U.S. Department of Housing & Urban Development

2020 Sustainability Report and Implementation Plan

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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 7500 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 52-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), major piping replacement projects, 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 increase efficiency of operations 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. 30.2% energy reduction (Btu/GSF) compared to FY2003 through the successes of the ESPC (described above)
    b. 17.6% renewable electricity use during FY2019
    c. Performed preliminary assessment of proposed Energy Conservation Measures (ECMs) and developed proposed modification to the existing ESPC
2. Fleet Management:
    a. 43.4% 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 $13.6 million
    b. Electronics Stewardship- HUD is fully compliant with ecolabel, power management, and disposal requirements through the use of its fully leased electronics program
        - 100% acquisition of EPEAT registered equipment which meets Federal requirements for energy efficiency
        - 100% equipment with power management

- 100% compliance with disposal guidelines

c. 60.0% 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

Implementation Summary: Facility Management

1. FACILITY ENERGY EFFICIENCY

FY 2019 Energy Intensity Progress (Btu/GSF):

30.2% reduction from FY03

3.7% reduction from FY18

FY 2020-FY 2021 Plan:

5.0% reduction in FY20 from FY19

1.0% reduction in FY21 from FY20

HUD's strategy is to strive for O&M best practices and perform energy upgrades when feasible and cost-effective opportunities arise.

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.

While HUD is pursuing additional Energy Conservation Measures (ECMs) through the use of ESPC, at this time the agency has not committed to moving forward with the proposed modification. HUD plans to fully review the proposed ECMs for cost effectiveness and return on investment prior to moving forward.

The agency expects 5% to as much as 20% annual energy reduction going forward for FY 2020 due to COVID-19 pandemic. While non-essential employees have been placed on full time telework, the building has remained operational and may be reopened prior to the end of FY2020. For FY 2021, the agency estimates an increase over FY 2020, as the building is expected to reopen and may be fully operational during FY2021.

Unexpected major repairs to the Weaver Building chillers and boiler plants during FY 2019 and FY2020 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 2021.

Priority Strategies & Planned Actions

- **FY 2020 and FY 2021:** 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 2021:** replace chilled water valves for all main air handling units so that HUD HQ may be operated more efficiently.
- **FY 2021:** replace media in cooling tower to help save both pump energy and water.

2. EFFICIENCY MEASURES, INVESTMENT, AND PERFORMANCE CONTRACTING

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

0 in FY19

FY 2020-FY 2021 Plan:

0 in FY20

1 in FY21

HUD's strategy is to perform additional performance contracting and energy savings projects as they are identified and funded.

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.

During FY 2019, the agency performed a preliminary assessment of additional Energy Conservation Measures (ECMs) and developed a proposed modification to the existing ESPC. The planned FY 21 project mentioned above is the proposed ESPC modification. However, it is important to note that the global COVID-19 pandemic may continue to shift agency priorities and potentially delay or prevent this project from moving forward.

Priority Strategies & Planned Actions

- **FY 2020 and FY 2021:** review the proposed modification to the HUD ESPC and potential ECMs for cost effectiveness and return on investment.

3. RENEWABLE ENERGY

FY 2019 Renewable Electricity Use:

17.6% of total electricity in FY19

FY 2020-FY 2021 Plan:

37.5% of total electricity in FY20

37.5% of total electricity in FY21

HUD's strategy is to participate in the GSA area wide utilities agreement in combination with the purchase additional Renewable Energy Certificates (RECs). The sum of these purchases is expected to meet or exceed the 37.5% renewable energy goal required to maintain LEED Silver certification.

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 purchased additional RECs during FY2019 in order to meet LEED-Silver requirements. Going forward, HUD intends to attain the 37.5% renewable energy goal required to maintain LEED-Silver by procuring Renewable Energy Certificates (RECs) that meet both federal vintage requirements for credit toward renewable goals and the requirements to maintain LEED-Silver.

HUD 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 2020/21:** HUD will continue to participate in the GSA area wide utilities agreement.
- **FY2020/21**: Complete renewable energy procurement to maintain the level of renewable energy use that HUD achieved when it acquired LEED Silver certification.

4. WATER EFFICIENCY

FY 2019 Water Intensity Progress (Gal/GSF):

34.3% reduction from FY07

21.5% reduction from FY18

FY 2020-FY 2021 Plan:

10% reduction in FY20 from FY19

10% increase in FY21 from FY20

HUD's strategy is to continue water efficient operations through O&M best practices. HUD will also perform additional water conservation upgrades as they are identified, evaluated and funded.

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 FY2019 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.

HUD anticipates a significant reduction in water use for FY2020 due to the COVID-19 pandemic, however those reductions may be limited due to the building remaining operational and the inherent use of water associated with cooling. Conversely, the agency expects a similar increase in water use during FY2021 given that federal buildings may reopen and return to normal operation.

Priority Strategies & Planned Actions

- FY 2020/21: replace media in cooling tower to help save both water and pump energy.

5. HIGH PERFORMANCE SUSTAINABLE BUILDINGS

FY 2019 Sustainable Buildings Progress:

NA sustainable Federal buildings

NA of buildings / NA of gross square footage (GSF)

FY 2020-FY 2021 Plan:

NA in FY20

NA in FY21

HUD will request that GSA sustainability guiding principles be incorporated into all leases entered on behalf of HUD.

Implementation Status

As all of HUDs 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. Notably, HUD Headquarters achieved LEED-Silver certification in 2016.

6. WASTE MANAGEMENT AND DIVERSION

FY 2019 Non-hazardous Waste Management and Diversion:

363 metric tons of non-hazardous solid waste generated*

19.02% diverted and 80.98% sent to treatment and disposal facilities

FY 2020-FY 2021 Plan:

15% reduction in non-hazardous solid waste generated in FY20 from FY19

20% diverted and 80% sent to treatment and disposal facilities in FY20

15% increase in non-hazardous solid waste generated in FY21 from FY20

25% diverted and 75% sent to treatment and disposal facilities in FY21

*not including construction and demolition waste

HUD's strategy is to ensure the availability of comingled recycling throughout the HUD HQ building and by participating in the GSA National Capital Region Recycling Program.

Implementation Status

HUD maximizes recycling and waste diversion using comingled 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.

Due to the COVID-19 pandemic, HUD expects a sharp decline in solid waste production for FY2020, followed by a relative increase in FY2021 should the building return to full operation.

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

- **FY2020/21**: Perform annual compliance review of refrigerant management practices.
- **FY2020/21**: Perform evaluation of waste stream to identify opportunities to reduce solid waste and increase diversion by 5.0%

- **FY2020/21**: Benchmark C&D waste and review space management and alteration practices for opportunities to divert construction and demolition waste.

Implementation Summary: Fleet Management

1. TRANSPORTATION / FLEET MANAGEMENT

FY 2019 Petroleum Reduction Progress (Gal):
43.4% reduction in petroleum fuel since 2005
64.6% increase in petroleum fuel since FY18

FY 2019 Alternative Fuel Use Progress (Gal):
285.95% increase in alt fuel since 2005
247.6% increase in alt fuel since FY18

FY 2020-FY 2021 Plan:
49.23% reduction in FY20 from FY19
20% reduction in FY21 from FY20

FY 2020-FY 2021 Plan:
37.71% increase in FY20 from FY19
25% increase in FY21 from FY20

HUD will reduce petroleum use through the implementation of fleet right sizing, requiring programs to demonstrate need for fleet vehicles prior to procurement, and requirements for procurement of alternative fuel and hybrid vehicles.

Implementation Status

During the FY 2019 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. Vehicle inventory was reduced by 8 vehicles from 2019 to 2020, and this will translate to lesser fuel consumption. The main driver of the increase in fuel use in 2019 is the composition of our fleet which is 210 petroleum dedicated vehicles (Gas) vice 98 Flexible Fuel Vehicles. This is being addressed by approving only E85 vehicles when the date of replacement of these vehicles are due. The idea of electric charging station installation at HUD is being explored and studied based on cost, and if this becomes a reality in the near future, the option of purchasing electric vehicles when their purchase price goes down, is a real possibility. Electric charging station infrastructure nationwide is being ramped up, that will make it more acceptable to purchase electric vehicles to fulfill HUD's mission. This will only be possible under conditions stated above, and also the availability of fleet electric vehicles for lease from GSA.

HUD's 2019 fleet is comprised of 308 vehicles which includes 210 petroleum dedicated vehicles (Gas), and 98 flexible fuel vehicles (E85). Breakdown is as follows: Sedans/St Wagons 238 each, LD Trucks 4X2 at 41 each and LD Trucks 4X4 at 29 each.

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.

In FY 2019, HUD's alternative fuel use increased by 247.6% when compared to FY 2018. This occurred because HUD used 528 GGE of E85 in law enforcement vehicles and 188 GGE in other vehicles, for a combined 716 GGE. The large percentage increase is due to both the size of HUD's fleet and the low overall amount of alternative fuel used in HUD's fleet.

HUD's fleet was reduced by 4 vehicles from 312 vehicles in 2018 to 308 vehicles in 2019. HUD's fleet was reduced by 8 vehicles from 308 vehicles in 2019 to 300 vehicles in 2020, and the downward trend is continuing.

Priority Strategies & Planned Actions

- **FY2020/21**: The plan is to continue to scrutinize requirements for justification on all program office requests for gas dedicated vehicles vice E85 flexible fuel vehicles. The goal is to have more E85 (Flexible Fuel Vehicle- Ethanol) and gasoline hybrid vehicles versus gas dedicated vehicles. The control is established under GSA Fleet Drive Thru database, under "vehicle replacement requests tab" and the option for disapproval by the Agency Fleet Manager, if proper written justification is not sufficiently presented.
- **FY2020/21**: Continue the survey for all end user customers at HUD HQ and HUD regional offices on the feasibility of installation of electric charging capabilities in their areas of operation. Continue the dialog with GSA representatives on availability of electric powered vehicles in their lease vehicle inventories.
- **FY2020/21**: Increase utilization of E85 flexible fuel vehicles by 20% through collaboration with regional program offices and the research on availability of gas station infrastructure in their locations that offer ethanol and gasoline combination blend fuel.
- **FY2020/21**: Continue the process of rightsizing the fleet through meticulous review of all new vehicle requests, and disapproval of unnecessary additional vehicles for those program regional offices who use less mileage for their current vehicles that they lease.
- **FY2020/21**: Make direct communication with HUD HQ end user customers and program regional offices nationwide, for their underutilized vehicles, and send notification of possible return to GSA, of all their vehicles with very low mileage. If the program office uses a few vehicles assigned to them, encourage office sharing of vehicles if possible. This process will reduce the number of vehicles in HUD inventory.
- **FY2020/21**: Send monthly reminders to all HUD HQ and program office end user customers nationwide, the necessity of managing vehicles assigned to them, and the emphasis of on time mandatory entries of all fuel usage in mileage express is a requirement, that needs to be completed daily.

Implementation Summary: Cross-Cutting Operations

1. SUSTAINABLE ACQUISITION / PROCUREMENT

FY 2019 Sustainable Acquisition Progress:

4.34% of contract actions and 1.24% of obligations (in dollars), for a total of $13.6 million in contract actions with statutory environmental requirements

FY 2020-FY 2021 Plan:

4.36% of contract actions and 1.25% of obligations (in dollars)
4.38% of contract actions and 1.27% of obligations (in dollars)

HUD's strategy is to ensure that sustainable acquisition practices are applied to all eligible contracts. HUD will conduct regular compliance reviews to ensure that sustainable acquisition requirements are met.

Implementation Status

HUD's goal is to ensure that 100% 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.

HUD Procurement Handbook 2210.3, Revision 10 Subchapter 2423.4 Use of Recovered Materials and Biobased Products states that it is the policy of the It is the policy of the Department to procure products containing recovered materials to the greatest extent practicable in accordance with all applicable Federal statutes, regulations, policies, and other guidelines.

Priority Strategies & Planned Actions

- FY2020: HUD will review sustainability acquisition practices when conducting quarterly compliance reviews.
- FY2021: RM&CU will conduct a statistical valid targeted review of sustainability acquisitions.
- FY2020: OCPO's Risk Management and Compliance Unit will perform annual Procurement Management Review (PMR) reviews to ensure appropriate clauses are contained in contracts requiring bio-based and sustainable products.
- FY2021: OCPO's Risk Management and Compliance Unit will perform annual Procurements Management Review (PMR) reviews to ensure appropriate clauses are contained in contracts requiring bio-based and sustainable products.

Target for biobased-only contracts in FY 2020: 4 with an estimated dollar value of $8,571,070.

2. ELECTRONICS STEWARDSHIP

FY 2019 Electronics Stewardship Progress:

100% of newly purchased or leased equipment met energy efficiency requirements
100% of electronic equipment disposed using environmentally sound methods*

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

HUD's strategy is to require that all new purchases or leases for electronics equipment meet statutory requirements for energy efficiency. In addition, HUD will continue to ensure that electronic equipment is only disposed of using environmentally sound methods.

Implementation Status

HUD's current policy and practices require that all new purchases or leases require EPEAT-registry standards which ensures that the equipment meets statutory requirements for energy efficiency. Currently, HUD's eligible electronics are entirely leased and meet or exceed energy efficiency requirements.

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 Unicor Electronics Recycling program.

Priority Strategies & Planned Actions

FY2020/21: Ensure that all HUD monitors, PCs and laptops are power management-enabled.
FY2020/21: Review property disposition records to verify appropriate disposition practices.

3. GREENHOUSE GAS EMISSIONS

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

60.0% reduction from FY 2008
0.6% increase from FY 2018

HUD's strategy is to employ and monitor the use of O&M best practices for emission generating and energy consuming equipment. HUD will also continue with the identification and implementation of energy conservation measures when feasible and cost-effective.

Implementation Status

HUD's substantial reduction of greenhouse gas emissions is largely attributable to the recently completed ESPC which significantly reduced its energy use intensity and Scope 1 and 2 emissions. When considering that the department has reduced Scope 1 and 2 emissions by 60% compared to FY 2008, it seems apparent that fractional fluctuations of less than 1% may occur from year to year. However, the 0.6% increase that HUD experienced from FY 2018 to FY 2019 may be attributable to an increase in chiller energy associated with failing chilled water valves and the pump energy from multiple process water drain downs during the year (these challenges are discussed in Section 1).

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

- **FY2020/21**: Ensure best management practices are implemented by O&M contractor and Energy Services Contractor to maximize efficiency.
- **FY2020/21**: Perform system upgrade HUD HQ Energy Management Control System (EMCS).