sustainability Report
and
Implementation Plan
2020



U.S. General Services Administration
2020 Sustainability Report and Implementation Plan

GSA 2020 Sustainability Report and Implementation Plan

Submitted: June 2020

Table of Contents

| | |
|---|----|
| Executive Summary | 3 |
| Implementation Summary: Facility Management | 5 |
| 1. FACILITY ENERGY EFFICIENCY | 5 |
| 2. EFFICIENCY MEASURES, INVESTMENT, AND PERFORMANCE CONTRACTING | 6 |
| 3. RENEWABLE ENERGY | 7 |
| 4. WATER EFFICIENCY | 8 |
| 5. HIGH PERFORMANCE SUSTAINABLE BUILDINGS | 9 |
| 6. WASTE MANAGEMENT AND DIVERSION | 12 |
| Implementation Summary: Fleet Management | 13 |
| 1. TRANSPORTATION / FLEET MANAGEMENT | 13 |
| Implementation Summary: Cross-Cutting Operations | 14 |
| 1. SUSTAINABLE ACQUISITION / PROCUREMENT | 14 |
| 2. ELECTRONICS STEWARDSHIP | 15 |
| 3. GREENHOUSE GAS EMISSIONS | 17 |

U.S. General Services Administration
2020 Sustainability Report and Implementation Plan

Executive Summary

The U.S. General Services Administration (GSA) supports other federal agencies by providing centralized procurement, real estate, technology, and operational support services. GSA works to maximize the effectiveness of every tax dollar by supporting more than \$60 billion in annual procurement spend, while managing approximately 370 million square feet of space in over 9500 owned and leased properties across five U.S. territories, the District of Columbia, and all 50 States. GSA also owns and maintains a fleet of over 221,000 vehicles used by over 75 other federal agencies. Our commitment to sustainability is to cost-effectively support agency missions today, while advancing the economic, civic, and environmental well-being of the United States today and tomorrow. We understand our responsibility to the citizens and businesses of the United States and are committed to operating in a fair, efficient, open, and transparent manner.

Sustainability at GSA is overseen by our Chief Sustainability Officer, who is also the Director of [Federal High-Performance Buildings](#) within the [Office of Government-wide Policy](#). Sustainability initiatives are driven at the agency level by our Senior Sustainability Advisory Group, which is composed of sustainability experts within each of our business lines. The Group meets monthly or as needed to coordinate implementation of the activities in this Plan. Major initiatives receive approval from and are directly overseen by our Administrator, Service Commissioners, and Associate Administrators.

Sustainability priorities and notable results within our business lines include:

Real Estate: GSA's real estate organization, the [Public Building Service](#), is prioritizing high-performance building design via compliance with the [Guiding Principles for Sustainable Federal Buildings](#) (Guiding Principles) for all new construction and major modernization projects, as required by its [Facilities Standards](#) (P100). PBS is also prioritizing reduction of the amount and cost of leased space, and energy and water efficiency.

GSA's 2018 study, *The Impact of High-Performance Buildings*, compared the actual performance over 3 years of 100 GSA high-performance buildings (as measured by Guiding Principles compliance) to 100 GSA legacy stock buildings. The study found that high-performance buildings used 23% less energy per square foot than typical buildings. They also used 28% less water, produced 9% less landfilled waste, and cost 23% less overall to operate. In Fiscal Year (FY) 2019, GSA increased our percentage of high-performance buildings by 2% over FY 2018, to 245 buildings comprising 37.5% of eligible gross square feet.

GSA also works to assess and mitigate risks to critical infrastructure—both to GSA-managed buildings and supplier-managed resources such as mission-critical energy and telecommunications networks— by enhancing mission surety for GSA's tenant agencies while managing a serious and growing fiscal risk highlighted in the U.S. Government Accountability Office's High Risk report.

PBS provides safe, healthy, and efficient workplaces for over 1.1 million federal employees. This centralized role in real estate management allows GSA to lead the way for other agencies in adopting and demonstrating efficient, cost-saving practices and solutions. GSA tracks and reports on sustainability metrics such as energy and water intensity, greenhouse gases (GHG) emissions, and sustainable buildings, as applicable based on the specific metric, for GSA-managed buildings occupied by federal agency tenants as well as those occupied by

U.S. General Services Administration 2020 Sustainability Report and Implementation Plan

GSA's own employees. Thus, GSA effectively manages and reports on energy and sustainability goals for a large percentage of federal civilian workspace. To avoid double counting, sustainability metrics for GSA-managed buildings are reported only by GSA, not by tenant agencies.¹ In reporting these metrics, GSA does not distinguish between space occupied by GSA employees and space occupied by other agencies.

Procurement: GSA's procurement and fleet services organization, the [Federal Acquisition Service \(FAS\)](#), prioritizes attention to sustainability in governmentwide procurements, as a large volume of GSA's approximately \$10 billion in internal annual contract spend is directed through our governmentwide acquisition contracts. In FY 2019, GSA awarded over \$2.5 billion in internal (GSA-use) contracts with sustainable acquisition clauses.

As the lead agency for six out of ten categories within the Federal [Category Management](#) system, GSA ensures that its Best In Class category management contracts and other governmentwide acquisitions meet or exceed federal sustainability requirements, allowing other agencies to more easily meet Executive Order requirements for over \$60 billion in annual contract spend governmentwide.

Fleet: In recent years, GSA Fleet's top strategic priority for sustainability has been telematics. In FY 2019, GSA established a blanket purchase agreement to make [telematics](#) standard across its managed fleet. Telematics devices transmit data on vehicle speed, idling, fuel consumption, and other vehicle diagnostic data automatically to GSA, allowing GSA and customer agencies to pursue cost-saving improvements in vehicle efficiency, maintenance, and accident prevention. GSA fleet also prioritizes cost-effective acquisition of low greenhouse gas (GHG), hybrid, electric, and alternative-fuel vehicles, vehicle charging systems, and management and maintenance services.

GSA [manages over 221,000 vehicles](#) used by other agencies. Management of this government-wide fleet forms the foundation of GSA's internal fleet sustainability program because GSA's internal-use fleet comprises fewer than 1,000 vehicles (less than 0.5%) drawn from the broader GSA-managed fleet. As a fleet user, GSA has reduced its internal fleet petroleum consumption by over 59% since FY 2005, while studying and piloting initiatives to reduce fleet use further by providing GSA employees with access to commercial short-term rental and ride-hailing services.

Policy, Technology, and Shared Services: GSA takes a lead role in facilitating federal sustainability policy and compliance through its [Office of Government-wide Policy](#) (OGP), which is designated to collect and analyze governmentwide fleet and real estate data. OGP supports the development of governmentwide [shared services](#) and systems to support cross-agency initiatives such as the [President's Management Agenda](#) and [Executive Councils](#). OGP also develops and publishes best practices for high-performance buildings, recommends third-party sustainable building standards for federal use, and maintains sustainability tools like the [Sustainable Facilities Tool](#) and [Green Procurement Compilation](#).

GSA employees take pride in our stewardship of taxpayers' dollars and of the services and workplaces we provide for agencies. We look forward to continuing to work toward a prosperous and resilient future with other federal agencies, businesses, civic organizations, and the American people.

¹ GSA employs approximately 0.6% of federal civilian employees but manages approximately 32% percent of civilian agencies' square footage recorded in the government-wide Federal Real Property Profile system (FRPP).

U.S. General Services Administration
2020 Sustainability Report and Implementation Plan

Implementation Summary: Facility Management

1. FACILITY ENERGY EFFICIENCY

FY 2019 Energy Intensity Progress (Btu/GSF):

29.3% reduction from FY03

1.0% reduction from FY18

FY 2020-FY 2021 Plan:

0.25% reduction in FY20 from FY19

0.25% reduction in FY21 from FY20

In accordance with the U.S. Department of Energy’s (DOE) Federal Energy Management Program (FEMP) guidance, GSA reports on energy performance for all buildings where GSA pays energy bills, the majority of which are occupied by tenant agencies. GSA’s primary strategies for managing energy consumption are regular tracking against national and GSA-established regional targets, inclusion of energy management in individual performance plans for relevant leaders, high energy efficiency standards for new construction and renovations, use of performance contracts, and prioritization of energy performance in operations, maintenance, and smaller repair and upgrade projects. GSA’s FY 2020 plan targets, shown above, were developed prior to the COVID-19 pandemic, which is expected to reduce GSA’s energy consumption in FY 2020 due to reduced building occupancy and utilization.

Implementation Status

In FY 2019, GSA avoided over \$88.8 million in energy utility costs through energy efficiency and negotiated utility contracts across both GSA-occupied space and space occupied by other federal agencies.² These efforts have benefitted federal agencies and taxpayers by lowering utility bills, while saving enough energy in FY 2019 to power over 30,000 homes—energy that was instead available for American consumers, industry, or export. One of GSA’s major energy strategies is to require all new construction and major renovation projects for GSA-managed space (both GSA employee and tenant occupied) to use 30% less energy than required by the American National Standards Institute’s ANSI/ASHRAE/IES Standard 90.1 (the national commercial building code designated by Energy Policy Acts) and to be certified as LEED® Gold or above. For example, in 2019, GSA completed a new Administration Building at the Columbus, New Mexico Land Port of Entry. This secure and modern facility enhances safety for people crossing the border, moves commerce more efficiently — and is currently using less than half the energy of an equivalent ASHRAE 90.1 baseline building. The new building’s east- and north-facing windows capture desert light at its coolest. Its roof slants eastward in steps, to evoke desert mountain peaks, and the roof is topped with solar panels that generate both hot water and renewable electricity. The Columbus Land Port of Entry earned LEED Platinum certification.

GSA’s E4 (Energy Efficiency Expert Evaluation) building automation system (BAS) re-tuning program focuses on implementing energy conservation measures, rather than only identifying them. Measures are developed around four major principles: Turn it Off; Turn it Down; Mitigate Simultaneous Heating and Cooling; and Reduce Infiltration and Outside Air. These efforts are proven over an eight-year running program, which includes tracking actual metered energy consumption. As of the end of FY 2019, Pacific Northwest National Laboratory has conducted Targeted E4 re-tuning site visits at 83 GSA-owned buildings, encompassing over 35 million gross square feet of floor space in all of GSA’s eleven regions. On aggregate, this process has yielded

² Based on the reduction in GSA’s energy use intensity (EUI) since FY 2003, applied to GSA’s FY 2019 portfolio at FY 2019 energy prices.

U.S. General Services Administration
2020 Sustainability Report and Implementation Plan

approximately 9% annual building energy savings in the first year following the initial site visit, and 13% savings in the second year. GSA's FY 2018 re-tunings with available results data have yielded \$363,000 in energy savings. The additional ten re-tunings performed in FY 2018 and FY 2019 are expected to save an average of 7.7% in energy consumption at each site.

Priority Strategies & Planned Actions

GSA has initiated a strategic priority around optimization of the federal footprint and reduction of our leased portfolio, which is continuing to reduce GSA's absolute energy consumption and energy, water, and lease costs. In FY 2019, GSA increased its portfolio by approximately 900,000 rentable square feet (RSF) over FY 2018; however, 1.7 million RSF in GSA's inventory in FY 2019 was attributed to temporary lease space for Census 2020. Accounting for this temporary addition, the effective long-term inventory was reduced by 800,000 square feet since FY 2018. In FY 2018, GSA reduced its portfolio by 3 million square feet over FY 2017. GSA expects to report further progress on this priority in our FY 2021 sustainability plan.

GSA uses a wide variety of cost-effective strategies to reduce energy consumption per square foot, including:

- No-cost strategies, like paying close attention to temperature settings, operating schedules, and routine maintenance.
- Low-cost / high payback strategies, like installing LED lights and low-flow water fixtures as part of smaller renovations and utilizing our utility billing system (Energy Usage Analysis System), advanced metering, and energy management analytical systems such as GSA Link to optimize facility operations.
- Disposal and congressionally funded renovation of older buildings and construction of more efficient new buildings, as directed by Congress, and
- Renovations funded through public-private partnerships, including Energy Savings Performance Contracts (ESPCs) and Utility Energy Savings Contracts (UESCs).

In FY 2020, GSA will also continue to identify candidate buildings to participate in PNNL's E4 Re-tuning program, with a goal of eleven buildings totaling 5.8 million GSF participating in FY 2020.

In FY 2020, GSA completed an upgrade to its nationwide Sustainability Performance Analysis dashboard, which is integrated with its Asset Business Plans tool and allows asset managers to easily review each building's energy and sustainability performance when updating annual business plans for the building. GSA is also working to statistically model energy savings opportunities at the building level and use this analysis to develop new regional energy reduction goals which are tailored to each region's specific portfolio.

2. EFFICIENCY MEASURES, INVESTMENT, AND PERFORMANCE CONTRACTING

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

\$13M / 2 projects in FY19

FY 2020-FY 2021 Plan:

\$10M / 1 project in FY20

\$10M / 2 projects in FY21

To reduce energy and water use via building upgrades that are cost-effective over their service life—but beyond currently limited capital budgets—GSA uses performance contracts, including ESPCs and UESCs. These contracts leverage private-sector financing for immediate upgrades and repay this investment over time using funds that are made available by the reductions in utility costs achieved by the project. GSA pays for performance contracts from its existing utilities budget and works to structure new contracts to be

U.S. General Services Administration
2020 Sustainability Report and Implementation Plan

budget-neutral and to require no up-front expenditures where possible. From FY 2012 to FY 2019, GSA awarded over \$585 million in performance contracts—an aggressive, government-leading rate that has made highly cost-effective projects more difficult to find and develop in FY 2019–2021.

Implementation Status

Each GSA ESPC and UESC “project” can cover multiple buildings. As with other metrics, GSA reports on ESPC and UESC projects across GSA’s managed building portfolio, including a large majority of tenant-occupied buildings. In FY 2019, GSA completed 2 ESPC ENABLE projects, covering a total of 24 buildings with 5 million GSF, for total projected energy savings of \$937,277 and 23,146 MMBTUs. These projects include a variety of conservation measures, such as lighting improvements, HVAC upgrades and water efficiency measures.

Priority Strategies & Planned Actions

In FY 2020, GSA is planning for 1-2 ESPC projects and/or 1-2 UESC projects, covering approximately 19 buildings with over 4 million total GSF. Planning of these large ESPC and UESC projects is complex and highly uncertain, and it is common for plans and totals to change while in development. This plan may be delayed/adjusted due to COVID-19 restrictions on accessing federal facilities.

GSA continues to pursue ESPCs and UESCs where the government will receive the most benefit based on existing infrastructure needs and energy and water usage. GSA continues to refine its portfolio screening and project development approach with an enhanced facility and opportunity analysis that considers energy and water use, utility costs, mechanical operations and maintenance, and location-related factors. GSA expects that continuing these actions will allow us to meet our ESPC targets in FY 2020 and FY 2021.

3. RENEWABLE ENERGY

FY 2019 Renewable Electricity Use:

15.2% of total electricity in FY19

FY 2020-FY 2021 Plan:

15.2% of total electricity in FY20

15.2% of total electricity in FY21

As with other metrics, GSA reports on renewable energy use across GSA’s managed building portfolio, including a large majority of tenant-occupied buildings. Based on current energy supply contracts and onsite resources, GSA expects to continue to exceed the 7.5% target required by Energy Policy Act (EPAct) of 2005 in FY 2020 and 2021. GSA’s use of renewable energy, required by EPAct, supports American jobs, increases the diversification and security of U.S. energy supplies, and provides GSA with energy at competitive rates. Other forms of clean energy, such as our modern, gas-fired combined heat and power system in White Oak, Maryland, contribute further cost savings and add resilience to GSA’s energy supply, while reducing air pollution in our local communities.

Implementation Status

In FY 2019, 83.6% of the renewable energy came from GSA’s off-site generators via long-term supply contracts in deregulated markets, and 16.4% came from renewable power purchase agreements and on-site generation.

GSA’s reverse auction system used in the deregulated markets allowed prospective power suppliers to bid for large groups of accounts over multiple years while specifying in advance a minimum percentage of renewable power, often resulting in low power prices and large quantities of renewables. In FY 2019, GSA awarded three new electricity supply contracts which will provide 11% renewable power on average in future years. This will result in a savings of approximately \$13.2M for GSA and its customers over the next three to four years. GSA

U.S. General Services Administration 2020 Sustainability Report and Implementation Plan

also entered into two long term power purchase agreements for solar and wind generation in 2014 and 2015, respectively, which contributed, and will continue to contribute, to the annual renewable electricity totals. Although GSA is paying a premium for the energy, compared to current market prices, GSA continues to benefit from the renewable generation to meet the goal. GSA also continues to provide oversight over other renewable sources, such as Energy Savings Performance Contracts, green roofs, and photovoltaic systems to ensure they are delivering the savings that were expected.

Overall, in FY 2019, 92% of renewable electricity for which GSA retained renewable energy certificates (RECs) was generated off-site. GSA's remaining renewable energy in FY 2019 resulted from continued production of GSA-owned, on-site generation at our facilities. GSA has 94 sites with active renewable projects, producing 31,740,000 kWh of electricity annually as of FY 2019.

Priority Strategies & Planned Actions

To improve the cost-effectiveness of our energy strategy, GSA sells RECs generated by our on-site power systems in certain high-value markets, such as Washington, DC. These sales reduce our reportable renewable energy use by small increments that are not needed to meet our targets, while generating significant revenue. GSA continues to install new on-site renewable energy generation as part of new construction and major modernization projects, where cost effective. In accordance with Section 433 of the Energy Independence and Security Act of 2007 (EISA), GSA requires that designs for such projects designate on-site renewables for future installation sufficient to make all projects Energy Net-Zero ready on a source energy basis.

In FY 2020 and FY 2021, GSA expects to continue purchasing the majority of its renewable electricity (approximately 92%) via existing, long-term energy supply contracts (bundled off-site renewable energy purchases) and to generate the remainder (approximately 8%) from on-site facilities. In FY 2020 and FY 2021, GSA expects to add at least three on-site generation projects totaling 467 kW capacity.

4. WATER EFFICIENCY

FY 2019 Water Intensity Progress (Gal/GSF):

31.0% reduction from FY07

4.4% reduction from FY18

FY 2020-FY 2021 Plan:

0.1% reduction in FY20 from FY19

0.1% reduction in FY21 from FY20

GSA's primary strategies for water efficiency include monitoring and leak detection, use of water-efficient fixtures, water-efficient landscaping and irrigation, and reduction of water use from cooling towers. GSA's plan targets, shown above, were developed prior to the COVID-19 pandemic, which may reduce GSA water consumption in FY 2020 due to reduced building occupancy and utilization.

Implementation Status

Since FY 2007, GSA has reduced water use intensity (gallons per GSF) by nearly 28%. In FY 2019 alone, GSA avoided over \$11.4 million in water utility costs through water efficiency and monitoring efforts.³ GSA continued to use its utility tracking and metering systems to build trends, reports, and analytics in support of regional and field office operations. This analysis helps identify anomalies such as leaks, utility billing errors, and operational inefficiencies.

³ Based on the reduction in GSA's Gal/GSF since FY 2007, applied to GSA's FY 2019 portfolio at FY 2019 water prices.

U.S. General Services Administration 2020 Sustainability Report and Implementation Plan

Priority Strategies & Planned Actions

As discussed above under Energy, optimizing the federal footprint, including reducing the size of our owned and leased portfolios, is a strategic priority for GSA and will reduce our total water consumption and costs. GSA's primary strategies for increasing water efficiency per square foot are:

- Aggressive monitoring and detection to find repair and upgrade opportunities. GSA will review percentage variances in water bills by site using GSA's Energy Usage Analysis System to validate data and identify target areas for repairs and cost-effective upgrade opportunities and will ensure all cost-effective measures are being pursued subject to funding availability.
- Use of U.S. Environmental Protection Agency (EPA) WaterSense and low-flow fixtures.
- Use of chemical- and electrostatic-based alternative technologies to reduce cooling tower scale build-up with reduced water disposal/flushing. Up to 28% of water use in typical commercial buildings is used by cooling towers or other heating and cooling systems. GSA has evaluated (and approved for ongoing use in our portfolio) several alternative technologies that reduce cooling tower water use by at least 25%, with payback in as little as 2 years.
- Emphasis on evaporative cooling tower efficiency and supporting local water utility sewage deduction credit programs through metering projects.
- Installation of drought-tolerant and native landscaping, efficient irrigation, and non-potable irrigation, as appropriate.

GSA expects that these strategies will be sufficient to meet our targets in FY 2020 and FY 2021.

5. HIGH PERFORMANCE SUSTAINABLE BUILDINGS

FY 2019 Sustainable Buildings Progress:

245 sustainable federal buildings

25.5% of buildings / 37.5% of gross square footage (GSF)

FY 2020-FY 2021 Plan:

25.8% of buildings in FY20

26.5% of buildings in FY21

As one of the largest public real estate organizations in the United States, GSA's Public Buildings Service owns and leases over 9,500 assets and maintains an inventory of approximately 370 million square feet of workspace, including over 413 historic properties. In FY 2020, GSA completed 36 capital projects valued at \$1.1 billion and had an additional 41 projects valued at \$2.3 billion in progress. As with other metrics, GSA reports on sustainable buildings achievement across GSA's managed building portfolio, including a large majority of tenant-occupied buildings. GSA-managed buildings are reported as sustainable only by GSA, not by the tenant agencies. GSA centrally tracks sustainable buildings at the national level, and each GSA region annually commits to its own target for increasing sustainable buildings. In addition to requiring that all new buildings be sustainable (if practicable), GSA upgrades existing buildings to be sustainable where possible and seeks to increase its overall sustainable building performance each year to reduce life cycle cost and maximize the benefits to taxpayers.

Implementation Status

In FY 2019, GSA added 19 sustainable buildings, including five that were new construction or major modernizations, and 14 existing buildings. One example of sustainable new construction is the United States

U.S. General Services Administration
2020 Sustainability Report and Implementation Plan

Courthouse in Mobile, Alabama. This new five-story 156,000 gross square foot building includes six courtrooms and nine judicial chambers. Its rooftop solar thermal system meets at least 30% of the building's peak hot water demand using renewable solar energy. The local environment benefits from a 60,000-gallon rainwater capture system that waters new planting beds and gradually replenishes groundwater, helping reduce harmful runoff and sewer overflows. The site's impervious surfaces were reduced by 50%, and the courthouse is now bordered by raised planters that are vegetated with local trees and shrubs selected to support pollinators. The new planters not only use collected rainwater, but also provide aesthetically pleasing perimeter security around the entire building. The Mobile U.S. Courthouse achieved LEED Gold certification, including all possible water efficient landscaping credits.

GSA's current sustainable building strategies, initiatives, and actions include:

- **Sustainable Building Tracking and Certifications:** GSA tracks owned building performance using multiple federal and third-party tools, including the [Guiding Principles](#), [FITWEL®](#), [Smart Location Calculator](#), [SITES](#), and [LEED](#). As of FY 2019, GSA owned 245 Guiding Principles compliant buildings, 164 LEED certified buildings, and 106 FITWEL certified buildings. Of GSA's owned buildings, 25.5% (or 37.5% of gross square feet [GSF]) are compliant with the Guiding Principles for Sustainable Federal Buildings. GSA has built a robust Guiding Principles program to identify, review, and track buildings for initial Guiding Principles compliance and to requalify these buildings' continued high-performance and Guiding Principles compliance.
- **Sustainable Leases:** GSA's FY 2019 leased inventory totaled 188 million rentable square feet (RSF), consisting of 8,177 leases. Leases sized 10,000 RSF or larger comprised 89% of the total inventory (167 million RSF), yet represented only 46% of the total number of leases (3,762). GSA's standard lease template incorporates three dozen clauses for sustainable products and practices, in alignment with the Guiding Principles. GSA continues to monitor lease compliance with the Guiding Principles, counting leases as compliant when they are located in a third-party green certified building or include all mandatory GSA green lease clauses. Leased inventory Guiding Principles compliance totaled 31.1% in FY 2019, with 1,080 GP-compliant leased buildings out of 3,472 buildings of 10,000 RSF and larger. Within GSA's inventory of leases 10,000 RSF and larger, 14.6% were third-party LEED or Green Globes rated, and 13.8% were Energy Star labeled.
- **Simplifying Leasing Compliance with Guiding Principles:** In FY 2019, GSA increased its leased facility size threshold for monitoring Guiding Principles compliance from 5,000 to 10,000 RSF, to align with the EO 13834 implementing guidance threshold for owned buildings. GSA also set a full-building occupancy threshold for some green lease requirements and replaced certain detailed green product language in leases with broader and more flexible references to the Green Procurement Compilation.
- **Resilience and Risk Management:** According to the [Government Accountability Office's "high risk"](#) report, "Disaster costs are projected to increase as extreme weather events become more frequent and intense," and these risks to federally owned infrastructure "represent a significant federal fiscal exposure." GSA is therefore responsible for designing and protecting federal assets to withstand the observed and expected changes in environmental conditions for their expected service life of 50 to 100+ years. To manage these risks, GSA implements tailored risk management and collaboration methods; shares lessons learned inside and outside of GSA; builds capacity in our real estate supply chain risk management programs; and refines our activities based on the knowledge gained from these experiences.

U.S. General Services Administration 2020 Sustainability Report and Implementation Plan

- **Advanced Technologies:** GSA invests in next generation building technologies based on their actual performance and recommends such technologies for broad deployment only after they have demonstrated good financial payback and cybersecurity, as verified after installation in real-world operation. Technologies that GSA has recently recommended for broader deployment in federal facilities include variable-speed maglev and screw chillers, alternative water treatment technologies for cooling towers, low-e / high R window retrofits, and LED lighting upgrades. Over the past decade, GSA has deployed these and other advanced technologies in over 600 GSA-owned federal buildings, resulting in annual estimated savings of over \$186 million.
- **Sustainable Locations:** To inform its sustainable siting decisions, in accordance with the Guiding Principles, GSA developed a [Smart Location Calculator](#), which displays a Smart Location Index (SLI) for any U.S. address. SLI is a 0-100 score combining transit usage, transit walkability, and vehicle miles traveled for typical commutes to a given location. SLI represents the relative pollution and traffic impacts of commuting to different locations within a region. GSA is working to update this tool based on the latest available data. To promote sustainable site development, GSA also requires Silver certification through the [Sustainable SITES Initiative](#)[®] for new construction and major renovation of GSA-managed buildings, where feasible and not in conflict with other siting requirements. SITES-certified landscapes help reduce water demand, filter and reduce stormwater runoff, provide wildlife habitat, reduce energy consumption, improve air quality, improve human health, and increase outdoor recreation opportunities.
- **Sharing Best Practices:** GSA's [Sustainable Facilities Tool](#) (SFTool) consolidates high-performance building and product information to help building professionals inside and outside of GSA reduce operating costs and conserve resources through strategies such as Cost Effective Upgrades, Solid Waste Management, and Facility Management Best Practices. SFTool helps federal users understand these topics in the context of broader federal requirements by linking them directly to the relevant sections of Executive Order 13834 and the Guiding Principles.

Priority Strategies & Planned Actions

GSA plans to increase its percentage of Guiding Principles compliant buildings by 0.3% in FY 2020 and another 0.7% in FY 2021, by bringing additional GSA-owned existing buildings into GP compliance. GSA's program manages and tracks Guiding Principles buildings at the national level while supporting regionally led planning for initial qualification and "ongoing requirements" reviews for existing buildings. Regional plans for existing buildings are based on reviews of key performance metrics, no-cost and low-cost areas for performance improvement, and coordination with efforts to meet statutory requirements (e.g., EISA 432 energy and water evaluations) and performance goals (e.g., E4 BAS Retuning, as described above under Facility Energy Efficiency).

In FY 2020 and FY 2021, GSA will also improve and streamline the following high-performance buildings strategies:

- **Sustainable Materials:** GSA recently revised its P100 Facilities Standards and began to apply them to smaller construction projects. In FY 2020 and FY 2021, GSA will continue working to fully integrate the use of sustainable building materials into these smaller projects.
- **Design, Construction, and Operational Excellence:** Complementing GSA's Design Excellence and Construction Excellence programs, the Operational Excellence program will expand on pilot initiatives that started in 2014 and increase operation-focused integrated reviews. Operational Excellence focuses on long-term operations, life cycle cost effective decision making and identifying savings opportunities in energy, water, and operation costs. It helps better integrate sustainability into the design, construction,

U.S. General Services Administration
2020 Sustainability Report and Implementation Plan

and turnover of projects, while reducing total costs to taxpayers. In FY 2021, GSA is planning to expand these benefits by further automating life cycle cost calculations in our national cost estimating system.

6. WASTE MANAGEMENT AND DIVERSION

FY 2019 Non-hazardous Waste Management and Diversion:

39,265 metric tons of non-hazardous solid waste generated*
64% diverted and 36% 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
1% 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*

GSA tracks diversion of municipal solid waste from GSA-owned buildings, the majority of which are occupied by tenant agencies. GSA does not track waste hauling or diversion from leased buildings, where waste hauling is handled by the lessor. Reducing and diverting solid waste (through reuse, recycling, and composting) conserves landfill space, avoids pollution, and reduces the costs of waste hauling and disposal. GSA implements solid waste diversion and recycling programs through contract specifications for the cleaning and maintenance of owned buildings and maintains a national tracking system for solid waste diversion. GSA has consistently held an annual 50% waste diversion target and will continue to implement strategies to surpass this target.

Implementation Status

In FY 2019, GSA diverted 64% of the non-hazardous municipal solid waste generated in our owned buildings. This percentage comprises 55% recycled waste (including recyclables sorted at material recovery facilities), 8% organic waste (landscape, paper towels, and food-related) composted, and 1% waste-to-energy. GSA's target is to divert a minimum of 50% of non-hazardous municipal solid waste each year. Through sales of recycled materials in FY 2018, GSA collected and distributed over \$170,000 to federal tenant agencies and GSA's Child Care Tuition Assistance Program.

In addition to municipal solid waste, GSA real estate operations generate a significant volume of construction and demolition waste. GSA tracks diversion of this waste stream for all construction or modernization projects \$25,000 and larger. In FY 2019, GSA diverted 86% of construction and demolition debris.

GSA's GSAXcess[®] program facilitates reuse of excess and surplus federal personal property like furniture, motor vehicles, computers, and other equipment by transferring it to other federal agencies or State Agencies for Surplus Property for subsequent donation to eligible non-federal entities. In FY 2019 and FY 2020 through mid-April, GSAXcess enabled the reuse of over \$1.8 billion worth of such items from dozens of agencies, keeping these items out of the solid waste stream while stretching federal and State taxpayer dollars.

Priority Strategies & Planned Actions

In FY 2020 and FY 2021, GSA will continue to implement the above strategies to ensure that the amount of non-hazardous solid waste sent to treatment and disposal facilities is less than 50% of the total waste generated. Due to the COVID-19 pandemic, GSA anticipates an increase in the percentage of non-recyclable waste in FY 2020 (for example, from changes in cleaning requirements and personal protection) and a decline in the percentage of waste diverted.

U.S. General Services Administration
2020 Sustainability Report and Implementation Plan

Implementation Summary: Fleet Management

1. TRANSPORTATION / FLEET MANAGEMENT

| | |
|---|--|
| FY 2019 Petroleum Reduction Progress (Gal): 59% reduction in petroleum fuel since 2005 1.1% reduction in petroleum fuel since FY18 | FY 2019 Alternative Fuel Use Progress (Gal): 79% increase in alternative fuel since 2005 46% reduction in alternative fuel since FY18 |
| FY 2020-FY 2021 Plan: 1.0% reduction in FY20 from FY19 1.0% reduction in FY21 from FY20 | FY 2020-FY 2021 Plan: 1.0% increase in FY20 from FY19 1.0% increase in FY21 from FY20 |

Implementation Status

As required by statute, the metrics and targets above refer to GSA’s internal-use vehicle fleet, which is a small sub-component of the fleet of over 221,000 vehicles which GSA manages for governmentwide use. GSA has significantly reduced its internal fleet use in recent years via increased use of virtual meetings and telework, short-term rentals, and other cost-saving strategies. GSA reduced its internal vehicle use from 1,217 vehicles in FY 2012 to 952 in FY 2019, while replacing eligible vehicles with zero-emission, low-GHG, and alternative fuel vehicles. As of FY 2019, GSA’s internal-use vehicles included 26 battery electric vehicles (2.7%), 288 hybrid electric vehicles (30.3%), 191 low-GHG gasoline vehicles (20.1%), and 338 E-85 vehicles (35.5%). These actions have shown results, allowing GSA to reduce petroleum fuel use by 59% since FY 2005. As of FY 2019, GSA’s alternative fuel use as a percentage of total covered fleet fuel use was 1.24%, and our percentage of covered AFV acquisitions (including bonus credits for biodiesel use) was 76.7%. GSA’s alternative fuel use declined YoY in FY18, consistent with overall declines in both alternative and traditional fuel use by federal agencies. GSA’s alternative fuel metrics are subject to greater YoY percentage fluctuations than other agencies due to the small size of GSA’s internal fleet. GSA Internal Fleet will use additional tools and resources to monitor and encourage AF consumption moving forward.

Sustainability improvements to GSA’s managed fleet of over 221,000 vehicles form the foundation of our internal fleet management strategy, since vehicles used by GSA are drawn from the managed fleet. These broader strategies include:

- **Efficient and alternative fuel vehicles:** GSA maintains an open contract solicitation in order to acquire the latest hybrid, electric, alternative fuel vehicles, and other emerging technologies as soon as they become available. From FY 2018 to FY 2019, GSA’s leased fleet of battery electric and plug-in hybrid vehicles grew by 18%, to 1,417 vehicles, and its fleet of gasoline hybrid vehicles grew by 2%, to 22,978 (or 10.6% of the overall GSA CONUS leased fleet). On average, the published MPG of new light-duty vehicles added to the leased fleet in FY 2019 was 15.8% higher than the vehicles they replaced—up from 11.5% in 2018.
- **Electric Vehicles and Charging Stations:** GSA developed a cost-effective, streamlined solution to acquire charging infrastructure. In FY 2019 federal agencies used it to acquire 53 charging stations, worth over \$265,000, which were installed in both GSA-managed buildings and those managed by other agencies.

Priority Strategies & Planned Actions

In FY 2020 and FY 2021, GSA will pursue additional fuel savings by continuing to reduce vehicle usage and increasing our fleet’s percentage of low-GHG and zero emission vehicles. We will also continue our focus on cost-effective procurement of low-emission vehicles and fleet support systems. An additional priority in FY 2020 and FY 2021 is telematics. Starting with new GSA Fleet leasing acquisitions in FY 2020, a select

U.S. General Services Administration
2020 Sustainability Report and Implementation Plan

percentage of replacement vehicles will have telematics devices installed. Also, as feasible based on COVID-19 conditions, retrofits of some existing, in-service vehicles will occur to further increase the saturation level of telematics across GSA's leased fleet. This large-scale deployment of telematics will assist GSA and leasing customers in meeting sustainability mandates and improve federal fleet management practices. Examples of improvements include monitoring of idling durations, true vehicle mileage, accurate fuel economy, and enhanced maintenance reports. This data will give GSA the ability to examine previously unseen inefficiencies and make more informed decisions about its fleet and operations.

Implementation Summary: Cross-Cutting Operations

1. SUSTAINABLE ACQUISITION / PROCUREMENT

FY 2019 Sustainable Acquisition Progress:

15.4% of contract actions and 16.1% of obligations (in dollars), for a total of \$2.51B in contract actions with statutory environmental requirements

FY 2020-FY 2021 Plan:

15.5% of contract actions and 16.2% of obligations (in dollars) FY 2020

15.6% of contract actions and 16.3% of obligations (in dollars) FY 2021

GSA requires all mandatory environmental clauses within every applicable product and service acquisition, evaluates its achievement annually, and provides regular training for its acquisition workforce.

Implementation Status

GSA's internal acquisition spend volume, reflected in the progress statistics above, represents only a fraction of the approximately \$60 billion in annual acquisition spend GSA manages governmentwide. GSA's sustainability strategies for governmentwide acquisitions form the foundation of our internal performance, because much of GSA's own acquisition leverages its governmentwide contracts. These strategies include:

- **Product and Services Contracts:** GSA screens all of its governmentwide contracts for compliance with federal sustainable acquisition requirements. Many larger contracts are also reviewed for potential additional value-added sustainability features, such as requirements for contractor energy and GHG reporting and environmental risk management.
- **The Green Procurement Compilation (GPC),** a comprehensive resource for GSA and other federal purchasers, organizes information from federal environmental programs in one place, allowing easy identification of statutory and recommended federal green purchasing requirements for a given product or service.
- **Supply Chain Engagement:** GSA encourages major federal suppliers to adopt cost-saving sustainability and risk management practices, and tracks their progress via the [Federal Supplier Energy & Risk Management Tool](#). This tool displays contractor practices in the context of federal contract spending, allowing GSA to quickly assess their progress and tailor strategies for encouraging further cost and risk reductions.
- **Sustainable Acquisition Training:** GSA offers several sustainable acquisition training courses for the federal acquisition workforce. Two courses, entitled "GSA Schedules and Sustainable Acquisition" and "How to Integrate Green into Acquisitions," are available online as part of the Defense Acquisition University. GSA employees completed these two courses a combined 643 times in FY 2019, resulting in issuance of 1,222 continuous learning points (CLPs).

U.S. General Services Administration
2020 Sustainability Report and Implementation Plan

GSA did not establish a biobased contracting target in FY 2019.

Priority Strategies & Planned Actions

In FY 2020 and FY 2021, GSA is working to analyze our areas of strength and weakness in sustainable procurement in order to better isolate areas for improvement and develop internal milestones, targets, and strategies. To improve data accuracy, in FY 2018 and 2019, GSA partnered with EPA to implement enhanced processes to increase the accuracy of products designated as ENERGY STAR and WaterSense certified on GSA Advantage!® to above 95%. GSA and EPA have maintained the 95% accuracy rates for both programs into FY 2020. GSA is continuing to collaborate with EPA to develop strategies to identify products under the EPA Safer Choice program on GSA Advantage!. In FY 2020 and FY 2021, GSA will also continue to implement and refine the strategies discussed under Implementation Status above. For FY 2020, GSA's biobased contracting targets are 2,500 contracts and \$175 million.

2. ELECTRONICS STEWARDSHIP

FY 2019 Electronics Stewardship Progress:

99.7% of newly purchased or leased equipment met energy efficiency requirements

100% of electronic equipment was disposed of using environmentally sound methods*

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

GSA's Electronics stewardship metrics above refer only to GSA's internal purchases and use of equipment. Although GSA also makes sustainable electronics, IT services, and the electronic stewardship guidance available to other agencies, they are responsible for tracking and reporting their own electronic stewardship metrics. In addition to purchasing energy efficient equipment and using environmentally sound disposal methods, GSA's priorities for electronics stewardship include data center consolidation, participation in the Computers for Learning program, and implementation of Data Center Information Management (DCIM) software to improve data center operations and efficiency.

Implementation Status

Since 2017, GSA has been identified as a leader in the federal government for its data center consolidation and optimization initiative (DCOI) as indicated by its "A" score on the semi-annual Congressional Federal Information Technology Acquisition Reform Act (FITARA) Scorecard. Since 2019, GSA was one of two of the first agencies to receive an "A+" score and "Best Overall Agency" for its FITARA program initiatives.

GSA has been an active participant in the [Computers For Learning \(CFL\) program](#) since its inception in 1996, with the donation of its internal electronic equipment to eligible institutions. In August 2019, GSA IT Region 6 completed the transfers of cleared, usable laptops to three schools in Kansas and Missouri as part of GSA IT's commitment to the CFL program.

In FY 2019, GSA began implementing a Data Center Information Management (DCIM) software solution for its Regional Office Building (ROB) locations. DCIM is a new class of software that gives facility operators the ability to run efficient data center operations and improve data center infrastructure planning and design. DCIM software provides data center operations managers with the ability to identify, locate, visualize, and manage all physical data center assets, quickly provision new equipment, and plan capacity for future growth. DCIM tools can also help control energy costs, improve data center design, and increase operational efficiency.

GSA uses guidance and technical specifications for its energy and environmental management in accordance with standards developed by [ASHRAE Technical Committee 9.9, Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment](#).

U.S. General Services Administration 2020 Sustainability Report and Implementation Plan

Since 2017, GSA has had at least one government IT specialist attain the Data Center Energy Practitioner (DCEP) credential, including all three designations as [DCEP Generalist](#), [HVAC Specialist](#), and [IT Specialist](#), developed by DOE. In addition, GSA IT maintains staff with the Registered Communications Distribution Designer® ([RCDD](#)) credential. In FY 2019, GSA implemented a DCIM software solution for its ROB locations. The DCIM solution receives feeds from these inter-related projects:

- In FY 2019 and FY 2020, GSA implemented smart Power Distribution Units (PDUs) to measure the IT energy consumption at seven of its 12 ROB locations (70%).
- GSA installed advanced environmental and power metering at its Regional Infrastructure Closets (RICs) at its ROB locations. RICs are the largest or primary LAN closets at each of the 12 ROB locations. Subsequent evaluation of smaller, floor-level LAN closets is underway. To date, GSA has implemented this metering at five of its ten federally owned ROB locations. Two ROB locations are leased facilities, with less control over and ability to influence energy consumption and benefit from any resulting cost savings.

In FY 2019 and FY 2020, GSA completed signoff for its new design of a self-contained, enclosed rack system at GSA's Region 5 location (Chicago, Illinois). This enclosed system will provide integrated cooling, security, uninterruptible power, and fire detection/suppression in a scalable modular, sealed enclosure and include a comprehensive monitoring system which will feed into GSA's DCIM and physical identity management (keycard access) systems.

In June 2019, GSA captured its third consecutive Electronic Product Environmental Assessment Tool (EPEAT) Purchaser Award and its first 5-star Award representing excellence in purchasing in each of the 5 EPEAT categories: computers/monitors, televisions, mobile devices, servers, and imaging equipment.

Priority Strategies & Planned Actions

GSA's internal policy is to purchase only electronic products that are [Federal Energy Management Program](#) designated, Energy Star qualified, and/or meet the [Electronic Product Environmental Assessment Tool](#) Silver or Gold standard. GSA plans to maintain this strategy, along with the actions under Implementation Status above, in FY 2020 and FY 2021.

GSA's forward-looking strategies, initiatives, and actions for continued electronics stewardship progress and compliance include the following, subject to possible delays due to COVID-19 pandemic restrictions and market conditions:

- In FY 2020, the Green Electronics Council, which is responsible for EPEAT standards, projects the release of a new EPEAT standard for Network Infrastructure. GSA IT will evaluate our acquisition strategies for including this standard in its acquisitions of Network Infrastructure.
- In FY 2021, GSA anticipates participation in [GSA's Gold Star Award for Excellence in Implementing Federal Computers for Learning Program](#). The GSA Gold Star Award is presented annually to recognize a federal agency's innovative implementation of Executive Order 12999, *Educational Technology: Ensuring Opportunity for All Children in the Next Century*.
- In FY 2021, GSA plans to complete the design and construction of the enclosed rack enclosure at R5 ROB Chicago, Illinois, as detailed above.
- In FY 2021, GSA anticipates installation of DCIM implementation of environmental and energy metering systems and advanced PDUs at its remaining ROB locations.

U.S. General Services Administration
2020 Sustainability Report and Implementation Plan

- In FY 2020 and 2021, GSA anticipates it will continue its participation in the annual EPEAT Purchaser Awards program and anticipates marked improvements in EPEAT purchase percentages for imaging equipment through internal collaboration and increased training with agency acquisition officials and purchasers. As part of the FAC-COR Level I/II/III and FAC-P/PM Level I/II certification programs, GSA has an agency-specific requirement to complete the online course FAC 038, *How to Integrate Green into Acquisition*, provided by the Defense Acquisition University (DAU), which incorporates EPEAT standards for purchasing.

3. GREENHOUSE GAS EMISSIONS

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

41.1% reduction from FY 2008

3.3% reduction from FY 2018

GSA's largest sources of Scope 1 and 2 GHG emissions are workspaces GSA manages on behalf of other agencies, with internal fleet vehicle use a negligible factor (less than 0.2% of total Scope 1 and 2 emissions). Our largest sources of Scope 3 emissions are contractor emissions related to purchased products and services, including workspaces leased from the private sector. GSA has not comprehensively reported Scope 3 emissions since FY 2017 but continues to periodically estimate supply chain and leased space emissions. GSA's strategies for facilities energy efficiency, discussed above, are our largest source of reductions in Scope 1 and 2 emissions, and our strategies for sustainable acquisition and procurement (including leases), also discussed above, are our largest source of potential reductions in Scope 3 emissions.

Implementation Status

Reducing GHG emissions helps reduce physical infrastructure risks while increasing GSA's operational efficiency and lowering energy and water costs. Perhaps more importantly, it is an integrative measure of performance for GSA as an organization. In FY 2019 and FY 2020, GSA:

- Worked to consolidate and improve the efficiency of our buildings and vehicle fleet, as discussed above.
- Avoided over 119,000 metric tons CO₂ equivalent of GHG emissions in FY 2019 by purchasing renewable electricity.
- Continued working with lessors, including requiring energy reporting, to reduce Scope 3 emissions from leased office space.
- Continued working via CDP (formerly Carbon Disclosure Project) to encourage cost-effective energy efficiency, risk reduction, and GHG mitigation investments by suppliers and contractors.

Priority Strategies & Planned Actions

In FY 2020 and FY 2021, GSA will continue to cost-effectively implement the energy efficiency and renewable energy related actions discussed above. Additionally, GSA has developed internal guidance to better guide design teams through requirements to achieve the most life cycle cost effective energy use intensity for the project. GSA expects these actions to continue to reduce GHG emissions from GSA's internal operations, those of other federal agencies who work with GSA, and our shared suppliers and contractors.