

U.S. Department of Housing & Urban Development

2019 Sustainability Report and Implementation Plan



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U.S. Department of Housing & Urban Development (HUD)
2019 Sustainability Report and Implementation Plan

Table of Contents

Executive Summary3

Implementation Summary: Facility Management3

 1. FACILITY ENERGY EFFICIENCY4

 2. EFFICIENCY MEASURES, INVESTMENT, AND PERFORMANCE CONTRACTING5

 3. RENEWABLE ENERGY5

 4. WATER EFFICIENCY6

 5. HIGH PERFORMANCE SUSTAINABLE BUILDINGS7

 6. WASTE MANAGEMENT AND DIVERSION7

Implementation Summary: Fleet Management8

 1. TRANSPORTATION / FLEET MANAGEMENT8

Implementation Summary: Cross-Cutting Operations9

 1. SUSTAINABLE ACQUISITION / PROCUREMENT9

 2. ELECTRONICS STEWARDSHIP9

 3. GREENHOUSE GAS EMISSIONS.....10

U.S. Department of Housing & Urban Development (HUD)
2019 Sustainability Report and Implementation Plan

Executive Summary

The Department of Housing & Urban Development (HUD) recognizes many links between HUD's operations and the goals of Executive Order (EO) 13834: Efficient Federal Operations. Although HUD has a relatively small directly managed federal footprint, the Department envisions great opportunity to integrate energy efficiency and sustainability with the agency operations.

The agency's footprint is comprised of 120 locations, which house approximately 7498 federal employees. While HUD has offices and staff across the Nation, its Headquarters, the Robert C. Weaver Federal building, is the only facility that it operates. The remainder of HUD's offices are fully serviced leases that are operated and maintained by the General Services Administration (GSA).

In recent years HUD has made significant progress in improving the condition and operation of HUD Headquarters which is a 51-year-old facility and is listed on the National Register of Historic Places. Examples of such improvements include completing a large multi-year Energy Savings Performance Contract (ESPC), and multiple projects in coordination with the General Services Administration (GSA) such as the roof replacement project largely funded by the American Recovery and Reinvestment Act (ARRA) and several space renovations that included open space layout and energy efficient design practices. HUD also has a Memorandum of Understanding with the GSA to lease sustainable office space for HUD staff working in other locations across the Nation. These are just a few examples of HUD's efforts to meet energy and emissions reductions goals and transform HUD to a more environmentally and sustainability conscious agency.

HUD's Office of Administration plays a key leadership role in both planning and implementing energy efficiency improvements and various sustainability practices. HUD's Chief Administrative Officer has been designated as the Chief Sustainability Officer (CSO). HUD's CSO provides leadership for the accomplishment of departmental efficiency and sustainability goals. In support of the CSO, the Office of Facilities Management Services (OFMS) provides daily facility oversight, fleet management, sustainability planning, energy management, project planning, data tracking and reporting. The OFMS has multiple positions with performance elements that are linked to sustainability and efficiency related goals to help ensure successful implementation and performance oversight.

IMPLEMENTATION AND PROGRESS

1. Facility Management:
 - a. 27.6% energy reduction (Btu/GSF) compared to FY2003 through the successes of the Energy Savings Performance Contract (described above)
 - b. 17.6% renewable electricity use during FY2018
 - c. Identified potential energy conservation measures for future performance contracting initiatives which are planned to be completed as a modification to the existing ESPC.
2. Fleet Management:
 - a. 65.6% reduction in petroleum (2005 baseline) through the use of fleet right sizing and requiring the procurement of flex fuel and hybrid vehicles
3. Cross-Cutting:
 - a. Sustainable Acquisition: awarded sustainability related contract actions with a value of \$14.8 million

**U.S. Department of Housing & Urban Development (HUD)
2019 Sustainability Report and Implementation Plan**

- b. Electronics Stewardship- HUD is fully compliant with ecolabel, power management, and disposal requirements through the use of its fully leased electronics program
 - 100% equipment acquisition meeting EPEAT requirements
 - 100% equipment with power management
 - 100% compliance with disposal guidelines
- c. 60.8% reduction in Scope 1 & 2 emissions (2008 baseline)

STRATEGIC PRIORITIES

- 1) Repairs and improvements to aging infrastructure and equipment
 - a. Replace chilled water valves
 - b. Repair cooling towers and replace heat transfer media
- 2) Performance contracting for energy efficiency improvements
 - a. Perform detailed energy survey
 - b. Develop plan to award additional energy and water conservation measures
- 3) Contract for additional renewable energy to ensure LEED-Silver certification for HUD HQ is maintained
- 4) Increase alternative fuel use for eligible vehicles

Note:

- a. Unexpected major repairs to the Weaver Building chilled water and boiler plants prevented HUD from completing the chilled water valve and cooling tower projects as originally planned.
- b. Increasing alternative fuel use remains a priority as HUD has had difficulty with this goal area.

Implementation Summary: Facility Management

1. FACILITY ENERGY EFFICIENCY

FY18 Energy Intensity Progress (Btu/GSF):

27.6% reduction from FY03

3.5% increase from FY17

FY19-FY20 Plan:

<1% reduction in FY19 from FY18

<1% reduction in FY20 from FY19

Implementation Status:

HUD has a unique portfolio as the agency has only one “goal subject” facility for energy performance tracking purposes. HUD’s energy performance is solely reliant on the performance of the HUD HQ building and is subject to volatility of regional weather patterns. All other buildings are GSA leases that HUD does not control. The agency recently completed a large ESPC making multiple major improvements to the leased HUD HQ facility. HUD’s strategy is to strive for O&M best practices and perform energy upgrades when feasible and cost-effective opportunities arise.

While HUD is pursuing the use of additional Energy Conservation Measures (ECMs) through the use of ESPC, at this time the agency only plans to achieve <1% annual energy reduction going forward. Once HUD has performed a detailed energy study and identified feasible and cost effective ECMs, the planned reductions can be more accurately estimated.

U.S. Department of Housing & Urban Development (HUD) 2019 Sustainability Report and Implementation Plan

Unexpected major repairs to the Weaver Building chilled water and boiler plants prevented HUD from completing the chilled water valve and cooling tower projects as originally planned. HUD is planning to reprioritize these projects for the FY 2020 heating season. HUD's current targets for energy reduction are less than 1% due to inherent uncertainty that exists when considering the following:

- 1) The preliminary assessment and detailed energy survey have not been completed.
- 2) HUD is unsure if the modification to the existing contract will be awarded.
- 3) HUD leases the subject facility which means that all energy improvements will need to be approved by the lessor.

Priority Strategies & Planned Actions

- **FY 2019 and FY 2020:** perform annual reliability centered and predictive maintenance practices as part of HUD's new Facilities Management contract to identify problematic equipment or potential energy savings measures.
- **FY 2020:** replace chilled water valves for all main air handling units so that HUD HQ may be operated more efficiently.
- **FY 2020:** replace media in cooling tower to help save both pump energy and water.

2. EFFICIENCY MEASURES, INVESTMENT, AND PERFORMANCE CONTRACTING

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

0 in FY18

FY19-FY20 Plan:

0 in FY19

1 in FY20

Implementation Status

HUD recently performed a major ESPC on its only building, HUD HQ. This project resulted in \$33 million of energy efficiency improvements. All of HUD's other buildings are leased through GSA and are not candidates for HUD initiated ESPC work. HUD intends to perform additional energy savings projects as they are identified and funded.

RENEWABLE ENERGY

FY18 Renewable Electricity Use:

17.6% of total electricity in FY18

FY19-FY20 Plan:

37.5% of total electricity in FY19

37.5% of total electricity in FY20

Implementation Status

HUD participates in the GSA area wide utilities agreement which secures electricity pricing for multiple buildings in the region and includes REC purchases for the HUD Headquarters.

HUD does not purchase energy for any of its other buildings which are leased and managed through GSA.

HUD Headquarters achieved LEED-Silver certification in 2016. HUD intends to attain the 37.5% renewable energy goal required to maintain LEED-Silver by procuring Renewable Energy Certificates (RECs). HUD

U.S. Department of Housing & Urban Development (HUD)
2019 Sustainability Report and Implementation Plan

previously evaluated rooftop solar and at that time no solutions were available within the structural limitations of the HUD Headquarters roof.

Priority Strategies & Planned Actions

- **FY 2019/20:** HUD will continue to participate in the GSA area wide utilities agreement.
- **FY2019/20:** Complete renewable energy procurement to maintain the level of renewable energy use that HUD achieved when it acquired LEED Silver certification.
- **FY2019/20:** Revisit the potential for adding solar to the HUD HQ roof top as part of the ESPC feasibility study to determine if solar technology exists within the structural limitations of the building.

3. WATER EFFICIENCY

FY18 Water Intensity Progress (Gal/GSF):

16.3% reduction from FY07

5% reduction from FY17

FY19-FY20 Plan:

<1% reduction in FY19 from FY18

<1% reduction in FY20 from FY 19

Implementation Status

HUD has performed extensive water conservation measures for its only subject building as part of the ESPC program. Through the ESPC, HUD was able to complete water savings retrofits building wide. This included low flow auto-faucets, flush kits, toilet and urinal retrofits.

HUD has performed multiple process water drain downs for repairs to aging mechanical systems and fire suppression systems leading to increased water use for the FY2018 performance period. HUD has also performed multiple drain downs for portions of its potable water systems to complete a large piping replacement project. The impacts to HUD's water use were minimized due to the previous efforts under the ESPC to completely upgrade all water consuming fixtures to the low flow technologies available at that time.

Process and potable water drain downs will continue to present challenges during FY 2019/20 reporting periods as HUD expects to begin working on chilled water valve and cooling tower replacement (pending project funding).

Priority Strategies & Planned Actions

- **FY 2019:** perform feasibility analysis for additional energy and water conservation measures using the existing ESPC contract.
- **FY 2019/20:** replace media in cooling tower to help save both water and pump energy.

U.S. Department of Housing & Urban Development (HUD)
2019 Sustainability Report and Implementation Plan

4. HIGH PERFORMANCE SUSTAINABLE BUILDINGS

Implementation Status

As all of HUD's facilities are owned by GSA, they are included in GSA's reporting on the sustainable building goal. HUD has requested that GSA sustainability guiding principles be incorporated into all leases entered on behalf of HUD.

5. WASTE MANAGEMENT AND DIVERSION

FY18 Non-hazardous Waste Management and Diversion:

372.92 metric tons of non-hazardous solid waste generated*

78.8% sent to treatment and disposal facilities

*not including construction and demolition waste

Implementation Status

HUD maximizes recycling and waste diversion using commingled material recycling containers available throughout the HUD HQ building.

HUD participates in the GSA National Capital Region Recycling Program. In addition, HUD either sells or recycles excess furniture at the end of its use.

HUD produces minimal construction and demolition (C&D) waste as the agency's portfolio is entirely leased. Accordingly, most large renovations and capital improvements are handled through GSA. HUD will benchmark its C&D waste, as planned below, and identify opportunities to reduce or divert C&D waste.

Priority Strategies & Planned Actions

- **FY2019:** Review contracted recycle collection practices for opportunities to increase waste diversion.
- **FY2019:** Perform compliance review of refrigerant management practices.
- **FY2020:** Review space management and alteration practices for opportunities to divert construction and demolition waste.
- **FY2020:** Decrease waste sent to treatment and disposal facilities by 10%.

U.S. Department of Housing & Urban Development (HUD)
2019 Sustainability Report and Implementation Plan

Implementation Summary: Fleet Management

1. TRANSPORTATION / FLEET MANAGEMENT

FY18 Petroleum Reduction Progress (Gal):

65.6% in petroleum fuel since 2005

11.3% in petroleum fuel since FY17

FY19-FY20 Plan:

TBD in FY19 from FY18

TBD in FY20 from FY19

Implementation Status

During the FY 2018 performance period, HUD successfully reduced petroleum use and increased alternative fuel use compared to 2005 baseline. HUD has achieved its petroleum use reduction through fleet right sizing, requiring programs to demonstrate need for fleet vehicles prior to procurement, and requirements for procurement of alternative fuel and hybrid vehicles since 2005.

HUD's fleet is comprised of 407 vehicles which includes 176 petroleum dedicated vehicles, 112 low greenhouse gas emitting vehicles (LGHG), and 119 hybrid/multi-fuel alternative fuel vehicles.

HUD's fleet management efforts are focused on optimizing fleet composition, by reducing vehicle sizes, eliminating underutilized vehicles, and acquiring and locating vehicles to match local fuel infrastructure.

Priority Strategies & Planned Actions

- **FY2019:** Complete survey of HUD HQ occupants to determine demand for Electric Vehicle Charging.
- **FY 2019/20:** Increase utilization of E85 in flex-fuel vehicles by 2%.
- **FY2019/20:** Perform location analysis dual-fuel vehicles to determine the availability of alternative fuel at each location.
- **FY2020:** Perform Vehicle Allocation Methodology (VAM) on eligible HUD Fleet to determine if the fleet may be reduced in size.

U.S. Department of Housing & Urban Development (HUD)
2019 Sustainability Report and Implementation Plan

Implementation Summary: Cross-Cutting Operations

1. SUSTAINABLE ACQUISITION / PROCUREMENT

FY18 Sustainable Acquisition Progress:

4.75% of contract actions and 2.15% of obligations (in dollars), for a total of \$14.8 million in contract actions with statutory environmental requirements

Implementation Status

HUD ensures that 95% of applicable new eligible contract actions, including task or delivery orders under new contracts and existing contracts, meet sustainable acquisition requirements, and require the supply or use of products and services that are energy efficient (Energy Star or FEMP-designated), water efficient, biobased, environmentally preferable, non-ozone depleting, contain recycled content, or are non-toxic or less toxic alternatives.

Priority Strategies & Planned Actions

- **FY2019-2020:** HUD will review sustainability acquisition practices when conducting quarterly compliance reviews.
- **FY2019-2020:** OCPO's Risk Management and Compliance Unit will perform annual reviews to ensure appropriate clauses are contained in contracts requiring bio-based and sustainable products.

2. ELECTRONICS STEWARDSHIP

FY18 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*

Implementation Status

HUD's current policy and practices require that all new purchases or leases require EPEAT-registry standards. Currently, HUD's eligible electronics are entirely leased and meet EPEAT standards.

It is HUD's policy to dispose of all excess and surplus electronics in an environmentally sound manner. HUD will ensure existing disposition policies are followed. The HUD Property Management Division tracks and ensures that all HUD owned electronics are disposed of in accordance with environmentally sound practices. HUD utilizes the Unicom Electronics Recycling program.

Priority Strategies & Planned Actions

FY2019/20: Ensure that all HUD monitors, PCs and laptops are power management-enabled.

FY2019/20: Review property disposition records to verify appropriate disposition practices.

U.S. Department of Housing & Urban Development (HUD)
2019 Sustainability Report and Implementation Plan

3. GREENHOUSE GAS EMISSIONS

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

60.8% reduction from FY 2008

4.5% reduction from FY 2017

Implementation Status

HUD's successful implementation of this goal is largely attributable to the recently completed ESPC which significantly reduced its energy use intensity. In addition, the department also employs operations and management (O&M) best practices for emission generating and energy consuming equipment. HUD plans to continue to employ and monitor the use of these practices and to continue with the identification and implementation of energy conservation measures when feasible and cost-effective.

Priority Strategies & Planned Actions

- **FY2019/20:** Ensure best management practices are implemented by O&M contractor and Energy Services Contractor to maximize efficiency.
- **FY2019:** (Scope 3) Perform survey of HUD HQ employees to determine demand for electric vehicle charging stations for personally owned vehicles.
- **FY2020:** Install electric vehicle charging stations at HUD HQ.
- **FY2020:** Perform system upgrade HUD HQ Energy Management Control System (EMCS).