Assistant Secretary of the Army for Civil Works

US Army Corps of Engineers®

U.S. Army Corps of Engineers

Sustainability Plan

2022

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1. USACE Sustainability Plan Summary

The Assistant Secretary of the Army for Civil Works (ASA(CW)) is the Chief Sustainability Officer for the U.S. Army Corps of Engineers (USACE) and is committed to achieving the goals of Executive Order (E.O.) 14057 and reducing scope 1, 2, and 3 greenhouse gas (GHG) emissions in support of the whole-of-government approach for federal sustainability. USACE employs a systems-based approach to achieving sustainability goals, leveraging annual investment strategies, holistic planning and implementation, performance reviews across all command levels, and course adjustments as directed by the USACE Strategic Sustainability Committee (SSC). USACE's sustainability strategy prioritizes efforts to transition its fleet to 100% zero-emission vehicles (ZEV) through phasing in light-duty (LD) ZEV acquisitions and installing electric vehicle (EV) supply equipment (EVSE). Efforts to build a more climate- and sustainability-focused workforce and to address environmental justice (EJ) considerations have been incorporated throughout the planning and implementation of the ZEV and EVSE strategies. In addition, USACE is working to improve its buildings, campuses, and installations through on-site carbon pollution-free electricity (CFE) generation, net-zero design and construction, implementation of energy and water use efficiency measures, waste and pollution reduction, and sustainable procurement.

2. Priority Actions

A. 100 Percent Carbon Pollution-Free Electricity

USACE is taking action to increase CFE to 100% by 2030 with up to 50% on a 24/7 basis. To achieve this goal, priority actions achieved in FY2022 include the following:

- Consumed at least 7.5% legacy renewables to be counted towards the CFE target, per Section 203 of the Energy Policy Act (EPAct) of 2005 Cap of 7.5% of total electricity consumption.
- Installed solar photovoltaic (PV) panels on Federal Land at Eau Galle River Lake Project in Wisconsin with a generation capacity of 7 kilowatts; 835 kilowatt hours (kWh) were generated in June 2022.
- Quantified emissions from purchased electricity by region using the Environmental Protection Agency’s (EPA) Emissions & Generation Resource Integrated Database to prioritize new cost-effective CFE installation sites, several of which are already planned or in contracting phase across USACE, based on electricity rates and on-site renewable potential.

B. 100 Percent Zero-Emission Vehicle Fleet

In addition to phasing in LD ZEV acquisitions, USACE is focusing on strategic siting and installation of EVSE infrastructure through priority actions achieved in FY2022:

- Identified approximately 296 ports for EVSE installation at 55 locations (as of July 2022) using the results of the DATABOOK, a USACE-specific Excel spreadsheet tool populated with agency fleet data and other logistical, social, and environmental factors, and two virtual site assessments, the Data Call for Civil Works (CW) facilities and Daily Tasking Order (DTO) for Revolving Fund (RF) facilities in FY2022 Q2.
- Leveraged $8 million (M) in appropriations to begin implementation of EVSE infrastructure at identified and prioritized sites through U.S. Army Engineering and Support Center, Huntsville’s (HNC) pre-existing multiple award task order contract

(MATOC) Facilities Repair & Renewal (FRR) Program, which offers a fast-track method for design and construction at USACE project sites.

C. Net-Zero Emissions Buildings, Campuses, and Installations

i. Design and Construction for Net-Zero Emissions

To reduce GHG emissions from its buildings' portfolio by 50% by FY2032 and achieve net-zero emissions by FY2045 from the FY2008 baseline, USACE took the following FY2022 actions:

- Began in June 2022 identifying opportunities at the U.S. Army Engineer Research and Development Center (ERDC)'s Construction Engineering Research Laboratory to advance and deploy carbon sequestering materials and low-GHG design approaches for USACE's civil facilities and infrastructure footprint, including water-related infrastructure such as dams, recreation areas, hydropower plants, locks, canals, and water storage to reduce lifecycle GHG emissions by over 50% relative to current practices.

ii. Increasing Energy Efficiency

USACE is implementing the following priority actions in FY2022 to increase facility energy efficiency across the agency's building portfolio:

- Identified 85 energy conservation measures (ECMs) in FY2022 through 8 covered facility audits; began implementation of three ECMs including two boiler plant improvements at ERDC and reached the measurement and verification phase in an energy savings performance contract (ESPC) at the Humphreys Engineering Center Support Activity (HECSA) Cude Building. 7,
- Established the Workforce Transformation Work Group to reduce energy use through workplace reconfiguration and coordinate efforts by HNC, HECSA, and USACE Logistics.
- Met with utilities to better understand and limit impact on facility energy use for EV demand charging and EVSE metering during potential operational changes.

iii. Increasing Water Efficiency

USACE is working to develop comprehensive strategies to optimize water use across the highest water-use intensive facilities through the following FY2022 priority actions:

- Continued to identify, repair and replace water line fixtures in old infrastructure with histories of recurring breaks and emergency repairs.
- Continued to achieve incremental reduction of potable water intensity, building on the 1.6% annual reduction and 17.6% reduction from FY2007 baseline reported for FY2021.

D. Reducing Waste and Pollution

USACE's strategy for waste reduction is to implement prevention and recycling measures and comply with federal management and disposal requirements, including for non-hazardous solid waste (NHSW) and construction and demolition (C&D) debris. Priority actions achieved include:

- Implemented a new C&D debris diversion metric to improve tracking and meet the DoD requirement to divert at least 60% of C&D debris by 2025 and 75% by 2030 (March 2022).

- Provided three trainings on the Environmental Compliance Assessment auditor course and scheduled three additional sessions for 2023; provided nine solid waste trainings, reaching approximately 250 personnel through the quarterly Corps of Engineers Reduced and Abridged FEMP Tool (CRAFT) 101 series to improve implementation of the NHSW Diversion and Materials Management Policy by field-level project managers.
- Began the development of a white paper to support Major Subordinate Commands (MSCs) in reporting C&D debris diversion rates (July 2022).

E. Sustainable Procurement

USACE's sustainable procurement strategy is to institutionalize sustainable procurement practices through training tools and streamlined reporting. Priority actions in FY2022 include:

- Achieved inclusion of sustainable contract actions in nearly 97% of contracts, a 0.2% increase from 2021 in number of actions with statutory environmental requirements and a 0.4% increase in percent value of contracts with sustainable requirements.
- Continued to improve visualization of CRAFT contract tools and train staff on the Sustainable Acquisition Clause Selection Tool and Compliance Assessment Tool.

F. Climate- and Sustainability-Focused Federal Workforce

USACE is actively enhancing efforts to engage, educate, and equip its workforce with the skills and tools to achieve sustainability objectives. FY2022 priority actions include:

- Updated 10 training sessions on specific sustainability subject areas following the release of E.O. 14057 to enhance sustainability awareness USACE-wide.
- Issued the first edition of the internal monthly EV and EVSE Newsletter as part of USACE Headquarters (HQUSACE) commitment to inform field-level personnel on EVs and EVSE, highlight updates on EVSE progress, facilitate transparent discussion, and share any important, relevant timely information to bolster personnel EV awareness (July 2022).

G. Incorporating Environmental Justice

USACE is working to incorporate EJ considerations into sustainability planning, programs, and operations. Priority actions achieved in FY2022 include the following:

- Incorporated EJ data from EPA's Environmental Justice Screening and Mapping Tool (EJScreen) by spatially joining the tool's demographics and statistics into the DATABOOK to prioritize facilities for EVSE installation in marginalized communities.
- Presented best practices and lessons learned on prioritizing EJ into EVSE siting to members of the Federal EV Agency Roundtable (FEVAR).

H. Accelerating Progress through Partnerships

USACE is developing strong partnerships with other agencies and private partners. Priority actions achieved in FY2022 include the following:

- Hosted the National Park Service (NPS) energy program manager to discuss energy and water use reduction efforts, EV and EVSE strategies, and other best practices.
- Hosted working sessions with representatives from the General Services Administration (GSA) Telematics team to discuss upcoming reporting requirements, available vehicle intelligence technology, and fleet management best practices.

- Engaged with private utilities, such as Southern Company, on the EVSE support utilities can provide to project sites in their service range through utility-financed methods for on-site assessments, installation, and operations and maintenance.

3. Progress Examples

Reduce Agency GHG Emissions and Transition to a 100% ZEV Fleet

In FY2022, USACE identified responsibility for approximately 6,692 GSA-leased non-tactical vehicles (NTVs) and 685 USACE-owned NTVs. Approximately 70% of USACE's GSA-leased NTVs are LD vehicles, therefore subject to the requirement of 100% ZEV acquisition by 2027. To meet this target, USACE conducted the annual Vehicle Allocation Methodology and Vehicle Utilization Review Board in June 2022 to optimize fleet composition and size in support of mission requirements and GHG emissions reduction goals. LD internal combustion engine (ICE) NTVs contributed to 12% of USACE's FY2021 GHG scope 1 and 2 emissions in FY2021. Thus, 13 ICE vehicles were identified to be eliminated by the end of FY2022 and replaced with LD ZEVs. Due to delivery delays and supply chain issues at the manufacturing level, USACE is working to install EVSE ahead of the anticipated ZEV acquisitions to support a mission-ready EV transition.

Transition to a 100% ZEV Fleet Through Data Analysis

To strategically meet the new ZEV fleet requirements of E.O. 14057, engineers at HNC designed the DATABOOK Tool to determine optimal phasing of facilities and vehicles for EV transition. The DATABOOK is an Excel spreadsheet populated with fleet data sourced from the USACE CRAFT, Logistics, and Operations databases, U.S. Energy Information Administration, EJScreen, Bureau of Labor Statistics, National Renewable Laboratory (NREL), and the Small Business Administration. The tool ranks sites for EVSE prioritization by weighing variables on cost & execution effectiveness (i.e., electricity rates, gas prices, demand pricing), fleet statistics (i.e., fleet size, fleet age, local EVSE maturity), and emissions & EJ (i.e., clean grid placement, HUBZone potential, air pollution) into a single composite rating to determine an overall suitability score for each vehicle and facility. The result is a phased EVSE implementation approach optimized for cost and execution efficiency, facility and personnel readiness, EJ considerations, and GHG emissions reductions.

Transition to a 100% ZEV Fleet Through Workforce Awareness and Education

To baseline USACE facility maturity and personnel readiness for EV and EVSE, two surveys were issued USACE-wide in January 2022 and April 2022. The surveys were designed to solicit information from project site managers, field engineers, technical staff, and other relevant fleet personnel across CW and RF sites. Questions focused on three main subject areas: general site information (i.e., primary source power, metering capacity, count of ICE vehicles, count of EVs, vehicle usage, parking capacity, etc.); projected impacts to operations during the fleet transition (i.e., projected utility costs, projected construction, electrical infrastructure, etc.) and personnel readiness (i.e., concerns, reactions, and feelings towards EVs). The surveys functioned as virtual site assessments and educational resources. USACE will continue to issue the DTO each September to evaluate progress against E.O. goals and distribute resources to build personnel knowledge on EV and EVSE through the delivery of monthly newsletters and status briefings.

Reducing Waste and Pollution through Performance Management Systems
USACE tracks and reports a set of quarterly sustainability metrics at the MSC level that feed into the agency's overall performance management system, known as Leading Metrics. Leading Metrics are updated according to new federal requirements, policy, and agency progress. In FY2022 Q2, HQUSACE implemented a new waste diversion metric that measures the percent of C&D debris recycled, composted, and converted using data pulled from Operations, Construction, and Contracting. Reporting C&D waste has been a challenge because modern market-based recycling services are not readily available at many project sites. By including this metric as a quarterly requirement, USACE aims to address this challenge and increase diversion.

Reducing Waste and Pollution through Source Reduction
Source reduction is DoD's preferred environmental waste management method. While source reduction initiatives are not currently incorporated into diversion metrics calculations, engineers at ERDC the Installation Technology Transition Program (ITTP) in FY22 to identify and track source reduction as well as waste diversion. ITTP's key tool, the "Dashboard Integration for the Valuation of Emissions Reduction in Real-Time" (DIVERT), captures increases in diversion through existing efforts (i.e., water bottle refill stations that divert plastic waste) to allow locations without alternative disposal outlets (i.e., recycling) to receive credit for this diversion, should the incorporation of these critical data points be supported. To determine a baseline on which to deploy a more formal source reduction effort, USACE database experts developed a new CRAFT interface in FY22 for sites to report any engagement in source reduction initiatives. The new interface will be deployed in FY23 for improved reporting.

Train an Enhanced Climate- and Sustainability-Focused Workforce
Following the release of the E.O. 14057, HQUSACE updated its Sustainability Training series in FY 2022. The trainings are comprised of 10 briefs designed for personnel to learn about policy drivers, target goals and metrics, resources, USACE-specific roles and responsibilities, and opportunities to drive sustainability across various topic areas, covering: CFE and Renewable Energy, GHG Emissions, Fleet Management, Sustainable Federal Buildings, Energy Use Intensity, Water Use Intensity, Sustainable Acquisitions, and Waste Management. HQUSACE plans to deliver the updated training sessions biannually to a target audience of 30 workforce members, virtually or in-person. Specific trainings were also developed for senior leaders ("Executive Session") and other interested personnel ("Sustainability 101").