



**Assistant Secretary of
the Army for
Civil Works**



**US Army Corps
of Engineers®**

2015 Strategic Sustainability Performance Plan

30 June 2015

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MEMORANDUM FOR DEPUTY COMMANDING GENERAL, US ARMY CORPS OF ENGINEERS, 441 G STREET, N.W. WASHINGTON, DC 20314

SUBJECT: U.S. Army Corps of Engineers (USACE) Sustainability Policy

1. References:

- a. Executive Order (E.O.) 13693, Planning for Federal Sustainability in the Next Decade.
- b. Energy Independence and Security Act (EISA) of 2007.
- c. Energy Policy Act (EPAct) of 2005.
- d. Operation Order (OPOrd) 2014-12, USACE Sustainability, Internal Operations & Infrastructure, 14 March 2014 and subsequent fragmentary orders.
- e. USACE Sustainability Plan (SP).

2. Purpose. This memorandum updates policy regarding sustainability and implements E.O. 13693.

3. Applicability. This policy applies to all aspects of USACE activities to include contracted work, however, the sustainability outcomes supported on behalf of Federal partners will be accounted for under those partners' reporting procedures.

4. Policy.

a. As a prominent Federal entity, a key participant in the use and management of many of the Nation's water resources, a critical team member in the design, construction, and management of military and civil infrastructure, and responsible members of the Nation's citizenry, the USACE strives to protect, sustain, and improve the natural and manmade environment of our Nation and is committed to sustainability and compliance with applicable environmental and energy statutes, regulations, and Executive Orders.

b. Sustainability is not only a natural part of all USACE decision processes, but should also be a part of our organizational culture. USACE is a steward for some of the Nation's most important natural resources, and we must ensure our stakeholders and partners receive products and services that provide for sustainable solutions that address short and long-term environmental, social, and economic considerations.

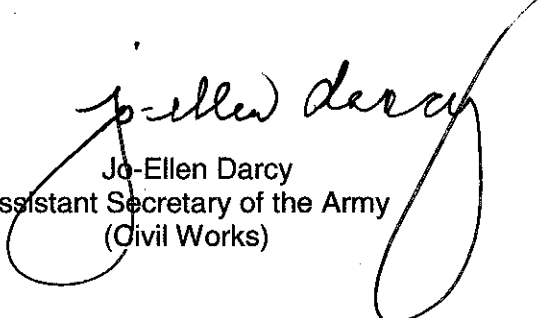
c. Focus areas for Fiscal Years 2015 and 2016 are as follows:

- By the end of FY16 implementing 50% of audit-identified, low and moderate cost energy and water conservation measures
- By the end of FY16 implementing not less than \$12.5M in energy performance contracts in support of the President's Performance Contracting Challenge

- Reducing incidence of potable water line breaks by replacing deteriorated water lines
- Consuming 5% alternative fuels relative to total fuel consumption in the non-tactical vehicle fleet
- Achieving compliance with sustainable acquisition requirements and increasing biobased purchasing.

d. To achieve our sustainability goals, USACE will employ a systems approach through the development of annual sustainability plans and investment strategies, execution of those plans and strategies, performance reviews at all levels of Command, and course adjustments as directed by the USACE Strategic Sustainability Committee. The key to success will be the assignment and acceptance of personal responsibility for achieving a sustainable future by all members of the organization.

5. I am confident we can meet these goals and set standards for others to follow. I believe excelling in sustainability is not only good for the Nation and our posterity, but a sound business practice that will ease some of our future operations and maintenance expenses. I have every confidence we will be successful.



Jo-Ellen Darcy
Assistant Secretary of the Army
(Civil Works)

CF:

LTG Thomas P. Bostick, Commanding General, US Army Corps of Engineers (USACE)
MG John W. Peabody, Deputy Commanding General for Civil and Emergency Operations
BG Donald E. Jackson, Deputy Commanding General for Military and International Operations
Mr. Steven L. Stockton, Director of Civil Works, USACE
Mr. Lloyd C. Caldwell, Director of Military Missions, USACE
Dr. Jeffery P. Holland, Director of the Engineer Research and Development Center

Executive Summary

Vision

The mission of the U.S. Army Corps of Engineers (USACE) is to provide vital public engineering services in peace and war to strengthen the Nation's security, support the economy, and reduce risks from disasters. To achieve this mission, USACE contributes to the national welfare and serves the public by providing quality and responsive services to the Nation, the Army, and other customers in a manner that is environmentally, economically, and socially sustainable.

Continued integration of sustainability into the USACE mission and organizational culture is essential to success in achieving federal sustainability goals. USACE will continue to employ a systems-based, continual improvement approach to integrate sustainability into its mission and organizational culture, with an ultimate goal of assignment and acceptance of personal responsibility for achieving a sustainable future by all members of the organization. USACE will continue to use, at all levels of command, a recurring cycle of planning, execution, measurement, performance review, and annual course-correction/redirection, that will integrate sustainability more deeply into its mission and the organizational culture with every passing year.

Sustainability plays a prominent role in the USACE Campaign Plan (UCP). UCP Objective 1c, "Support the Nation and the Army in achieving our energy security and sustainability goals," is organized into three actions:

- Action 1: Achieve federal targets within USACE's internal operations and infrastructure.
- Action 2: Support Army Energy Programs.
- Action 3: Successfully design and construct sustainable facilities (regardless of location).

This USACE 2015 Sustainability Plan (SP) is focused on Action 1 and describes USACE's past sustainability performance and the priority strategies the Command will employ through fiscal year (FY) 2016 to maintain or improve performance. This plan meets the Executive Order (EO) 13693, Planning for Federal Sustainability in the Next Decade, Section 14 requirement to annually update an integrated Strategic Sustainability Performance Plan based on guidance prepared by the Chair of the White House Council on Environmental Quality (CEQ).

Leadership

The Assistant Secretary of the Army for Civil Works (ASA(CW)) is the Chief Sustainability Officer and the Senior Point of Contact for Climate Change Adaptation for USACE. The ASA(CW) works with USACE's Deputy Commanding General, Civil Works leadership and the Environmental Community of Practice to lead the Strategic Sustainability Committee (SSC) in driving improved sustainability performance. SSC meetings, conducted three times per year, provide collective review and strategic direction/redirection for the Sustainability Program. Sustainability

performance is tracked through the USACE Campaign Plan (UCP) using the Army Strategic Management System and existing management review processes.

Performance Review

Goal 1-1: Greenhouse Gas (GHG) Reduction, Scope 1 & 2

Integration

USACE has integrated its Scope 1 & 2 GHG goal (23.1% reduction by FY2020 relative to the FY2008 baseline) into its overarching, internal strategic plan, which is known as the USACE Campaign Plan (UCP). Also integrated into the UCP are other federal goals that directly support the overarching Scope 1 & 2 GHG goal: Energy Intensity and Non-tactical Vehicle (NTV) Petroleum Reduction. (Each of these federal goals is discussed in its own subparagraph below.) In addition to the federal goals, USACE has established an internal goal to reduce petroleum consumption in its vessel fleet – a fleet of roughly 2,800 vessels including dredges, tugs, barges, and a variety of smaller boats. In accordance with Assistant Secretary of the Army for Civil Works (ASA(CW)) policy for budget development, USACE has integrated Sustainability and Energy requirements into the annual Civil Works budget submission for each year over the period FY12-16. ASA(CW) budget development policy guidance for FY16 also strongly encouraged use of Energy Savings Performance Contracts.

Evaluation Measures

At the agency level, USACE tracks Scope 1 & 2 GHG reduction directly on an annual basis using the Office of Management and Budget (OMB) Sustainability and Energy scorecard and the annual comprehensive GHG inventory. USACE has also established a set of internal metrics, including a GHG Scope 1&2 emissions reduction metric, that are tracked at the level of the individual Major Subordinate Commands (MSCs) to provide in-depth accountability for performance toward the agency-level GHG Scope 1&2 reduction target.

Successes

USACE lost ground on its Scope 1&2 GHG reduction goal, slipping from 2.2% progress (RED) in FY 2013 to just 1.8% (RED) in FY 2014. Although USACE is far from being “on-track” to meet its 23.1% GHG Scope 1&2 reduction target by FY20, the data behind the 1.8% reduction shows that USACE is making progress in two of the three primary source categories of GHG Scope 1&2 emissions. Specifically, through FY14, USACE has reduced GHG Scope 1&2 emissions from non-tactical vehicle fleet and non-road vehicles and equipment by a total of 2.4% from the FY08 baseline. It is only in facility-based GHG emissions that USACE has been particularly challenged. In the facilities source category, USACE has identified two specific facilities (out of a total of roughly 568) at which mission expansion has more than off-set the GHG Scope 1&2 emission reductions made at all other USACE facilities.

Challenges

Between FY 2008 and FY 2014, mission expansion at the two USACE facilities mentioned above resulted in an increase of 15,112 MTCO₂e, or about 4.7% of the current FY08 GHG Scope 1&2 baseline. This increase off-sets nearly all GHG Scope 1&2 emissions reductions made at all other USACE facilities, combined. The reason for the increased emissions at these two facilities

is growth in USACE's mission. While mission increase is positive organizationally, the net result is lack of progress on this goal. Other challenges USACE faces as it works to reduce its GHG Scope 1&2 emissions include improving the completeness and accuracy of vessel fleet fuel consumption data, and leveraging 3rd-party financing to accelerate the pace of investment in energy efficiency across all USACE facilities.

Lessons Learned

USACE's primary lesson learned is the fundamental importance of maintaining complete and accurate energy and petroleum consumption data. Complete and accurate data are essential both for evaluating progress, and for informing the critical decisions that must be made by agency leadership regarding sustainability and energy investments. Another important lesson learned regards setting "achievable" targets. The process of setting achievable targets requires not only complete and accurate data about missions, facilities, fleets and the associated energy, water and petroleum consumption, but it also requires realistic projections of the nature and extent of future changes (expansion or reduction) in missions, facilities and fleets.

Planned Actions

In FY 2015, USACE will work with OMB, CEQ and FEMP to rebaseline its GHG Scope 1&2 emissions, and to reach consensus on an approach for dealing effectively with past and future mission expansion and the associated impacts on GHG Scope 1&2 emissions. In FY15 and beyond, USACE will focus primarily on reducing facility energy usage and NTV petroleum consumption, while also increasing acquisition and use of low/no-emission vehicles, to reduce its Scope 1 & 2 GHG emissions. Development and implementation of MSC-level Sustainability Plans and Investment Strategies – as directed in USACE OPOD 2014-12 (14 March 2014) -- will help to guide USACE actions and improve performance over the next 3-5 years. Other specific planned actions include accelerating the pace of investment in ECM implementation by more effectively leveraging appropriated funds, and by aggressively expanding the use of 3rd-party funding through energy performance contracting.

Goal 1-2: Greenhouse Gas (GHG) Reduction, Scope 3

Integration

The USACE Scope 3 GHG goal (5% reduction by FY 2020 relative to the FY 2008 baseline) is integrated into USACE mission activities through centrally-directed policies and procedures to reduce business travel and increase workplace flexibility through telework, alternative work schedules, and mass transit support and subsidies. These initiatives impact USACE's largest sources of GHG Scope 3 emissions: employee commuting, and business air and ground travel.

Evaluation Measures

USACE tracks Scope 3 GHG reduction on an annual basis using the OMB Sustainability and Energy Scorecard. Since employee commuting practices are difficult to measure directly, USACE conducts an employee commuting survey every 3-4 years to update data on employee commuting practices and evaluate policy options. USACE uses data from the Defense Travel Management Office (DTMO) to estimate Scope 3 emissions from business (air and ground) travel.

Successes

USACE achieved its Scope 3 GHG emissions reduction goal at the end of FY 2014, reporting a 14.9% (27,500 MTCO₂e) reduction relative to the FY 2008 baseline. USACE achieved a reduction in Scope 3 GHG emissions of nearly 8,900 MTCO₂e between FY 2013 and FY 2014, much of which resulted from reductions in employee commuting emissions resulting from reduced employee population. The other source categories showing significant reductions are business air and ground travel. Reductions in business travel are the result of Corps-wide policies limiting business travel and encouraging telecommunication-based meetings to replace travel when possible. USACE expects to maintain or further reduce its level of Scope 3 emissions as long as these policies are in place.

Challenges

Having achieved its FY 2020 goal in each of the past 3 years (FY 2012 - FY 2014), the primary challenge for USACE will be to maintain its performance – particularly with regard to reductions in business travel -- and identify and implement new initiatives to further reduce Scope 3 emissions.

Lessons Learned

USACE's primary lesson-learned to date with regard to the Scope 3 GHG emissions goal is the fundamental importance of maintaining complete and accurate travel data, and accounting for the data consistently.

Planned Actions

In FY 2015-2016, USACE will focus primarily on updating its commuter survey, while continuing to focus on expanding participation in authorized alternative work schedule and telework opportunities.

Goal 2: Sustainable Buildings

Integration

USACE views Sustainable Buildings as an inherently integrated goal, as it brings together under a single goal the facility energy intensity (30% reduction from the FY 2003 baseline by FY 2015) and the water intensity (26% reduction from the FY 2007 baseline by FY 2020) goals, as well as the Guiding Principles for High Performance and Sustainable Buildings. USACE has integrated the facility energy intensity and potable water intensity goals into the UCP to get USACE started on the path toward the Sustainable Buildings goal. Efforts to meet the energy and water intensity goals will support GHG reduction, as well as the associated energy and water efficiency requirements of the Guiding Principles. Sustainability and energy efficiency investments are also incorporated in the annual Civil Works Operation and Maintenance (O&M) budget when they are life cycle cost effective and can be funded within the funding limits established by USACE leadership and the ASA(CW).

Evaluation measures

USACE tracks on an annual basis its progress toward the facility energy intensity and potable water intensity goals as "lagging" indicators of its progress on the Sustainable Buildings goal.

USACE is also tracking internally, on a quarterly basis, a set of “leading” metrics focused on execution of audits and implementation of energy and water conservation measures at USACE’s largest energy consuming facilities. The leading metrics are tracked at the HQ and Major Subordinate Command (MSC) levels, and they are designed to drive the kinds of actions facilities need to be taking to improve performance on the Sustainable Buildings goals.

Successes

At FY 2014 year-end, USACE reported 0% progress toward on the Sustainable Buildings goal. Reporting 0% progress on the Sustainable Buildings goal does not, however, mean that USACE is not making progress on improving sustainability of its buildings. For example, at the end of FY 2014, USACE reported 11.4% progress on energy intensity, which is double the progress reported at the end of FY 2013. In addition, the greatest USACE success on Sustainable Buildings – albeit a leading indicator of success -- in FY 2014 was formal adoption of the DoD Unified Facilities Criteria for High Performance and Sustainable Buildings (HPSB) Requirements (UFC 1-200-02). Adoption of UFC 1-200-02 put USACE on a path toward HPSB compliance by providing clear and comprehensive HPSB guidance applicable to all planning, design and construction, repair, maintenance and operation, and equipment installation in new and existing USACE buildings.

Challenges

The formal adoption of UFC 1-200-02 in 2014 teed-up a number of new challenges for USACE. Specific new challenges include defining the universe of buildings greater than 5,000 GSF, and prioritizing appropriate buildings for HPSB assessments. But the greatest challenge USACE faces on the HPSB goal is resourcing the building improvements needed to achieve HPSB compliance. Manpower and funding for HPSB investments comes from the same resource pools that USACE is already utilizing – nearly to capacity -- to meet EISA Section 432 (Covered Facility) requirements, and facility energy, water and GHG emissions goals.

Lessons Learned

The primary USACE lesson learned for Sustainable Buildings is that careful planning and prioritization of buildings greater than 5,000 GSF will be essential for the success of HPSB investments. If HPSB-driven requirements are not competitive in terms of cost, energy, water or GHG reductions, they will not complete effectively with ECM investments at Covered Facilities.

Planned Actions

USACE is planning to tackle the collective set of federal “assessment requirements,” using internal USACE and contract resources. USACE will focus its efforts on HPSB assessments, EISA 432 Covered Facility initial and recurring audits and commissioning assessments, and HPSB-driven commissioning assessments of existing facilities and systems, and utility metering site assessments. By tackling these often “overlapping” assessments collectively and in a prioritized manner, USACE intends to leverage its resources and capabilities to streamline execution of assessments, and to expedite the implementation of assessment findings and recommendations. The USACE plan for tackling assessment requirements is also intended to expand and refine internal USACE capabilities to execute future assessments and implement

assessment findings and recommendations. The assessment prioritization process for USACE facilities will consider all relevant federal requirements, but will emphasize potential for return on investment by focusing first on buildings greater than 5,000 GSF at USACE Covered Facilities.

Goal 3: Non-Tactical Vehicle Fleet Management

Integration

Fleet management requirements of EO 13693, Energy Independence and Security Act, and the Energy Policy Act are integrated into USACE OPORD 2014-12, USACE Sustainability, Internal Operations & Infrastructure, and USACE OPORD 2012-07, USACE Fleet Performance Plan Execution and Reporting. These OPORDs form the foundation in meeting the USACE sustainability goals and also supports Goal 1, GHG reduction.

Evaluation Measures

USACE has several fleet metrics to measure reductions in petroleum consumption, increase of alternative fuel usage, vehicle utilization and optimal fleet size. All metrics are tracked monthly and quarterly, internal to USACE, and is reported externally on an annual basis in FAST. Metrics in fleet size helps USACE focus on fleet composition to monitor and track the acquisitions and disposals of alternative fuel vehicles. It also allows USACE to see where we can position vehicles in close proximity to alternative fueling stations. In FY 16, USACE will update its metrics to reflect the new EO 13693 requirements to reduce GHG emissions per mile driven.

Successes

At the end of FY14, USACE reduced the USACE fleet by 14% (1,188 vehicles) since the implementation of the VAM in 2011 (FY13 to FY14 vehicle reduction of 309 vehicles). The results of rightsizing the fleet allowed USACE to reduce petroleum reduction by 6% from FY13 to bring USACE to 19% progress towards its FY15 goal of 20% reduction from FY05.

Challenges

Driver behavior is a primary challenge that causes reduced fuel efficiency and increases GHG emissions. Some MSC's have determined that they met their optimal fleet size. Another challenge is USACE does not have a single comprehensive fleet management information system and is currently using multiple systems (APPMS, GSA Drive Thru, and FEDFMS) to manage the fleet. The Defense Property Accountability System will be the mandated fleet system of record; however, implementation date is still unknown. Other challenges include the large personnel turn-over of District Logistics Managers and transportation technicians has resulted in reduced services at the districts resulting in delayed communication between the customer and Transportation Division to determine vehicles eligible for turn-in or downsize. Acquiring vehicles without coordination with USACE Fleet Manager through Contracting and DRMS Offices remains a challenge.

Lessons Learned

There are three primary lessons learned with regard to fleet. 1) Closer scrutiny of the Vehicle Allocation Methodology (VAM) which is submitted annually by MSCs to the Transportation Division and then rolled up as one Master USACE VAM submitted to GSA and DOE. The VAM

and the Optimal Fleet Management Plan is USACE's Master Plan to reduce fleet size, right size fleet composition and reduce petroleum consumption while increasing alternative fuel consumption. 2) The Transportation Division must update fleet management policies to incorporate all federal mandates. 3) USACE needs to improve controls on practices of obtaining vehicles through the DRMS and direct contracting.

Planned Actions

Over the next 12 months, USACE will develop policy to change driver behavior (minimize vehicle idling, drive the speed limit, slow accelerations, reduce heavy braking, etc) with emphasis on driving efficiently to increase the fleet miles per gallon. Additionally, the Office of Civil Works and the USACE Sustainability Activities Steering Committee will jointly identify funding opportunities for MSCs interested in building charging and refueling infrastructure to support future requirements for zero emission and/or plug-in hybrid vehicles. USACE will also work with DOE to implement FleetDash pay particular attention to the highlighted capabilities within FleetDash such as the automated generation of a missed opportunity report (instances in which FFVs consumed gasoline when an E85 station was within 5 miles). Finally, USACE will implement the Defense Property Accountability System (DPAS). This new system will allow USACE to run comprehensive fleet reports; real-time Dash Board; Vehicle Dispatch Module; and information that will be available to all MSCs, which will ensure standardized reporting within USACE for fleet management

Goal 4: Water Use Efficiency & Management

Integration

USACE has integrated Water Use Efficiency and Management into its overarching strategic plan, the USACE Campaign Plan (UCP), as one of the top four goals under UCP Action 1.c.1, which is focused on achieving federal sustainability and energy goals within USACE operations and infrastructure. Efforts to meet the potable water intensity goals will support energy and GHG reduction, as well as the associated water efficiency requirements of the Guiding Principles. As discussed under Goal 1-1, sustainability and energy efficiency investments are also included in the annual Civil Works Operation and Maintenance (O&M) budget when they are life cycle cost effective and can be funded within the funding limits established by USACE leadership and the ASA(CW).

Evaluation measures

USACE tracks on an annual basis its progress toward the potable water intensity goal as a "lagging" indicator of its progress on the Sustainable Buildings goal. USACE is also tracking internally, on a quarterly basis, a set of "leading" metrics focused on execution of audits and implementation of water conservation measures at USACE's largest facilities. The leading metrics are tracked at the HQ and Major Subordinate Command (MSC) levels, and they are designed to drive the kinds of actions facilities need to be taking to improve performance on the potable water intensity goal.

Successes

Since USACE began tracking and reporting potable water consumption in FY08, there has been a significant decline in the amount of (metered) potable water consumed at USACE facilities, from 726 million gallons (MG) in FY2007 to 677.6 MG in FY 2014. In spite of the overall significant decline in potable water consumption since FY07, USACE progress on its potable water intensity goal slipped from 16.5% (green) in FY 2013, to 10.5% (red) in FY 2014.

Challenges

In FY 2014, USACE reported an agency-level increase of 48.7M gallons over FY 2013 year-end. This increase in consumption resulted from a number of water line breaks, repairs, and the associated water line flushing required to restore potable water service. The frequency of water line breaks and the magnitude of water loss at a few facilities in any given year offsets the potable water savings at other facilities, USACE-wide. In some cases, leak detection and repair is made more difficult by water lines running beneath lakes. Overall, USACE faces challenges with aging potable water infrastructure that warrant in-depth evaluation and consideration of a programmatic initiative to invest in potable water infrastructure.

Lessons Learned

A major factor influencing the USACE potable water intensity goal is the number of visitors, particularly overnight campers, at USACE recreation facilities. Visitors pose a significant and recurring challenge for USACE in achieving its potable water intensity goal. This situation is compounded by the fact that much of the visitor-controlled water consumption occurs at camp sites where there is virtually no opportunity for USACE to install water conservation measures. In accordance with FEMP guidance (Federal Agency Implementation of Water Efficiency and Management Provisions of EO 13514), USACE is reporting the (metered) consumption of potable water regardless of how, and by whom, the water is used. Finally, USACE implemented a Recreation Program Sustainability Initiative. As this initiative matures, USACE envisions long-term and systematic efforts to work with and educate visitors to influence behaviors conducive to energy and water conservation, and waste reduction and diversion.

Planned Actions

For existing facilities, USACE is compiling its FY 2015-2016 Sustainability and Energy Investment Strategy to identify and prioritize water conservation opportunities USACE-wide, and to identify specifically which investment opportunities may also be viable alternative financing projects. In light of the increased potable water consumption reported in FY 2014 relative to FY 2013, USACE is also emphasizing replacement (instead of repair) of potable water lines with a documented history of frequent and recurring breakage and repair. For new construction and renovation work, USACE will focus on implementing the requirements of the Department of Defense (DoD) Unified Facilities Criteria (UFC) for High Performance Sustainable Buildings, which is discussed under Goal 2, above.

Goal 5: Pollution Prevention & Waste Management

Integration

It is USACE policy to comply with all applicable statutory and legal requirements, Executive Orders, and policies pertaining to pollution prevention and waste management. In order to achieve the 2015 non-hazardous solid waste diversion goal, and the construction and demolition debris diversion goal, USACE determined that a centrally-directed program that enables quantification, tracking of waste streams, and upward reporting is necessary. USACE encountered several challenges in implementing a centrally-directed program at its Civil Works facilities, which are discussed below. Future strategies will focus on implementing policies and directives for solid waste management and diversion programs where the local infrastructure and services support them.

Evaluation Measures

USACE has not yet implemented evaluation measures for Goal 5. However, USACE does have a robust environmental compliance program that includes protocols to evaluate recycling and pollution prevention plans and implementation.

Successes

None.

Challenges

Civil Works project facilities are often located in rural areas where solid waste management services are limited to collection, transportation and disposal. At many Civil Works project locations, solid waste quantification (mass or volume) and recycling services are not available. Further, based on estimates of solid waste generation by USACE employees and visitors, more than 200,000 tons are generated at USACE facilities annually, more than 90% of which are generated by visitors -- both day-use visitors and campers. These varying local conditions create a challenge in the development and issuance of centralized policies and have hampered the development of a solid waste management and diversion policy.

Lessons Learned

See Challenges.

Planned Actions

The planned actions for this goal include issuing a solid waste management and diversion policy and developing awareness training for USACE employees. The awareness training will focus on changing the view of visitor-generated solid waste from a "disposal burden" to a "resource stream." It will also focus on ways that USACE facilities can leverage existing statutory authority through Public Law 112-74 (Section 706) to retain proceeds generated by recovery of recyclable materials.

USACE is in the early stages of developing and implementing a Sustainable Recreation Program, which will focus on visitor-related energy and water consumption and solid waste disposal practices at campgrounds and day use areas. Once USACE establishes policies, they will be

integrated with sustainable buildings requirements, sustainable acquisition requirements, and greenhouse gas reduction strategies.

USACE is also working to finalize in FY15-16 a memorandum of understanding (MOU) with the U.S. Postal Service to participate in the BlueEarth Recycling Program. In order to jump-start the program, USACE will initiate pilots at a number of Civil Works projects and one Corps-owned facility as soon as the MOU is finalized. The program will primarily focus on diverting and quantifying specific solid waste including ink and toner cartridges. The program allows for facilities in areas where solid waste management services are limited to take advantage of recycling through the regular postal mail services. Once established, USACE will develop implementing policy and guidance for facilities to opt into the program.

Goal 6: Sustainable Acquisition

Integration

In order to achieve the sustainable acquisition goals, USACE must continue to integrate and apply sustainable acquisition principles throughout the life cycle of projects from planning through construction. USACE has integrated sustainable acquisition requirements into the, USACE Acquisition Instruction, Engineering Regulation 415-1-11, Biddability, Constructability, Operability, Environmental and Sustainability (BCOES Reviews, the “Model Request for Proposal” for Design-Build vertical construction projects, and the specification review process. The principles and requirements of sustainable acquisition are integrated into monthly USACE Acquisition Workforce Community of Practice teleconferences. These teleconferences include both requirements generators and contracting personnel. USACE has instituted On-the-Job training conducted by our Regional Chiefs of Contracting at USACE District and Center Contracting Offices focused on sustainable acquisition.

Evaluation Measures

USACE utilizes the Federal Procurement Data System (FPDS) and Army Contracting Business Intelligence System (ACBIS) to conduct quarterly assessments of the percent of applicable contracts which include the sustainability clauses required by the Federal Acquisition Regulation (FAR). During FY2014, USACE did not achieve 95% compliance with sustainable acquisition requirements. However, USACE has shown improvement in compliance and will continue to focus on process and programmatic elements that will drive improvement.

Successes

USACE hosted sustainable acquisition training for the Acquisition Workforce during the 3rd quarter FY 2014; this training was conducted for USACE contracting professionals, project managers, project engineers and also included contracting personnel from other Army Commands. USACE established a Sustainable Acquisition SharePoint Intranet site that includes Federal, Department of Defense and Federal sustainable acquisition policy and guidance, training materials, tools, information briefings and links to sustainability websites. This SharePoint site is available to all USACE employees world-wide 24 hours a day. The USACE

Acquisition Interim Policy Directive (IPD) #14-IPD-02, which implemented the USACE sustainable acquisition policies, remains in effect.

Challenges

The single source for government-wide acquisition data, FPDS, used to track sustainable acquisition compliance, does not have the capability to adequately meet the requirements to report on sustainable acquisition. This necessitates a labor intensive physical review of contract documents to determine, if contracts as required by the FAR, incorporate sustainable acquisition clauses.

USACE manages 399 of the 848 Unified Facility Guide Specifications (UFGS) as part of the DoD Tri-Service Unified Facilities Criteria (UFC) Program, which develops standardized facility criteria across all DoD agencies. For those specifications not managed by USACE, USACE continues to recommend sustainable acquisition updates to the UFGS, but must rely on the other members of the Tri-Service Work Group to manage changes and agree to final implementation.

Lessons Learned

Successful implementation of the complex sustainable acquisition requirements requires cross-functional awareness, teamwork and communication. USACE continues to strive to improve sustainable acquisition and is focused on incorporation of sustainability considerations into all aspects of the acquisition lifecycle. Capturing and reporting of sustainable acquisition data requires intensive oversight and attention to ensure that successes in sustainable acquisition are correctly recorded and reported.

Planned Actions

USACE continues to refine its sustainable acquisition training developed during FY2014 to include best practices and lessons learned as well as all changes in regulation and policy related to sustainable acquisition. The USACE Regional Chiefs of Contracting will conduct sustainable acquisition On-the-Job training with District and Center contracting employees during 2015-2016. This hands-on approach to training will bring sustainable acquisition directly to USACE the contract specialists and contracting officers engaged on the front lines of contract formation. Additionally, within the next 12 months, USACE will work in collaboration with the Tri-Services to update 20 guide specifications to ensure sustainable acquisition requirements and business processes are incorporated.

Goal 7: Electronic Stewardship & Data Centers

Integration

Electronic stewardship is integrated into USACE mission activities through consolidated data centers, Enterprise management and centrally-directed policies and procedures, in concert with Army policies, for acquiring, managing and disposing of information technology and other electronic products. USACE actions related to data centers are included in the Army Data Center Consolidation Plan (ADCCP) and the DoD Sustainability Plan and, therefore, are not duplicated in this Sustainability Plan.

USACE uses the Army's Computer Hardware, Enterprise Software Solutions (CHES) program, under Program Executive Office Enterprise Information Systems (PEO EIS). CHES is the mandatory source for commercial Information Technology (IT) purchases and includes Energy Star and Electronic Product Environmental Assessment Tool (EPEAT) requirements.

The USACE Directorate of Corporate Information (CIO) policy was issued November 2010 to cover power management and duplexing requirements. This policy was updated in July 2012, in accordance with the 30 May 2012, All Army Activities (ALARACT) 145/2012 – HQDA Exercised Order (EXORD) 199-12, *Apply and Enforce Energy Efficiency and Management Capabilities of Information Technology*. In accordance with Army Directive 2013-26, dated 2 Dec 2013, USACE will continue to review all output devices for efficiency and effectiveness. All devices will be reviewed for usage and location to ensure devices are sized for the correct capacity, meet mission requirements and are located for effective use.

Surplus or end-of-life electronics are sent to the Defense Logistics Agency (DLA) for proper disposal in accordance with GSA BULLETIN Federal Management Regulation (FMR) B-34, Disposal of Federal Electronic Assets.

Evaluation Measures

USACE tracks performance on information technology purchases, power management, and duplexing, on an annual basis as required by the OMB Sustainability and Energy Scorecard process. Through 2015 USACE will track the effectiveness of compliance with Army Directive 2013-26 and report, as required, through Army.

Successes

USACE has met, and will continue to meet the electronic stewardship requirements as reflected on the OMB Sustainability and Energy Scorecard. USACE reconfigured one of the two main Processing Centers (Central Processing Center, CPC) to optimize on energy efficiency. The other Processing Center (Western Processing Center, WPC) was moved to a co-location facility which meets all the green standards for data centers which includes hot and cold aisles.

Challenges

The number of different titles and versions of the same software across the enterprise cause redundancies in capability that unnecessarily increase storage requirements.

Lessons Learned

The number of different titles and versions of the same software are a result of poor controls on acquisition of software and lack of resources to monitor and sustain purchased software.

Planned Actions

The Application Rationalization (APPRAT) project is being worked in earnest in FY15. Application Rationalization will complete an inventory of server and end user device applications operating on the USACE network (CorpsNet) and perform an analysis on whether to consolidate, retire, sustain or modernize an application. The end result of this effort is a reduced the number of servers required and decrease storage requirements. CIO Policy 2014-10 reinforces this effort

by identifying software management practices that will assist with long term management once the initial APPRAT effort is completed. This project is expected to be completed in CY 2015.

USACE will do a Virtual Desktop Initiative (VDI) pilot in 2016. This project replaces PCs with “cubes” and performs all storage of data on virtual servers located at the consolidated data centers. Cubes have no storage, thus requiring less electricity. They also cost about 50% of a traditional PC and have a longer lifecycle.

Goal 8: Renewable Energy

Integration

As the nation’s #1 generator of hydropower, USACE has a long-standing interest in renewable energy. Since the inception of the USACE Sustainability Program in FY2010, USACE has emphasized increased on-site generation and use of renewable energy, particularly renewable electricity, to achieve the FY 2015 goal established by Presidential Memo (5 Dec 2013) of 10% renewable electricity by the end of 2015. USACE will continue a multi-faceted approach involving the Federal Energy Regulatory Commission (FERC), existing and prospective FERC licenses, and the USACE Hydropower Modernization Initiative to increase its generation and consumption of renewable energy toward the FY2025 30% renewable electricity goal recently established in Executive Order 13693. USACE is also implementing facility-level renewable energy initiatives such as PV, micro-hydropower, and station service hydropower to increase its renewable electricity consumption.

Evaluation Measures

USACE tracks the Renewable Energy goal at the agency level on an annual basis using the OMB Sustainability and Energy Scorecard. USACE also tracks and reports renewable energy generation and consumption at the facility-level in the FEMP Sustainability-GHG report for each USACE facility reporting renewable on-site renewable energy generation and use or renewable energy purchases.

Successes

USACE has achieved the federal renewable energy goal for each year that it has reported renewable energy consumption to FEMP and the Administration. USACE success results largely from long-term, systematic investments in modernization of USACE hydropower generation capabilities to increase capacities and efficiencies and, therefore, generation of Incremental Hydropower. In FY14, USACE executed the Incremental Hydropower Initiative to ensure complete and accurate accounting for incremental hydropower generated and consumed at USACE hydropower facilities. The Incremental Hydropower Initiative identified 4 additional (previously unreported) USACE hydropower facilities at which incremental hydropower was being generated and consumed on-site. The increase in reported incremental hydropower accounted for over 17,600 MWH of the 18,000 MWH increase in FY14 relative to FY13, and resulted in USACE FY14 year-end renewable energy goal progress of 16.3%.

Challenges

Having achieved its renewable energy goal for each year USACE has been reporting as a scorecard agency, the main challenge for USACE is to increase on-site generation and consumption of renewable electricity toward the EO 13693 30% renewable electricity goal. One of the key systemic challenges USACE faces is making O&M investments in hydropower infrastructure as a means to achieve the federal goal – i.e., solely for the benefit of the facility and USACE. In general, the O&M costs for improvements in hydropower generating capabilities at USACE hydropower dams are passed on to the customers. Passing hydropower investment costs to customers for investments that do not benefit customers is problematic.

Lessons Learned

After consultation with FEMP, USACE adopted a methodology developed by the Department of Interior (Bureau of Reclamation) for calculating its consumption of renewable hydropower (incremental hydropower) generated on-site at USACE hydropower dams. USACE's primary lesson learned is interagency collaboration and sharing can result in benefits that advance both the individual agency's performance and the Nation's renewable energy goals.

Planned Actions

USACE will continue the kinds of actions that have enabled it to achieve its renewable energy goals to date. Specifically, USACE will continue investing in cost effective projects to increase on-site generation and consumption of renewable electricity, with emphasis on USACE and FERC hydropower capabilities, while also emphasizing investments in energy efficiency. In FY15-16, USACE will focus on developing projections of hydropower generating capacity improvements expected to result from the USACE Hydropower Modernization Initiative, and use this information to inform planning to more effectively leveraging new and existing incremental hydropower to improve performance on energy intensity and GHG emissions. USACE will also look into ways to leverage alternative financing tools such as ESPCs and Power Purchase Agreements to increase on-site generation and use of renewable energy.

Goal 9: Climate Change Resilience

Integration

USACE continues active engagement with Federal initiatives on climate change preparedness and resilience through participation on working groups of the Council on Climate Preparedness and Resilience, interagency working groups such as the Climate Change and Water Working Group, and interagency and expert teams supporting the publicly available archive of downscaled climate information and hydrology. USACE continues to mainstream climate change adaptation into its missions and operations as required by our overarching Climate Change Adaptation Policy. Mainstreaming means to integrate and incorporate considerations of climate change and variability in all phases of the project lifecycle, for both new and existing projects, to enhance the resilience of our built and natural water-resource infrastructure and to reduce potential vulnerabilities to the effects of climate change and variability. USACE has four strategies to achieve mainstreaming climate preparedness and resilience: Focus on Priority Areas, External Collaboration, Improving USACE Knowledge, and Developing Policy and Guidance.

Evaluation Measures

USACE tracks climate preparedness and resilience progress through annual metrics in the USACE Campaign Plan, which is a formal assessment of the agency's goals and progress. These metrics address external collaboration, improving knowledge about climate impacts and adaptation at the district and division level, progress against a planned three-year schedule of policy and guidance, and progress in conducting and refining climate vulnerability assessments. Evaluations include internal and external review, as appropriate, of draft policies and of work products designed to inform policies and decision making relevant to climate change preparedness and resilience.

Successes

The success of an agency rests on the strengths of its people and their commitment to advance climate preparedness and resilience. For the second year in a row, the White House Council on Environmental Quality (CEQ) identified a USACE employee as a Climate Champion: Mr. William (Bill) D. Goran was recognized for his leadership in integrating climate change into the US military's adaptation and response planning environment. Also in 2014, the USACE Lieutenant General Elvin R. "Vald" Heiberg III Engineer of the Year Award was presented to Dr. Kathleen D. White for her efforts in mainstreaming climate preparedness and resilience.

Challenges

Perhaps the major challenge that hinders some goals is the lack of actionable science on hydrologic impacts of climate change to inform preparedness and resilience decision-making. We are not alone facing this challenge, and are actively working other water management agencies, water science agencies, the working groups of the Council on Climate Preparedness and Resilience, the Climate Change and Water Working Group, the US Global Change Research Program, and other external national and international experts to establish and enhance the flow of information between users and producers of actionable science.

Lessons Learned

We are constantly learning lessons as we implement our policy and guidance. An example lessons learned in 2014 is that we need to provide tools to support technical guidance so that users are analyzing rather than managing the large amounts of data often required for climate preparedness planning and design. As a result, we are now developing supporting tools at the same time as we develop guidance.

Planned Actions

Planned actions for the remainder of CY 2015 include: Continuing participation in interagency actions identified by the Priority Agenda and the State Local and Tribal Leaders Task Force Report, both released in fall 2014; publishing new technical guidance and supporting tools to support analysis of observed and projected hydrologic conditions. These will be made publically available upon release; beginning expansion of downscaled climate and hydrology information to Alaska and Hawai'i; and improving our understanding of supply chain issues and human health and safety impacts of climate change.

Goal 10: Energy Performance Contracts

Integration

In an effort to fully integrate Energy Performance Contracts into agency-wide plans for achieving Sustainability/Energy goals, HQ USACE directed in OPOD 2014-12 (14 March 2014) the development of a USACE-wide Sustainability and Energy Investment Strategy that would integrate individual MSC requirements for energy/water conservation measures for all USACE facilities using all available fund sources: appropriated funds, revolving funds and 3rd party/alternative financing. The overarching intent for the Sustainability/Energy Investment Strategy was to create an integrated and comprehensive, USACE-wide, annual/recurring planning process, as well as a detailed plan, to improve allocation of resources and maximize return on investment for energy and water conservation measures. HQ USACE provided training to support MSC development of the initial version of the USACE Sustainability/Energy Investment Strategy, rolled-up the individual MSC submissions to develop the overall USACE-wide Investment Strategy, and used the results to inform the development of MSC-level alternative financing targets. Energy Performance Contracts, such as ESPCs, ENABLE ESPCs (a small-scale ESPC targeting specific ECMs), and Utility Energy Service Contracts (UESCs) are now an integral component of the USACE Investment Strategy. To expedite MSC-level execution of the Sustainability/Energy Investment Strategy, HQ USACE is centrally funding the US Army Engineering and Support Center, Huntsville (HNC) to support the MSCs in developing economically viable ESPCs and UESCs. In summary, USACE now has in-place the policy, plan, tools and resources to effectively develop and execute economically viable Energy Performance Contracts such as ESPCs and UESCs.

Evaluation Measures

USACE tracks internally, in the context of its quarterly review of Sustainability Leading Metrics, the development and execution of Energy Performance Contract actions. The Alternative Financing metric in the USACE Sustainability Leading metrics tracks the project-specific milestones established by OMB and CEQ in the Energy Performance Contracting exercise in OMB MAX COLLECT.

Successes

USACE achieved a major milestone in ESPC implementation at Civil Works facilities with the 30 May 2014 award of the first-ever ESPC at a Civil Works project. The ESPC project was awarded by a team comprised of Mobile District and HNC personnel who worked tirelessly to scope, engineer, refine (repeatedly), and ultimately award the ESPC for the 10 locks and dams that comprise Tennessee-Tombigbee (Tenn-Tom) Waterway in Mobile District. The energy conservation measures implemented by the ESPC will result in 22% energy savings for the Tenn-Tom. As a result of the ESPC success on the Tenn-Tom, continued strong leadership support Corps-wide, and effective MSC-level Sustainability/Energy investment planning, USACE now has a total of five (5) ESPC initiatives: four (4) in the pipeline, and one (the Tenn-Tom ESPC) awarded.

Challenges

The challenges USACE faces in Energy Performance Contract development are significant. First, the vast majority of USACE facilities are small and dispersed over large geographical areas. Second, several USACE Covered Facilities are not conducive to ESPCs because they operate on

unpredictable cycles driven by flood events – such as the seven (7) emergency pumping plants that are designated USACE Covered Facilities. Finally, the small size of most USACE facilities generally means more than one facility must be included on an ESPC to achieve economic viability. This is true for both traditional and ENABLE ESPCs. This final challenge is further complicated by the different fund types (e.g., appropriated vs. revolving funds) and the associated fiscal constraints and complexities that make it difficult to develop economically viable ESPCs.

Lessons Learned

Command support, comprehensive teamwork, and rigorous engineering and facility-level reviews of ESPC documentation are critical to successful ESPC development. Failure to conduct rigorous engineering and facility-level reviews may result in erroneous assumptions that impact the bottom-line for the ESPC – the kinds of things the customer and the contractor would rather not have to deal with during the performance period.

Planned Actions

USACE will continue to schedule, track and report progress on its top priority Energy Performance Contracts in OMB MAX COLLECT in accordance with Administration policies and procedures. USACE is well positioned to meet or exceed the ASA(CW) \$12.5M commitment for the President’s Performance Contracting Challenge (PPCC). USACE will also continue revising the Sustainability/Energy Investment Strategy on an annual basis to maintain a robust pipeline of Energy Performance Contracts over the long-term (beyond 31 Dec 2016), and ultimately to expedite achievement of energy, water and GHG reduction goals.

Progress on Administration Priorities

Existing Guidance and Implementing Instructions

In FY 2014 USACE formally adopted the DoD Unified Facilities Criteria for High Performance and Sustainable Buildings (HPSB) Requirements (UFC 1-200-02). The UFC 1-200-02 is a clear and comprehensive compilation of all federal sustainability requirements related to facilities, including those described in the following documents: Sustainable Locations for Federal Facilities of September 15, 2011; Sustainable Practices for Designed Landscapes of October 31, 2011 as supplemented October 22, 2014; and Federal Agency Implementation of Water Efficiency and Management Provisions of Executive Order 13514 of July 10, 2013.

President’s Performance Contracting Challenge

Of USACE’s 5 active projects, 1 has been awarded, 3 have completed preliminary assessments, and the last will have a preliminary assessment delivered in early August. USACE is well positioned to achieve its commitment of \$12.5M, with \$3.2M awarded and \$12M in the pipeline and on track for award. For more detail, see Goal 10 above.

Climate Change Adaptation Plans

USACE has made progress on climate preparedness and resilience actions as described in our 2015 Adaptation Plan Update. Specifically, with respect to Section 2 of E.O. 13653, *Preparing the US for the Impacts of Climate Change*, which addresses modernizing Federal programs to support climate-resilient investments considering the recommendations of the State, Local, and Tribal Leaders Task Force (SLTL TF) and accounting for climate change-related risks in other interagency groups as cited in Section 2(c), USACE has taken a number of actions. We participated in the SLTL TF and have identified agency priorities from among the recommendations in their report released in November 2014. We also assisted in the development of the *Climate and Natural Resources Priority Agenda* released in October 2014, and are involved in a number of interagency teams carrying out its actions. Among the executive actions cited in the release of the *Priority Agenda* were the following USACE actions:

- “A New Model for Climate Coastal Vulnerability Assessments”: The U.S. Army Corps of Engineers (USACE) is releasing the results of its screening-level vulnerability assessments for coastal projects, which find that roughly one third of USACE coastal projects are vulnerable to climate change. These assessments can be used as a model for other agencies when screening vulnerability.
- Rapid Assessment Tools for Carbon Sequestration Potentials: USACE is announcing the first rapid, quantitative estimates of existing carbon sequestration and sequestration potentials on the more than 20 million acres of land and water it manages. These areas include reservoirs with potential to sequester large amounts of carbon per unit area.

As described in our Adaptation Plan, USACE is conducting a series of progressively more detailed screening assessments before embarking on detailed assessments of the most vulnerable projects and those with the highest consequences. In September 2014, USACE completed the initial screening-level assessment of the vulnerability of over 1400 projects. About one-third of these projects were identified as being vulnerable to changing sea levels. The vulnerable projects were ranked and sorted, resulting in about 100 projects ranked as having high or very high vulnerability that are now beginning to undergo more detailed examination in the next phase of the screening. USACE has also conducted a CONUS-wide watershed-scale vulnerability assessment for inland projects and has identified the 20% most vulnerable watersheds for aggregated missions and operations, as well as for each mission area. The web-based tools used in these screening-level analyses can be made available to others who wish to perform similar coastal vulnerability assessments. By developing, testing, and making these tools available to others, USACE is well-aligned with the recommendations of the White House State, Local, and Tribal Leaders Task Force released in November 2014.

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Table 1: Size & Scope of Agency Operation

Agency Size and Scope	FY 2013	FY 2014
Total Number of Employees as Reported in the President's Budget	33,699	32,744
Total Acres of Land Managed	7,773,979	7,700,964
Total Number of Buildings Owned ¹	862	879
Total Number of Buildings Leased (GSA and Non-GSA Lease)	220	147
Total Building Gross Square Feet (GSF)	15,743,600	15,885,264
Operates in Number of Locations Throughout U.S.	698	660
Operates in Number of Locations Outside of U.S.		-
Total Number of Fleet Vehicles Owned	760	717
Total Number of Fleet Vehicles Leased	6,999	6,732
Total Number of Exempted-Fleet Vehicles (Tactical, Law Enforcement, Emergency, Etc.)	0	0
Total Amount Contracts Awarded as Reported in FPDS (\$Millions)	18,846	17,228

¹ Building information should be consistent with FY 2013 and FY 2014 data submitted into the Federal Real Property Profile (FRPP).

Agency Progress toward (Prior) Sustainability Goals in E.O. 13514 and E.O. 13423

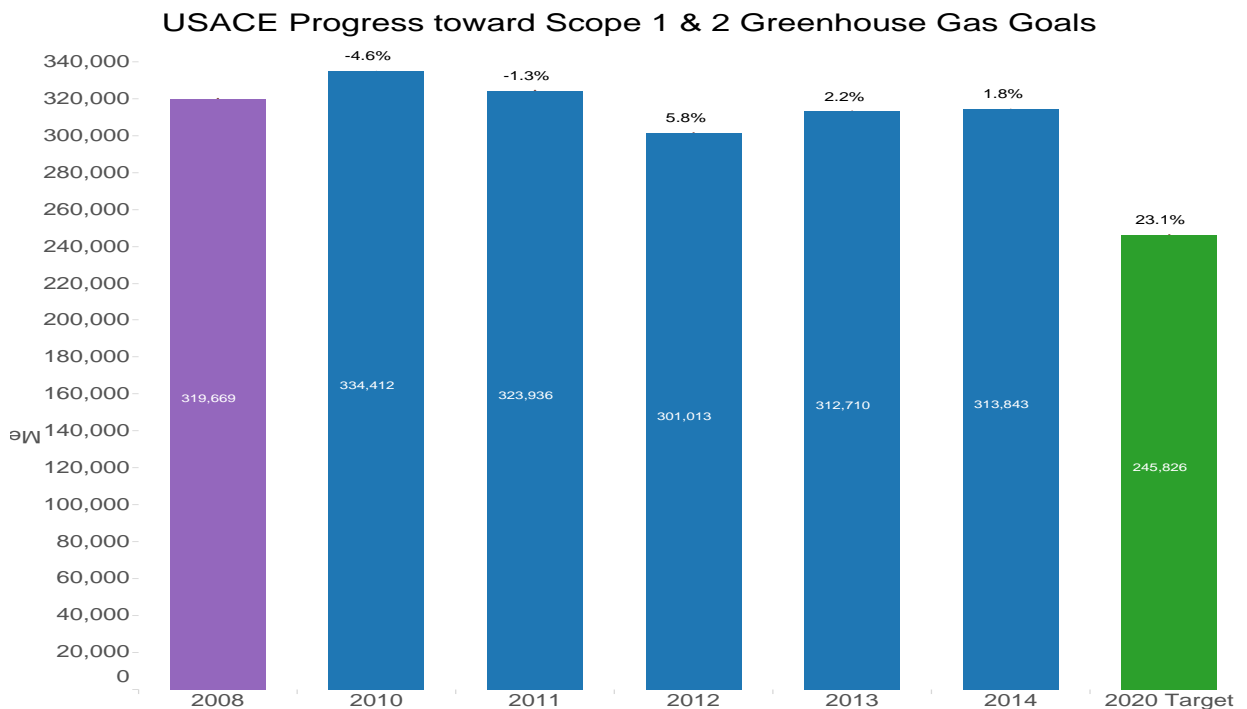
This section provides an overview of agency progress towards the sustainability goals established in E.O. 13514 and E.O. 13423. The subject of many of these goals has been carried over into E.O. 13693 and a review of past performance is useful to determine program effectiveness and development of strategies for future implementation.

Goal 1: Greenhouse Gas (GHG) Reduction

Agency Progress toward Scope 1 & 2 GHG Goal

E.O. 13514 required each agency establish a Scope 1 & 2 GHG emission reduction target to be achieved by FY 2020. The red bar represents the agency's FY 2008 baseline. The green bar represents the FY 2020 target reduction. The blue bars represent annual agency progress towards achieving this target. The percentage at the top of each bar represents the reduction or increase from the FY 2008 baseline.

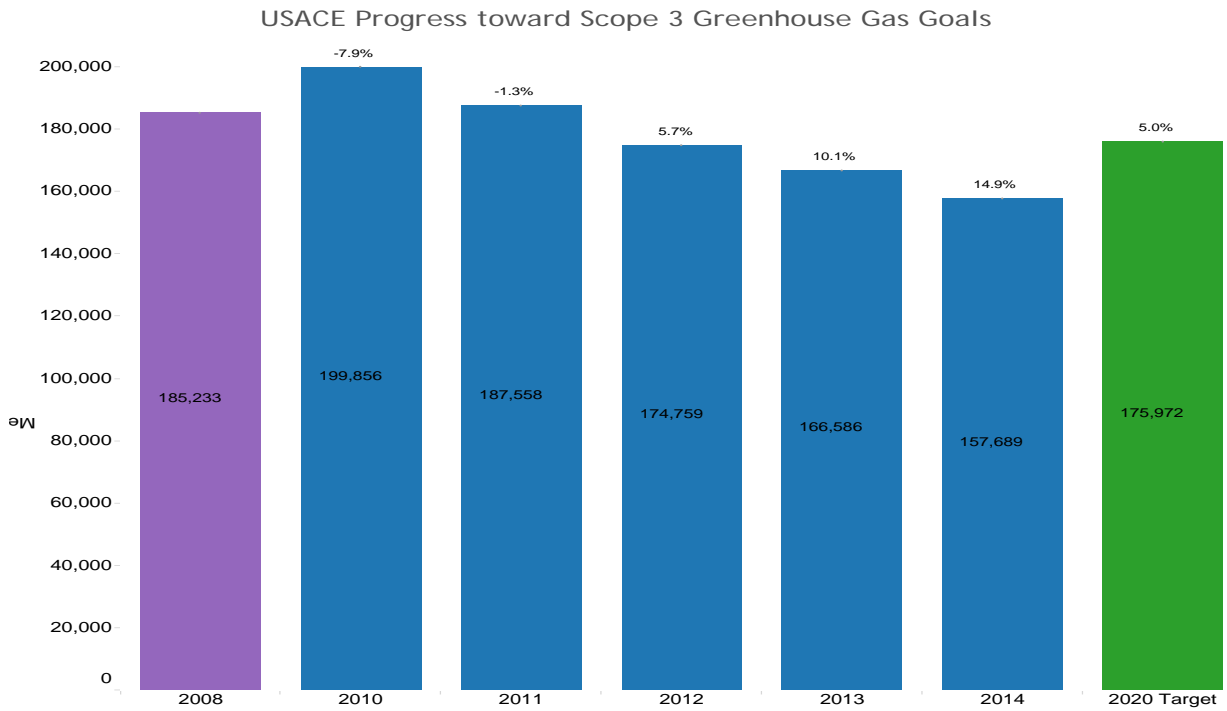
Figure 1-1



Agency Progress toward Scope 3 GHG Goal

E.O. 13514 required each agency establish a Scope 3 GHG emission reduction target to be achieved by FY 2020. The red bar represents the agency's FY 2008 baseline. The green bar represents the FY 2020 reduction target. The blue bars represent annual agency progress on achieving this target. The percentage at the top of each bar represents the reduction or increase from the FY 2008 baseline.

Figure 1-2

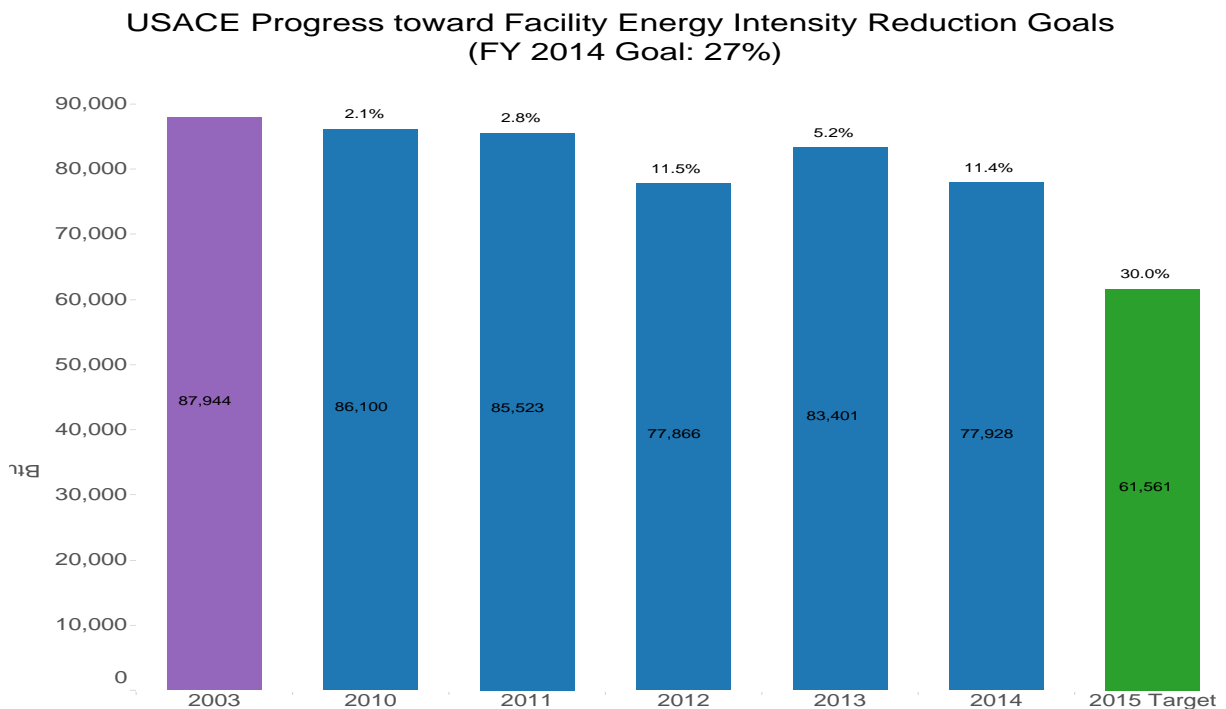


Goal 2: Sustainable Buildings

Agency Progress toward Facility Energy Intensity Reduction Goal

E.O. 13514 section 2 required that agencies consider building energy intensity reductions. Further, the Energy Independence and Security Act of 2007 (EISA) requires each agency to reduce energy intensity 30 percent by FY 2015 as compared to the FY 2003 baseline. Agencies are expected to reduce energy intensity by 3 percent annually through FY 2015 to meet the goal. The red bar represents the agency's FY 2003 baseline. The green bar represents the FY 2015 target reduction. The blue bars show annual agency progress on achieving this target. The percentage at the top of each bar represents the reduction or increase from the FY 2003 baseline.

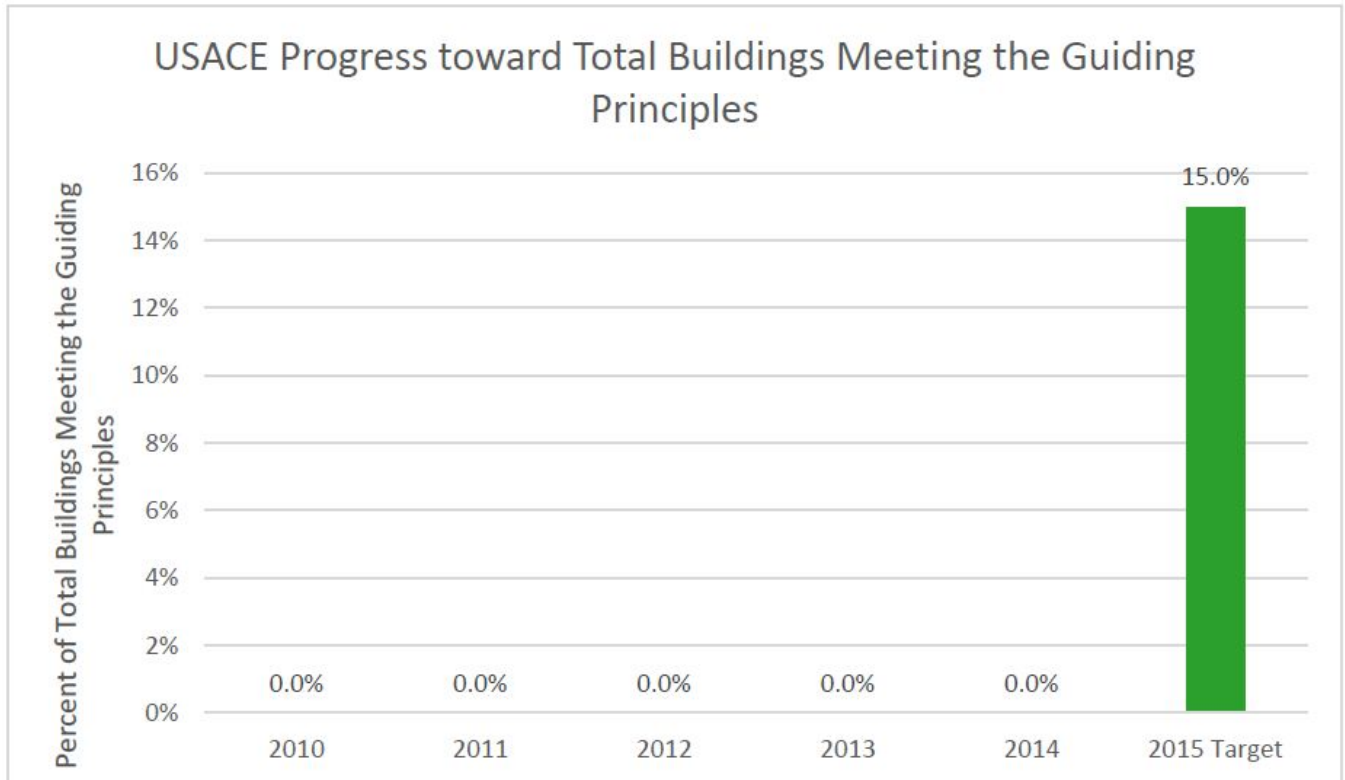
Figure 2-1



Agency Progress toward Total Buildings Meeting the Guiding Principles

E.O. 13514 required that by FY 2015, 15 percent of agencies' new, existing, and leased buildings greater than 5,000 square feet meet the Guiding Principles. In order to meet the FY 2015 goal, agencies should have increased the percentage of conforming buildings by approximately 2 percent annually from their FY 2007 baseline. The green bar represents the FY 2015 target. The blue bars represent annual agency progress on achieving this target.

Figure 2-2

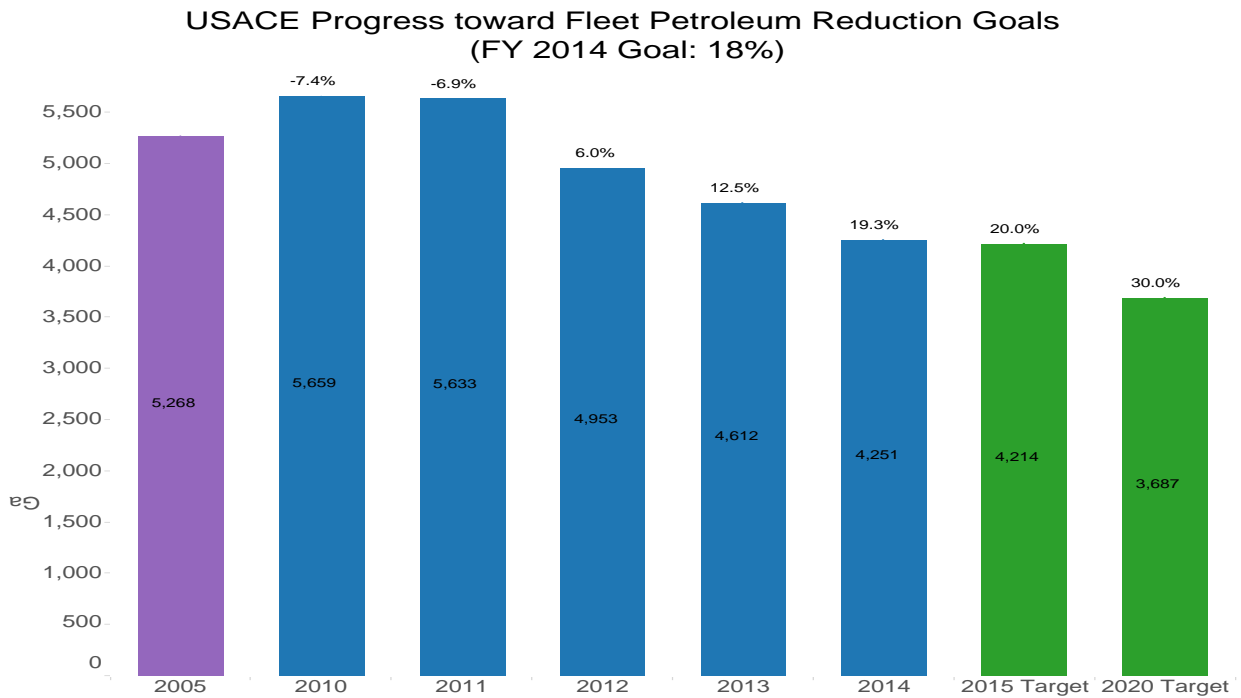


Goal 3: Fleet Management

Agency Progress toward Fleet Petroleum Use Reduction Goal

E.O. 13514 required and the Energy Independence and Security Act of 2007 (EISA) requires that by FY 2015 agencies reduce fleet petroleum use by 20 percent compared to a FY 2005 baseline. Agencies were expected to achieve at least a 2 percent annual reduction. The red bar represents the agency's FY 2005 baseline. The green bars represent the FY 2015 target reduction. The blue bars represent annual agency progress on achieving these targets. The percentage at the top of each bar represents the reduction or increase from the FY 2005 baseline.

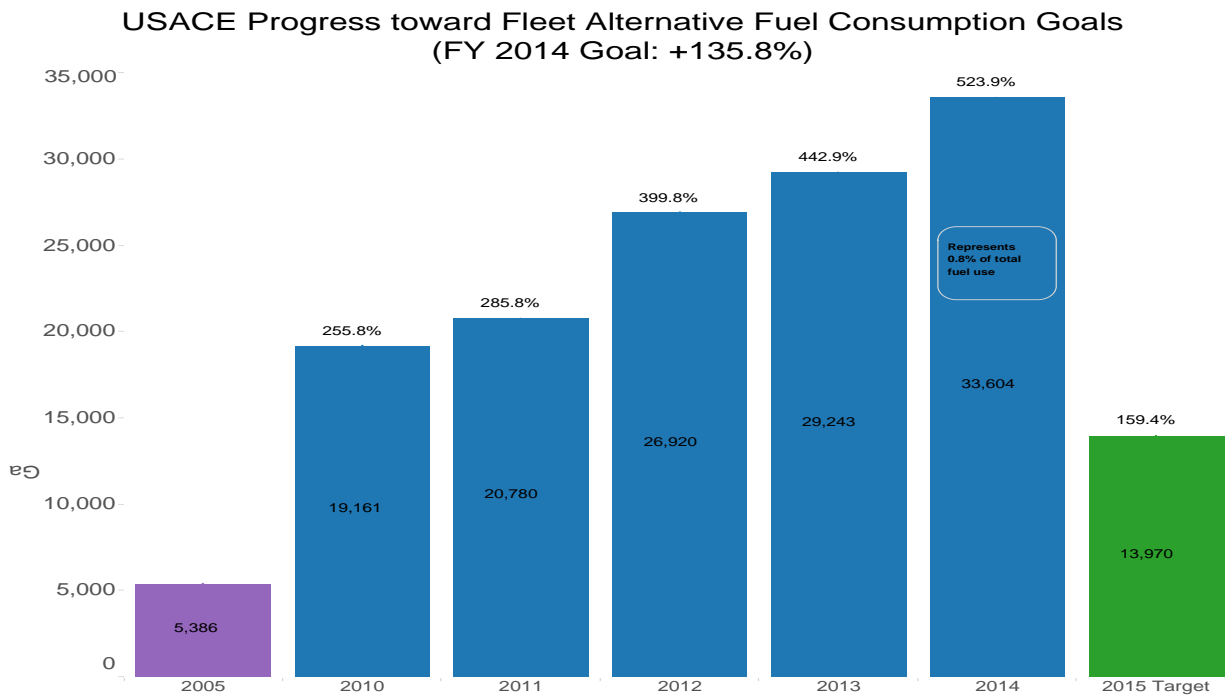
Figure 3-1



Agency Progress toward Fleet Alternative Fuel Consumption Goal

E.O. 13423 required that agencies increase total alternative fuel consumption by 10 percent annually from the prior year starting in FY 2005. By FY 2015, agencies must have increased alternative fuel use by 159.4 percent, relative to FY 2005. The red bar represents the agency's FY 2005 baseline. The green bar represents the FY 2015 target. The blue bars represent annual agency progress on achieving this target. The percentage at the top of each bar represents the reduction or increase from the FY 2005 baseline. A negative percentage indicates a decrease in fleet alternative fuel use.

Figure 3-2



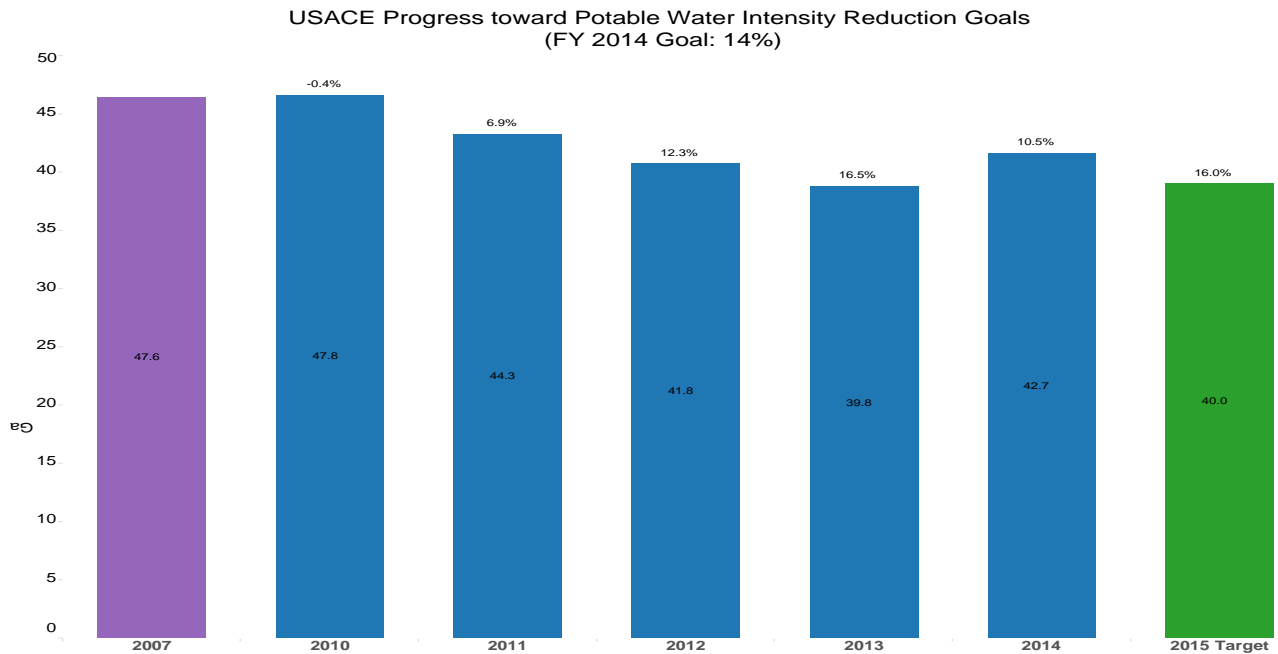
Goal 4: Water Use Efficiency & Management

Agency Progress toward Potable Water Intensity Reduction Goal

E.O. 13514 required agencies to reduce potable water intensity by 2 percent annually through FY 2020 compared to an FY 2007 baseline. A 16 percent reduction was required by FY 2015 and a 26 percent reduction was required by FY 2020. The red bar represents the agency's FY 2007 baseline. The green bars represent the FY 2015 and FY 2020 target reductions. The blue bars represent annual agency progress on achieving these targets. The percentage at the top of each bar represents the reduction or increase from the FY 2007 baseline.

Agency data for progress towards the industrial, landscaping and agricultural water use reduction target is not available.

Figure 4-1



Goal 5: Pollution Prevention & Waste Reduction

Agency Progress toward Pollution Prevention & Waste Reduction

E.O. 13514 required that Federal agencies promote pollution prevention and eliminate waste. The E.O. required agencies to minimize the use of toxic and hazardous chemicals and pursue acceptable alternatives. It also required agencies minimize waste generation through source reduction, increase diversion of compostable materials, and by the end of FY 2015 divert at least 50% of non-hazardous and 50% of construction and demolition debris.²

Agency Data For This Goal Is Not Available.

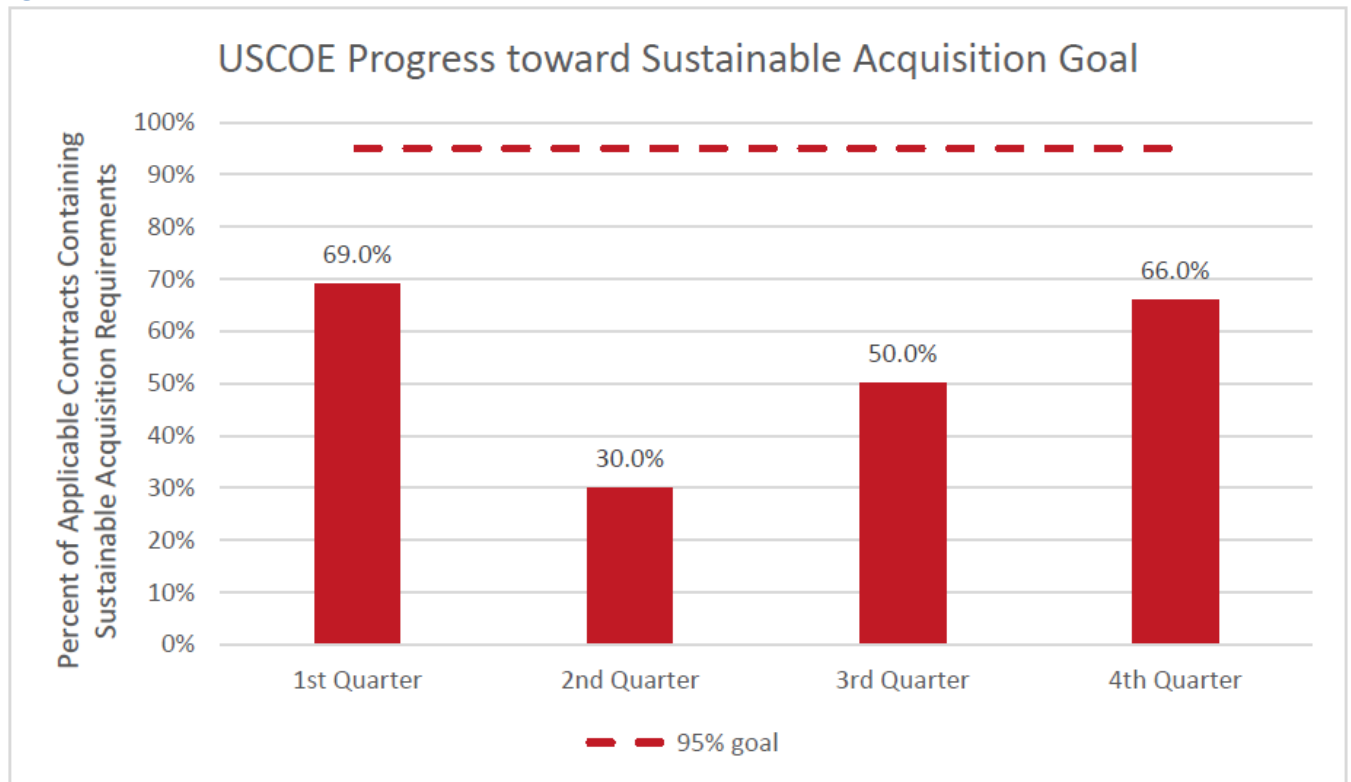
² Waste accounting guidance will be issued in spring of 2015. Agencies will be expected to begin implementation as soon as practicable. Accounting will begin in FY 2016.

Goal 6: Sustainable Acquisition

Agency Progress toward Sustainable Acquisition Goal

E.O. 13514 required agencies to advance sustainable acquisition and ensure that 95 percent of applicable new contract actions met federal mandates for acquiring products that are energy efficient, water efficient, biobased, environmentally preferable, non-ozone depleting, recycled content, or are non-toxic or less toxic alternatives, where these products meet performance requirements. To monitor performance, agencies perform quarterly reviews of at least 5 percent of applicable new contract actions to determine if sustainable acquisition requirements are included.

Figure 6-1






Goal 7: Electronic Stewardship & Data Centers




Agency Progress toward EPEAT, Power Management and End of Life Goals

E.O. 13514 required agencies to promote electronics stewardship by: ensuring procurement preference for EPEAT-registered products; implementing policies to enable power management, duplex printing, and other energy-efficient features; employing environmentally sound practices with respect to the disposition of electronic products; procuring Energy Star and FEMP designated electronics; and, implementing best management practices for data center operations.




Figure 7-1

EPEAT	POWER MANAGEMENT	END-OF-LIFE	COMMENTS
			Electronics disposal through transfer to Defense Logistics Agency.


EPEAT



	95% or more Monitors and PCs/Laptops purchased in FY 2013 was EPEAT Compliant Agency-wide
	85-94% or more Monitors and PCs/Laptops purchased in FY 2013 was EPEAT Compliant Agency-wide
	84% or less Monitors and PCs/Laptops purchased in FY 2013 was EPEAT Compliant Agency-wide

Power Management

	100% Power Management Enabled Computers, Laptops and Monitors Agency-wide
	90-99% Power Management Enabled Computers, Laptops and Monitors Agency-wide
	89% or less Power Management Enabled Computers, Laptops and Monitors Agency-wide

End-of-Life

	100% of Electronics at end-of-life disposed through GSA Xcess, CFL, Unicorn, USPS Recycling Program or Certified Recycler (R2, E-Stewards). <i>Submitted annual report to GSA for Federal Electronics Assets furnished to non-Federal recipients.</i>
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	<p>100% of Electronics at end-of-life disposed through GSA Xcess, CFL, Unicor, USPS Recycling Program and/or non-Certified Recycler. <i>Submitted annual report to GSA for Federal Electronics Assets furnished to non-Federal recipients.</i></p>
	<p>Less than 100% of Electronics at end-of-life disposed through GSA Xcess, CFL, Unicor, USPS Recycling Program or non-Certified Recycler. No annual report submitted to GSA for Federal Electronics Assets furnished to non-Federal recipients.</p>

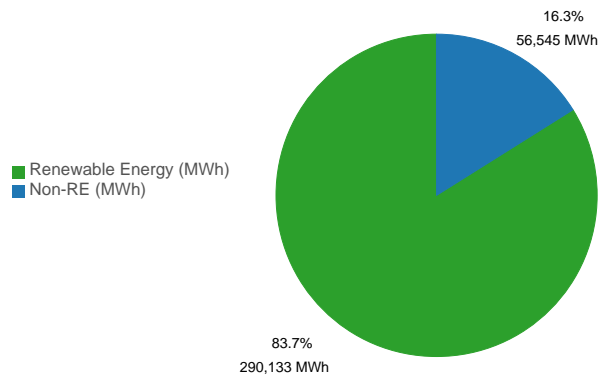
Goal 8: Renewable Energy

Agency Renewable Energy Percentage of Total Electricity Usage

E.O. 13514 requires that agencies increase use of renewable energy. Further, EPACT 2005 requires agencies to increase renewable energy use such that 7.5 percent of the agency's total electricity consumption is generated by renewable energy sources for FY 2014 and beyond. For FY 2012, the required target was 5 percent of an agency's total electricity consumption. In 2013, a Presidential Memorandum entitled *Federal Leadership on Energy Management* revised the Federal agency target for agency renewable energy percentage of total electricity usage to reflect a goal of 20% by 2020.

Figure 8-1

USACE Use of Renewable Energy as a Percentage of Electricity Use
(FY 2014 Goal: 7.5%)



Goal 9: Climate Change Resilience

Agency Climate Change Resilience

E.O. 13514 required each agency to evaluate agency climate change risks and vulnerabilities to identify and manage the effects of climate change on the agency's operations and mission in both the short and long term.

This goal is addressed through qualitative commitments on the part of each agency and a summary of progress may be found in the Executive Summary at the beginning of this document.

Goal 10: Energy Performance Contracts

Agency Progress in Meeting President's Performance Contracting Challenge (PPCC) Goal

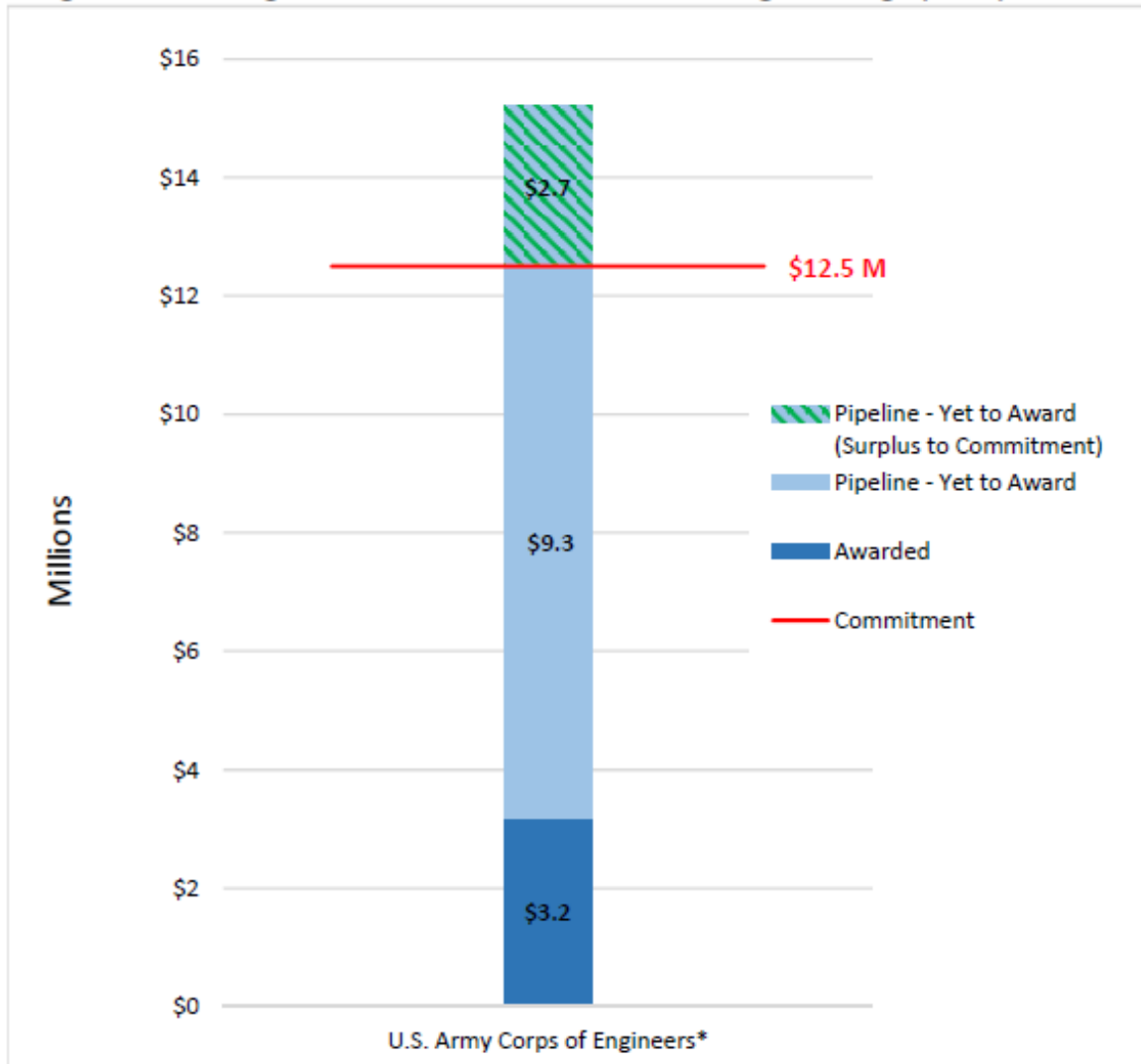
Energy Performance Contracts, including both Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs), enable agencies to obtain energy efficiency investments in buildings and deploy on-site renewable energy through long-term contracts with the private sector, which are in turn paid through savings derived from those investments.³ The chart below (left) represents the agency's performance contracting commitment and progress toward that commitment as reported through April 15, 2014 (for agencies subject to the 2011 President's Performance Contracting Challenge). The bar graph shows the total dollar value (in millions) of (1) already awarded projects, (2) projects in the pipeline but not yet awarded, and (3) the pipeline shortfall or surplus depending on whether the agency has reached their commitment goal.

Note: All agencies were expected to meet or exceed their initial target no later than June 30, 2014.

³ Goal 10 section is relevant only to agencies subject to the PPCC.

Figure 10-1

**Figure 10-1: U.S. Army Corps of Engineers*
Progress in Meeting President's Performance Contracting Challenge (PPCC) Goal**



Note: This chart indicates agency progress toward the 2016 Performance Contracting goal as of May 15, 2015.

Agency Strategies to Meet Goals of E.O. 13693

Goal 1: Greenhouse Gas (GHG) Reduction

Table 1-1: Goal 1 Strategies – Scope 1 & 2 GHG Reductions

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Required Strategy under E.O. 13693			
Use the FEMP GHG emission report to identify/target high emission categories and implement specific actions to resolve high emission areas identified.	Yes	USACE’s largest emission category is facilities, accounting for ~60% of USACE GHG Scope 1&2 emissions annually. USACE facilities are generally small and geographically dispersed which poses challenges in structuring ESPC projects. USACE issued policy in FY15 specifying how multi-facility ESPCs could be developed with investment opportunity large enough to attract energy services contractors. Leveraging this policy, USACE has established a pipeline of ESPCs with geographic scope encompassing facilities accounting for 33 percent of its FY14 GHG emissions, and 50 percent of the targeted emissions come from USACE top-10 GHG emitters.	Metric is on-time execution of the Energy Performance Contracting milestones as tracked and reported by USACE in OMB MAX.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Identify alternative sources of data or alternative methods of analysis not set forth in E.O. 13693, but with the potential to support its goals.	No	In order to expedite progress on the Administration priorities specified in EO 13693, USACE will focus all available resources on the requirements set forth in EO13693.	
Identify and support management practices or training programs that encourage employee sustainability and greenhouse gas consideration.	Yes	USACE developed and fielded a 1.5 day Sustainability/Energy training course in FY14/15. The course addresses 9 of the 10 federal Sustainability/Energy goals. (Only Goal 10, Climate Change Resilience, is not addressed.) In FY16 USACE will update the course content to reflect EO13693 requirements for goals 1-9. USACE will offer the updated course at least 3 times during the period FY15-Q4 and FY16-Q4.	Metric for USACE EO13693 Sustainability/Energy training course: Schedule and execute at least 3 course offerings by 30 June 2016.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
<p>Conceptualize the goals of E.O. 13693 within a projected cost-benefit framework to identify low-hanging fruit.</p>	<p>Yes</p>	<p>USACE will continue to refine and update annually its Sustainability/Energy investment strategy. The USACE Sustainability/Energy investment strategy for FY15-19 was developed initially in FY14, and it enabled USACE to project, evaluate, and take action to improve its performance on energy and GHG Scope 1 and 2 goals through FY 2020. The Investment Strategy is updated annually to identify and prioritize the full set of cost-effective energy conservation projects being considered across all USACE facilities, using all funding sources: appropriated, revolving fund and 3rd-party financing.</p>	<p>Metric: Complete the 2nd annual update of the USACE Sustainability/Energy Investment Strategy by 30 May 2016.</p>

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Isolate successful measures applied toward the goals of E.O. 13514 that could be expanded to meet the goals of E.O. 13693.	Yes	USACE demonstrated over the past few years that leadership support, metrics/accountability, and close partnership between non-tactical vehicle (NTV) fleet managers and NTV users/driver could achieve significant reductions in fleet size and petroleum consumption. One of the true keys to success in USACE achieving in FY14 its first-ever "GREEN" rating for NTV petroleum reduction was the establishment and quarterly tracking of a leading metric focused on implementation of the VAM and achieving the Optimal Fleet. In FY15-16, USACE will roll-out similar new metrics for Sustainable Acquisition and Alternative Fuel to drive toward success on the associated EO13693 goals.	Incorporate new metrics for Sustainable Acquisition and Alternative Fuel use in the USACE Sustainability Leading Metrics by FY15 Q4.
Determine unsuccessful programs or measures to be discontinued to better allocate agency resources, human and otherwise.	No	To date USACE has identified no unsuccessful programs that it has the discretion to discontinue.	

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Determine which goals set forth in E.O. 13693 represent unambitious targets given past agency performance, identify by how much they could be exceeded, and establish new within-agency target.	No	From the perspective of USACE, all goals set forth in EO 13693 range from aggressive to significant stretch goals.	
Employ operations and management best practices for energy consuming and emission generating equipment.	Yes	USACE vessels (floating plant) are a major source of GHG emissions, accounting annually for about 30 percent of USACE GHG Scope 1 and 2 emissions. In FY15-16, USACE will execute energy audits on selected vessels – essentially applying management best practices usually associated with buildings to the USACE vessel fleet.	Specific metric/target for FY15-16: Select vessels that are representative of 4 major categories of USACE vessels, and execute energy audits on each selected vessel by 31 May 2016.

Table 1-2: Goal 1 Strategies – Scope 3 GHG Reductions

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Required Strategy under E.O. 13693			
Reduce employee business ground travel.	Yes	Although Employee Business Ground Travel accounted for less than 1% of USACE GHG Scope 3 emissions in FY14, it is an integral component of the broader USACE strategy for reducing TDY travel.	Specific metric for FY 2015-2016: Spend at least 30% less on travel expenses covered by OMB memo M-12-12 relative to FY 2010.
Reduce employee business air travel.	Yes	Based on the USACE FY 2014 FEMP GHG emission report, 88% of USACE Scope 3 GHG emissions are generated by two sources: employee commuting (72%) and business air travel (15%). USACE will implement the travel-related requirements of Executive Order 13589, "Promoting Efficient Spending," (November 9, 2011), and the OMB memo, "Promote Efficient Spending to Support Agency Operations," (11 May 2012), to support reductions of USACE' second largest Scope 3 GHG emissions source – business travel.	Specific metric for FY 2015-2016: Spend at least 30% less on travel expenses covered by OMB memo M-12-12 relative to FY 2010.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Develop and deploy employee commuter reduction plan.	No	While this is not a priority strategy, USACE will continue to provide encouragement, incentives to the extent feasible, and support for commuters to use alternative modes of transportation (such as cycling, ridesharing, public transit and telework), alternative work hours, and other carbon-efficient transportation options.	
Use employee commuting survey to identify opportunities and strategies for reducing commuter emissions.	Yes	USACE will execute a commuter survey every 2-3 years to identify opportunities and to establish or update strategies for reducing commuter emissions and to improve accounting for USACE Scope 3 GHG emissions.	Specific Target for FY 2015-2016: Complete commuter survey and analysis by 31 December 2015.
Increase number of employees eligible for telework and/or the total number of days teleworked.	Yes	USACE issued a Telework Policy on 16 August 2011 and will continue to encourage increasing the number of employees eligible for and approved for participation in the Telework Program to achieve additional reductions in Scope 3 GHG emissions.	Specific target for FY 2015-2016: complete commuter survey and analysis by 31 December 2015.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Develop and implement bicycle commuter program.	No	While USACE does not plan to develop a bicycle commuter program, bicycle commuting is a significant transportation mode for USACE employees. An employee commuter survey conducted in Dec 2010 indicates 1.5 million miles of commuter travel by bicycling and/or walking. Each subordinate command has the ability to promote and support some aspects of such a program if feasible. Some USACE office locations may be more suited for bicycle commute than others. Consequently a local determination of the practicality and feasibility of such a program is required.	
Provide bicycle commuting infrastructure.	No	Due to fiscal constraints, putting in place the infrastructure, i.e. visible, secure and accessible parking, shower and changing facilities, to support a program is not feasible at this time.	

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Plan to begin FY 2016: Report scope 3 greenhouse gas emissions for leases over 10,000 rentable square feet (E.O. 3(h)(v))	Yes	USACE will focus its efforts on (1) identifying proposed newly solicited leases for buildings greater than 10,000 Rentable Square Feet (RSF); (2) ensuring that newly solicited lease terms include a requirement for lessors to disclose GHG and/or energy consumption data (submetering or a prorated share); and (3) for developing and reporting at FY16 year-end initial GHG emissions estimates for leased buildings.	(1) Develop a list of newly solicited leases for buildings greater than 10,000 RSF by 30 Sep 2015. (2) Ensure that the terms of the newly solicited leases include a requirement for lessors to disclose energy consumption and/or GHG emissions data. (3) Report by 31 Jan 2017 USACE initial estimates of GHG Scope 3 emissions for all leases of buildings greater than 10,000 RSF.

Goal 2: Sustainable Buildings

Building Energy Conservation, Efficiency, and Management

Section 3(a) of E.O. 13693 states that agencies will promote building energy conservation, efficiency, and management. Section 3(a)(i) requires agencies to reduce building energy intensity by 2.5% annually through the end of FY 2025 (measured in British thermal units per square foot), relative to a FY 2015 baseline and taking into account agency progress to date, except where revised pursuant to section 9(f) of E.O. 13693.

Building Efficiency Performance, and Management

Section 3(h) of E.O. 13693 states that agencies will improve building efficiency, performance, and management.

Section 3(h)(iii) requires that agencies identify, as a part of the planning requirements of section 14 of this order, a percentage of the agency's existing buildings above 5,000 gross square feet intended to be energy, waste, or water net-zero buildings by FY 2025 and implementing actions that will allow those buildings to meet that target.

CEQ recognizes that any FY 2016 agency projections for this goal are rudimentary estimates. Agencies will be only expected to share lessons learned in implementing this goal and will not be scored or graded on outcomes towards the target established for FY 2016.

The USACE estimated percentage is 1.0%.

Table 2-1: Goal 2 Strategies – Sustainable Buildings

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Required Strategy under E.O. 13693			
Use remote building energy performance assessment auditing technology 3(a)(A)	No	USACE currently has few, if any, buildings equipped with the technologies required to support remote energy performance assessments.	
Participate in demand management programs 3(a)(B)	No	Although this is not a Top-Five strategy, USACE is looking into options to incorporate demand-side management in its Energy Performance Contracting and Commercial Utility Program initiatives.	
Ensure that monthly performance data is entered into the Environmental Protection Agency (EPA) ENERGY STAR Portfolio Manager 3(a)(C)	Yes	USACE will enter building-level data into EPA ENERGY STAR Portfolio Manager when advanced meters are installed, operating, and transmitting data into a centralized Army/USACE meter data management system.	100% of USACE buildings with advanced meters installed, operating, and transmitting data into a centralized Army/USACE meter data management system have all required data entered into Portfolio Manager by 31 Dec 2015.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Where feasible: Incorporate Green Button data access system into reporting, data analytics, and automation processes 3(a)(D)	No	This is not a Top-Five strategy, but USACE will incorporate Green Button into its 5-Year Metering Implementation Plan and encourage its facilities to access and utilize Green Button data for energy management and reporting purposes.	
Implement space utilization and optimization practices and policies 3(a)(E)	Yes	Reduce administrative space across USACE by: consolidating areas to meet reduction standards; co-locating with other federal agencies to reduce the footprint; initiating work space studies with GSA; and employing more teleworking and alternative work schedules to assist in reconfiguring the current space.	Identify MSCs and Districts that are currently Red on the Administrative Space Utilization Report (ASUR), as defined by exceeding the USACE administrative space requirement of 178 square foot per person, and target them for Amber (greater than 162 SF/PN, but less than 178 SF/PN). Begin a dialog with GSA to ascertain how to implement consolidation, co-location, and reconfiguration options for USACE space requirements.
Identify opportunities to transition test-bed technologies to achieve the goals of this section 3(a)(F)	No	Due to resource constraints that are not likely to go away in the foreseeable future, USACE will focus on implementing life-cycle cost effective, tested and proven energy and water conserving technologies.	

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Where feasible: Conform to city energy performance benchmarking and reporting requirements 3(a)(G)	No	This strategy will not affect the large number of USACE facilities that are located in rural areas, so it is not identified as a Top 5 strategy. However, where required by local law or regulation, USACE will conform to applicable city energy performance benchmarking and reporting requirements.	
Begin planning for FY 2020 requirement: Ensure all new construction of Federal buildings greater than 5,000 gross square feet that enters the planning process be designed to achieve energy net-zero and, where feasible, water or waste net-zero by FY 2030 3(h)(i)	No	USACE will integrate relevant EO13693 planning requirements into appropriate planning guidance for all new Civil Works and Corps-owned buildings entering the planning process in FY 2020 and thereafter. USACE efforts to address EO13693 planning requirements will be guided by UFC 1-200-02.	

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
In all new agency lease solicitations over 10,000 rentable square feet, include criteria for energy efficiency as a performance specification or source selection evaluation factor 3(h)(iv)	Yes	In addition to taking steps to ensure that lease terms include a requirement for lessors to disclose GHG and/or energy consumption data (see strategies in Table 1-2) , USACE will incorporate relevant EO13693 energy efficiency requirements into new agency lease solicitations for buildings over 10,000 RSF.	100% conformance for leases greater than 10,000 Rentable Square Feet (RSF) beginning in FY 2016.
In all new agency lease solicitations over 10,000 rentable square feet, include requirements for building lessor disclosure of carbon emission or energy consumption data for leased portion of building 3(h)(iv)	No	This strategy is not a Top 5 priority strategy for Goal 2, Sustainable Buildings, because it is already identified as a Top 5 priority strategy in Goal 1 Strategies – Scope 3 GHG Reductions, Table 1-2.	
In planning new facilities or leases, include cost-effective strategies to optimize sustainable space utilization and consideration of existing community transportation planning and infrastructure, including access to public transit 3(h)(vi)	No	This not a Top Five priority for USACE because of the large number of USACE Civil Works facilities whose location is mandated by federal statute in areas that often do not have access to public transportation.	
Ensure that all new construction, major renovation, repair, and alteration of agency buildings includes appropriate design and deployment of fleet charging infrastructure 3(h)(vii)	No	USACE has begun to address deployment of fleet charging infrastructure for GSA-leased NTVs; however, this strategy does not yet constitute a Top Five priority.	

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
<p>Include climate resilient design and management into the operation, repair, and renovation of existing agency buildings and the design of new buildings 3(h)(viii)</p>	<p>No</p>	<p>Agency issued Engineering and Construction Bulletin (ECB) 2013-33, Application of Flood Risk Reduction Standard for Sandy Rebuilding Projects. The ECB provides information on how to apply the April 2013 Flood Risk Reduction Standard (FRRS) for Sandy Rebuilding Projects issued by Housing and Urban Development Secretary Donovan. The ECB outlines a procedure to establish applicability, determine best available base flood elevation (BFE), and calculate the minimum flood risk reduction elevation required. An accompanying web tool was also provided.</p>	<p>Executive Order (EO) 13690 – Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder amends EO 11988, Floodplain Management, and establishes a Federal Flood Risk Management Standard (FFRMS) that will help ensure that federally-funded buildings are climate-resilient with respect to future flooding. Agency will review policies and programs and update our agency-specific guidance following the publication of the final Implementing Guidelines.</p>

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Recommended Strategy			
Install and monitor energy meters and sub-meters as soon as practicable.	Yes	The FEMP release of updated metering guidance in November 2014 expanded the focus of USACE metering efforts to address (non-excluded) buildings greater than 5,000 GSF. The first step in responding to the updated metering guidance is development of a 5-year metering implementation plan.	Specific targets/metrics for FY15-16: Complete and submit the USACE 5-year Metering Implementation Plan by November 2015.
Collect and utilize building and facility energy use data to improve building energy management and performance.	No		
Incorporate green building specifications into all new construction and major renovation projects.	No		
Redesign or lease interior space to reduce energy use by implementing daylighting, space optimization, sensors/control system installation, etc.	No		
Develop and deploy energy and sustainability training for all facility and energy managers.	Yes	USACE will continue to refine the Sustainability training course it developed in FY14.	Specific target/metric for FY15-16: Schedule and execute at least 3 USACE Sustainability course offerings by 30 June 2016.
Include in every construction contract all applicable sustainable acquisition requirements for recycled, biobased, energy efficient and environmentally preferable products.	No		

Table 2-2: Goal 2 Strategies – Data Center Efficiency

Section 3(a)(ii) of E.O. 13693 states that agencies must improve data center efficiency at agency facilities. Section 3(a)(ii)(C) requires that agencies establish a power usage effectiveness target in the range of 1.2-1.4 for new data centers and less than 1.5 for existing data centers.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Required Strategy under E.O. 13693			
Ensure the agency chief information officer promotes data center energy optimization, efficiency, and performance 3(a)(ii)(A)	Yes	Data Center Strategy is being reported through the Army Data Center Consolidation Plan (ADCCP)	NA
Install and monitor advanced energy meters in all data centers by fiscal year 2018 3(a)(ii)(B)	Yes	USACE is developing a Metering Plan per FEMP guidance, this Metering Plan will include considerations of data centers	Specific targets/metrics for FY15-16: Complete and submit the USACE 5-year Metering Implementation Plan by November 2015.
(A) Recommended Strategy			
Optimize agency Data Centers across total cost of ownership metrics.	Yes	Data Center Strategy is being reported through the Army Data Center Consolidation Plan (ADCCP)	NA
Improve data center temperature and air-flow management.	Yes	Data Center Strategy is being reported through the Army Data Center Consolidation Plan (ADCCP)	NA
Identify and consolidate obsolete and underutilized agency computer servers into energy efficient data centers.	Yes	Data Center Strategy is being reported through the Army Data Center Consolidation Plan (ADCCP)	NA

Goal 3: Clean & Renewable Energy

Agency Clean Energy Share of Total Electric and Thermal Energy Goal

E.O. 13693 3(b) requires that, at a minimum, the percentage of an agency's total electric and thermal energy accounted for by renewable and alternative energy shall be not less than: 10% in FY 2016-17; 13% in FY 2018-19; 16% in FY 2020-21; 20% in FY 2022-23; and 25% by FY 2025.

Agency Renewable Energy Share of Total Electricity Consumption Goal

E.O. 13693 3(c) sets a second schedule that addresses specifically renewable energy. It requires that renewable energy account for not less than 10% of total electric energy consumed by an agency in FY 2016-17; 15% in FY 2018-19; 20% in FY 2020-21; 25% in FY 2022-23; and 30% by 2025.

Table 3: Goal 3 Strategies – Clean and Renewable Energy

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Required Strategy under E.O. 13693			
DoD only: Include in DoD accounting, fulfillment of the requirements of DoD goals under section 2852 of the National Defense Authorization Act of 2007 3(e)(vi)	NA	NDAA Section 2852 renewable energy goal is not being applied at Civil Works facilities, because they are not military installations.	

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Recommended Strategy			
Install agency-funded renewable on-site and retain corresponding renewable energy certificates (RECs) or obtaining replacement RECs 3(d)(i)	Yes	USACE will continue efforts to use the Civil Works O&M budget process and alternative financing tools to enable individual USACE facilities to identify (e.g., through energy audits) and implement life-cycle cost effective renewable energy (e.g., wind / solar) systems to generate energy for use on-site.	Specific target/metric for FY 2015-2016: Execute 100% of CW O&M funds programmed for renewable energy ECMs.
Contract for the purchase of energy that includes installation of renewable energy on or off-site and retain RECs or replacement RECs for the term of the contract 3(d)(ii)	No		
Purchase electricity and corresponding RECs or obtaining equal value replacement RECs 3(d)(iii)	Yes	USACE facilities have discretion to take action at a local level to contract for purchase of renewable electricity and corresponding RECs when supported by life cycle cost analysis of renewable energy alternatives.	Specific target/metric for FY15-16: Consider renewable energy/REC purchases in 100% of new or renegotiated electric utility contracts.
Purchase RECs 3(d)(iv)	No		

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Install thermal renewable energy on-site at Federal facilities and retain corresponding renewable attributes or obtain equal value replacement RECs 3(e)(i)	Yes	USACE will continue efforts to use the Civil Works O&M budget process and alternative financing tools to enable individual USACE facilities to identify (e.g., through energy audits and similar types of assessments) and implement life-cycle cost effective thermal renewable energy (e.g., solar water heaters, ground source heat pumps, and wood pellet stove) systems to generate energy for use on-site.	Specific target/metric for FY 2015-2016: Execute 100% of CW O&M funds programmed for renewable energy ECMs.
Install combined heat and power processes on-site at Federal facilities 3(e)(ii)	No		
Identify opportunities to install fuel cell energy systems on-site at Federal facilities 3(e)(iii)	Yes	USACE will continue efforts to use the Civil Works O&M budget process and alternative financing tools to enable individual USACE facilities to identify (e.g., through energy audits and similar types of assessments) and implement life-cycle cost effective alternative energy systems such as fuel cell systems to generate energy for use on-site.	Specific target/metric for FY 2015-2016: Include proven alternative and renewable energy technologies within the scope of ECMs in 100% of USACE energy audits.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Identify opportunities to utilize energy from small modular nuclear reactor technologies 3(e)(iv)	No		
Identify opportunities to utilize energy from a new project that includes the active capture and storage of carbon dioxide emissions associated with energy generation 3(e)(v)	No		
Implement other renewable energy approaches that advance the policy set forth in section 1 and achieve the goals of section 2 of E.O. 13693 3(e)(vii)	Yes	Through execution of the Hydropower Modernization Initiative (HMI), USACE will continue efforts to improve efficiency and expand capacity of existing hydropower generating units to increase generation of incremental hydropower. USACE will also continue working with the Federal Energy Regulatory Commission to identify opportunities to establish new non-federal hydropower at USACE dams.	Specific target/metric for FY 2015-2016: Track execution of the HMI to capture 100% of capacity increases and report the resulting increases in renewable electricity in the USACE annual Sustainability-GHG report.
Consider opportunities to install or contract for energy installed on current or formerly contaminated lands, landfills, and mine sites.	No		

Goal 4: Water Use Efficiency & Management

Potable Water Consumption Intensity Reduction Goal

E.O. 13693 section 3(f) states that agencies must improve water use efficiency and management, including stormwater management. E.O. 13693 section 3(f)(i) requires agencies to reduce potable water consumption intensity by 2% annually through FY 2025 relative to an FY 2007 baseline (measured in gallons). A 36% reduction is required by FY 2025.

ILA Water Consumption Reduction Goal

E.O. 13693 section 3(f)(iii) also requires that agencies reduce their industrial, landscaping and agricultural (ILA) water consumption measured in gallons by 2% annually through FY 2025 relative to a FY 2010 baseline.

Table 4: Goal 4 Strategies – Water Use Efficiency & Management

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Required Strategy under E.O. 13693			
Install appropriate green infrastructure features to help with storm- and wastewater management (such as rain gardens, rain barrels, green roofs, or impervious pavement) 3(f)(iv)	Yes	USACE will implement applicable E.O. 13693 green infrastructure and stormwater best practices on Federal construction projects in accordance with EISA Sec 438 implementing instructions. USACE will ensure compliance by implementing applicable sustainable locations and site development requirements as described in the DoD Unified Facilities Criteria for High Performance Sustainable Buildings (UFC 1-200-02)	Specific milestone for FY 2015-2016: 100% of projects subject to the requirements of EISA 438 will be designed and constructed to meet the requirements of the EISA 438 implementing instructions, as documented in UFC 1-200-02.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Install and monitor water meters; collect and utilize building and facility water data for conservation and management 3(f)(ii)	Yes	USACE will continue focusing on installation and monitoring of water meters as an essential part of water conservation efforts.	Specific metric for ECMs in FY 2015-2016: (1) Implement audit-identified, low and moderate cost ECMs at USACE Covered Facilities as follows: 50% by the end of FY 2015; 65% by the end of FY 2016. (2) For sites at which metered consumption indicates a history of line breaks and repairs, preferentially fund 100% of lifecycle cost effective water line replacement projects during FY17 budget development, within the limits of the USACE Sustainability funding target and formal budget guidance.
(A) Recommended Strategy			
Install high efficiency technologies (e.g., WaterSense).	Yes	USACE will continue implementing all lifecycle cost effective ECMs (such as high efficiency water technologies) reported in CTS. ECM implementation will leverage alternative financing where economically viable, and it will be phased-in to accommodate the timing and duration of the USACE budget cycle for direct capital investments.	Specific metric for ECMs in FY 2015-2016: (1) Implement audit-identified, low and moderate cost ECMs at USACE Covered Facilities as follows: 50% by the end of FY 2015; 65% by the end of FY 2016.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Prepare and implement a water asset management plan to maintain desired level of service at lowest life cycle cost (for best practices from the EPA, go to http://go.usa.gov/KvbF).	No		
Minimize outdoor water use and use alternative water sources as much as possible.	Yes	USACE will continue implementing applicable sustainable locations and outdoor/landscape water conservation site development requirements as described in the DoD Unified Facilities Criteria for High Performance Sustainable Buildings (UFC 1-200-02)	Specific milestone for FY 2015-2016: 100% of projects subject to the requirements of EISA 438 will be designed and constructed to meet the requirements of the EISA 438 implementing instructions, as documented in UFC 1-200-02.
Design and deploy water closed-loop, capture, recharge, and/or reclamation systems.	No		

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Install advanced meters to measure and monitor potable water consumption at locations where advanced electric utility meters have been installed.	Yes	USACE water consumption data gathered over the period FY 2008-2014, shows potable water accounts for about 98% of USACE's total metered water consumption, thus USACE's primary opportunity for water conservation is potable water. Accordingly, USACE modified this strategy to focus on potable water as opposed to industrial/landscaping/agricultural water. This strategy would result in increased accuracy and completeness of potable water consumption data, but it would not necessarily contribute directly to water conservation.	Specific metric for FY 2015-2016: Achieve 16% reduction in potable water intensity relative to the FY 2007 baseline by the end of FY 2015; achieve 18% reduction in potable water intensity relative to the FY 2007 baseline by the end of FY 2016
Develop and implement programs to educate employees about methods to minimize water use.	No		
Assess the interconnections and dependencies of energy and water on agency operations, particularly climate change's effects on water which may impact energy use.	No		
Consistent with State law, maximize use of grey-water and water reuse systems that reduce potable and ILA water consumption.	No		

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Consistent with State law, identify opportunities for aquifer storage and recovery to ensure consistent water supply availability.	No		
Ensure that planned energy efficiency improvements consider associated opportunities for water conservation.	No		
Where appropriate, identify and implement regional and local drought management and preparedness strategies that reduce agency water consumption including recommendations developed by Regional Federal Executive Boards.	No		

Goal 5: Fleet Management

Agency Progress toward Fleet Per-Mile Greenhouse Gas Emissions Goal

E.O. 13693 section 3(g) states that agencies with a fleet of at least 20 motor vehicles will improve fleet and vehicle efficiency and management. E.O. 13693 section 3(g)(ii) requires agencies to take actions that reduce fleet-wide per-mile greenhouse gas emissions from agency fleet vehicles relative to a new, FY 2014 baseline and sets new goals for percentage reductions: not less than 4% by the end of FY 2017; not less than 15 % by the end of FY 2020; and not less than 30% by then end of FY 2025.

E.O. 13693 section 3(g)(i) requires that, as a part of the Sustainability Planning process agencies should determine the optimum fleet inventory, emphasizing eliminating unnecessary or non-essential vehicles. This information is generally available from the agency Vehicle Allocation Methodology (VAM) process that is completed each year. To satisfy this requirement for 2015, please include the VAM results and the appropriate agency fleet management plan to the appendix of this document. Future versions of this plan will require similar submissions by agencies.

Table 5: Goal 5 Strategies – Fleet Management

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Required Strategy under E.O. 13693			
Collect and utilize agency fleet operational data through deployment of vehicle telematics – as soon as is practicable, but not later than two years after date of order 3(g)(iii)	No	GSA's Vehicle Tracking and Monitoring Program were suspended in 2013. To streamline the acquisition and bill payments for vehicle telematics; USACE is working with GSA to determine if this program will be available in FY16/FY17.	

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Ensure that agency annual asset-level fleet data is properly and accurately accounted for in a formal Fleet Management System as well as submitted to the Federal Automotive Statistical Tool reporting database, the Federal Motor Vehicle Registration System, and the Fleet Sustainability Dashboard (FLEETDASH) system 3(g)(iv)	Yes	1) Reconcile vehicles on-hand with: -APPMS, -CPAD, -FMVRS, 2) Work with FOAs to: -Identify FMIS issues needing correction, -Provide training in Fleet Systems 3) Implement FleetDash	(1) Ensure vehicles on-hand are authorized on the CPAD, accounted for in APPMS, and registered in FMVRS. (2) All FOAs report FAST data to ULA TD NLT December 15 of each CY.
Plan for agency fleet composition such that 20% of passenger vehicle acquisitions are zero emission or plug-in hybrid vehicles by 2020, and 50% by 2025. Vehicles acquired in other vehicle classes count double toward this target 3(g)(v)	No	The acquisitions of ZEV/PHV is mandated in FY20 and not a current focus in FY16. However, USACE is promoting awareness of this requirement. This will be a joint venture between USACE and GSA to meet the targets set forth in this order.	
Plan for appropriate charging or refueling infrastructure for zero emission or plug-in hybrid vehicles and opportunities for ancillary services to support vehicle-to-grid technology 3(g)(vi)	Yes	USACE will coordinate Civil Works budget development in FY 2015-2016 with the non-tactical vehicle (NTV) fleet acquisition planning process to strategically align purchase and installation of plug-in NTV charging infrastructure at facilities projected to acquire plug-in electric NTVs in FY2017-2018.	Specific target/metric for the next 12 months: 100% of Civil Works facilities requesting purchase and installation of plug-in electric NTV charging infrastructure are identified as priority locations for acquisition of plug-in electric NTVs in the USACE NTV fleet acquisition plan for FY2017.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Recommended Strategy			
Optimize/Right-size the composition of the fleet (e.g., reduce vehicle size, eliminate underutilized vehicles, acquire and locate vehicles to match local fuel infrastructure).	Yes	1) Conduct FOA VAMs yearly to include customer surveys; 2) Conduct vehicle utilization surveys; vehicles identified as underutilized must be excessed or justified for retention; 3) MSC Commander endorsement for all vehicle additions and upgrades; 4) USACE will reconcile all vehicle acquisitions and fuel consumption targets with FOA VAM Reporting Tool and Fleet Management Plan	(1) Must be 75% or greater in meeting target year VAM goal
Increase utilization of alternative fuel in dual-fuel vehicles.	Yes	1) Increase the utilization of E85 in FFVs; 2) Locate dual-fuel vehicles where they have access to alternative fuel	1) AF consumption must be great than or equal to 5% of NTV fuel consumed 2) Acquisitions of passenger and LD vehicles must be greater than or equal to 75%
Use a Fleet Management Information System to track fuel consumption throughout the year for agency-owned, GSA-leased, and commercially-leased vehicles.	Yes	1) Track and monitor fleet data entered in GSA drive thru and FEDFMS 2) Identify agency owned vehicles without a fuel card and take appropriate measures to issue and implement fuel card usage to track fuel consumption	1) Ensure all agency-owned vehicles are issued and utilize a fuel card. 2) Show a 22% fuel reduction relative to a 2005 baseline
Increase GSA leased vehicles and decrease agency-owned fleet vehicles, when cost effective.	No		

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Implement vehicle idle mitigation technologies.	No		
Minimize the use of "law enforcement" vehicle exemption and implementing the GSA Bulletin FMR B-33, <i>Motor Vehicle Management, Alternative Fuel Vehicle Guidance for Law Enforcement and Emergency Vehicle Fleets</i> of November 15, 2011.	NA		
Where State vehicle or fleet technology or fueling infrastructure policies are in place, conform with the minimum requirements of those policies.	No		
Reduce miles traveled (e.g., share vehicles, improve routing with telematics, eliminate trips, improve scheduling, use shuttles, etc.).	No		

Goal 6: Sustainable Acquisition

Sustainable Acquisition Goal - Biobased

E.O. 13693 section 3(i) requires agencies to promote sustainable acquisition by ensuring that environmental performance and sustainability factors are considered to the maximum extent practicable for all applicable procurements in the planning, award and execution phases of acquisition.

Table 6: Goal 6 Strategies – Sustainable Acquisition

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Required Strategy under E.O. 13693			
Meet statutory mandates that require purchase preference for recycled content products designated by EPA 3(i)(i)(A)	Yes	USACE is ensuring that the Unified Facilities Guide Specifications include the requirement. Conduct On-the-Job sustainable acquisition training at all Districts and Centers regarding the appropriate and correct reporting of clause usage in the Federal Procurement Data System Contract Action Report. Using the Green Procurement Compilation to identify products, specifications and clauses. Include sustainable acquisition requirements in all solicitation and contract compliance checklists.	USACE Regional Chiefs of Contracting will conduct a minimum of two on-the-Job sustainable acquisition training sessions a month. Improvement in compliance will indicate successes FY2014 Procurement Management Reviews will include an objective rating on sustainable acquisition compliance. A minimum of green rating will indicate success. Additionally, within the next 12 months, USACE will work in collaboration with the Tri-Services to update 20 guide specifications.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Meet statutory mandates that require purchase preference for energy and water efficient products and services, such as ENERGY STAR qualified and FEMP-designated products, identified by EPA and DOE 3(i)(i)(B)	Yes	USACE is ensuring that the Unified Facilities Guide Specifications include the requirement. Conduct On-the-Job sustainable acquisition training at all Districts and Centers regarding the appropriate and correct reporting of clause usage in the Federal Procurement Data System Contract Action Report. Using the Green Procurement Compilation to identify products, specifications and clauses. Include sustainable acquisition requirements in all solicitation and contract compliance checklists.	USACE Regional Chiefs of Contracting will conduct a minimum of two on-the-Job sustainable acquisition training sessions a month. Improvement in compliance will indicate successes FY2014 Procurement Management Reviews will include an objective rating on sustainable acquisition compliance. A minimum of green rating will indicate success. Additionally, within the next 12 months, USACE will work in collaboration with the Tri-Services to update 20 guide specifications.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Meet statutory mandates that require purchase preference for Biopreferred and biobased designated products designated by the USDA 3(i)(i)(C)	Yes	USACE is ensuring that the Unified Facilities Guide Specifications include the requirement. Conduct On-the-Job sustainable acquisition training at all Districts and Centers regarding the appropriate and correct reporting of clause usage in the Federal Procurement Data System Contract Action Report. Using the Green Procurement Compilation to identify products, specifications and clauses. Include sustainable acquisition requirements in all solicitation and contract compliance checklists.	USACE Regional Chiefs of Contracting will conduct a minimum of two on-the-Job sustainable acquisition training sessions a month. Improvement in compliance will indicate successes FY2014 Procurement Management Reviews will include an objective rating on sustainable acquisition compliance. A minimum of green rating will indicate success. Additionally, within the next 12 months, USACE will work in collaboration with the Tri-Services to update 20 guide specifications.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Purchase sustainable or products and services identified by EPA programs such as the ones outlined in 3(i)(ii)	Yes	USACE is ensuring that the Unified Facilities Guide Specifications include the requirement. Conduct On-the-Job sustainable acquisition training at all Districts and Centers regarding correct reporting in the Federal Procurement Data System Contract Action Report. Using the Green Procurement Compilation to identify products and services. Include sustainable acquisition requirements in all solicitation and contract compliance checklists.	USACE Regional Chiefs of Contracting will conduct a minimum of two on-the-Job sustainable acquisition training sessions a month. Improvement in compliance will indicate successes FY2014 Procurement Management Reviews will include an objective rating on sustainable acquisition compliance. A minimum of green rating will indicate success. Additionally, within the next 12 months, USACE will work in collaboration with the Tri-Services to update 20 guide specifications.
Purchase Significant New Alternative Policy (SNAP) chemicals or other alternatives to ozone-depleting substances and high global warming potential hydrofluorocarbons, where feasible 3(i)(ii)(A)	No	This strategy is addressed in the strategy above. USACE is pursuing this strategy	
Purchase WaterSense certified products and services (water efficient products) 3(i)(ii)(B)	No	This strategy is addressed in the strategy above. USACE is pursuing this strategy	
Purchase Safer Choice labeled products (chemically intensive products that contain safer ingredients) 3(i)(ii)(C)	No	This strategy is addressed in the strategy above. USACE is pursuing this strategy	
Purchase SmartWay Transport partners and Smartway products (fuel efficient products and services) 3(i)(ii)(D)	No	USACE follows Army and Office of Secretary of Defense policy on the transportation of goods.	

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Purchase environmentally preferable products and services that meet or exceed specifications, standards, or labels recommended by EPA that have been determined to assist agencies in meeting their needs and further advance sustainable procurement goals of this order 3(i)(iii)(A)	No	USACE expects to pursue this strategy but current focus is on the statutory mandates.	
Meet environmental performance criteria developed or adopted by voluntary consensus standards bodies consistent with section 12(d) of the National Technology Transfer and Advancement Act of 1995 3(i)(iii)(B)	No	USACE expects to pursue this strategy but current focus is on the statutory mandates.	

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Ensure contractors submit timely annual reports of their BioPreferred and biobased purchases 3(i)(iv)(B)	Yes	<p>Ensure that Federal Acquisition Regulation clause 52.223-2 -- Affirmative Procurement of Biobased Products Under Service And Construction Contracts is included as required using solicitation and contract compliance checklists that include sustainable acquisition requirements.</p> <p>Contracting Officer's Representatives will ensure that contractors report to http://www.sam.gov, with a copy to the Contracting Officer, on the product types and dollar value of any USDA-designated biobased products purchased by the Contractor during the previous Government fiscal year, between October 1 and September 30; not later than October 31 of each year during contract performance; and at the end of contract performance.</p>	<p>Contracting Officer's Representatives will conduct timely review of contractor's report submissions in SAM and annotate the completion of the review in the Contracting Officer's Representative Module (CORM) in the Virtual Contract Environment.</p>

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Reduce copier and printing paper use and acquiring uncoated printing and writing paper containing at least 30 percent postconsumer recycled content or higher as designated by future instruction under section 4(e) of E.O. 13693 3(i)(v)	No	USACE strives to meet this requirement but current focus is on statutory requirements.	
(A) Recommended Strategy			
Update and deploy agency procurement policies and programs to ensure that federally- mandated designated sustainable products are included in all relevant procurements and services.	No		
Deploy corrective actions to address identified barriers to increasing sustainable procurements with special emphasis on biobased purchasing.	No		
Include biobased and other FAR sustainability clauses in all applicable construction and other relevant service contracts.	No		
Review and update agency specifications to include and encourage biobased and other designated green products to enable meeting sustainable acquisition goals.	No		
Use Federal Strategic Sourcing Initiatives, such as Blanket Purchase Agreements (BPAs) for office products and imaging equipment, which include sustainable acquisition requirements.	No		
Report on sustainability compliance in contractor performance reviews.	No		

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Ensure that agency purchase-card holder policies direct the exclusive use of the GSA Green Procurement Compilation where desired products are listed in the Compilation.	No		
Employ environmentally sound disposal practices with respect to agency disposition of excess or surplus electronics.	No		

Goal 7: Pollution Prevention & Waste Reduction

Agency Progress toward Pollution Prevention & Waste Reduction

E.O. 13693 section 3(j) requires that Federal agencies advance waste prevention and pollution prevention. E.O. 13693 section 3(j)(iii) requires agencies to annually divert at least 50% of non-hazardous construction and demolition debris and section 3(j)(ii) requires agencies to divert at least 50% of non-hazardous solid waste, including food and compostable material, and to pursue opportunities for net-zero waste or additional diversion.

Table 7: Goal 7 Strategies – Pollution Prevention & Waste Reduction

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Required Strategy under E.O. 13693			
Report in accordance with the requirements of sections 301 through 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C 11001-11023) 3(j)(i)	Yes	Continue tracking compliance with EPCRA 301-313 via annual facility-level assessments conducted as specified in Engineer Regulation(ER) 200-2-3 and the USACE Environmental Review Guide for Operations (ERGO) manual.	100% of scheduled internal and external ERGO (environmental compliance) assessments are executed annually and include assessing compliance with relevant EPCRA requirements.
Reduce or minimize the quantity of toxic and hazardous chemicals acquired, used, or disposed of, particularly where such reduction will assist the agency in pursuing agency greenhouse gas reduction targets established in section 2 of E.O. 13693 3(j)(iv)	Yes	In accordance with ER 200-2-3, emphasize toxic and hazardous materials reduction through facility specific training and program development. Assess toxic and hazardous materials management practices annually through ERGO assessments.	100% of scheduled internal and external ERGO (environmental compliance) assessments are executed annually and include assessment of compliance with relevant toxic and hazardous materials management requirements.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Recommended Strategy			
Eliminate, reduce, or recover refrigerants and other fugitive emissions.	No		
Reduce waste generation through elimination, source reduction, and recycling.	Yes	Although many USACE facilities have already implemented solid waste reduction activities including recycling and waste diversion, USACE is working to establish a Corps-wide materials management policy in FY15-16. The most critical aspect of the USACE policy will be managing visitor-generated waste, which accounts for the vast majority of USACE solid waste due to high visitation rates, particularly overnight campers, at USACE Civil Works projects. One of the key diversion opportunities in the USACE policy will be to leverage existing statutory authority to retain proceeds generated by recovery of recyclable materials.	Specific milestone for FY 2015-2016: Issue USACE Materials Management Policy by 31 December 2015.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Implement integrated pest management and improved landscape management practices to reduce and eliminate the use of toxic and hazardous chemicals/materials.	Yes	Integrated Pest Management is a long-standing USACE policy (ER 1130-2-500) and practiced at USACE facilities. USACE will continue to implement Integrated Pest Management in accordance with established policies.	Specific milestone for FY2015-2016: 100% of scheduled internal and external ERGO (environmental compliance) assessments are executed annually and include assessment of compliance with USACE Integrated Pest Management policy and practices.
Establish a tracking and reporting system for construction and demolition debris elimination.	No		
Develop/revise Agency Chemicals Inventory Plans and identify and deploy chemical elimination, substitution, and/or management opportunities.	Yes	In accordance with Chapter 7 of ER 200-2-3, USACE will continue adhering to policy requirements for hazardous materials management. USACE will continue to identify opportunities to eliminate, substitute, or improve management of chemicals through USACE's Environmental Compliance Assessment Program (ERGO) and other related hazardous materials programs.	Specific Milestone for FY 2015-2016: 100% of scheduled internal and external ERGO (environmental compliance) assessments are executed annually and include assessment of compliance with hazardous materials management requirements.
Inventory of current HFC use and purchases.	No		
Require high-level waiver or contract approval for any agency use of HFCs.	No		
Ensure HFC management training and recycling equipment are available.	No		

Goal 8: Energy Performance Contracts

Agency Progress on Energy Performance Contracting

E.O. 13693 section 3(k) requires that agencies implement performance contracts for Federal buildings. E.O. 13693 section 3(k)(iii) also requires that agencies provide annual agency targets for performance contracting to be implemented in FY 2017 and annually thereafter as part of the planning of section 14 of this order.

Table 8: Goal 8 Strategies – Energy Performance Contracting

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Required Strategy under E.O. 13693			
Utilize performance contracting to meet identified energy efficiency and management goals while deploying life-cycle cost effective energy and clean energy technology and water conservation measures 3(k)(i)	Yes	USACE will continue emphasizing broad-scale application of alternative financing/energy performance contracting tools such as Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs) as tools essential to achieving statutory and Executive Order 13693 goals. USACE formally established alternative financing goals for its MSCs in FY14. MSC efforts to achieve their goals have resulted in a pipeline of ESPCs, some of which address large geographical regions and incorporate many USACE facilities.	Specific target/metric for FY15-16: 100% on-time execution of Energy Performance Contracting milestone as reported in OMB MAX.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Fulfill existing agency performance contracting commitments towards the \$4 billion by the end of calendar year 2016 goal established as part of the GPRA Modernization Act of 2010, Climate Change Cross Agency Priority process 3(k)(ii)	Yes	The Assistant Secretary of the Army for Civil Works committed to award \$12.5M in energy performance contracts by 31 Dec 2016. USACE formally established alternative financing goals for its MSCs in FY14 that have resulted in a pipeline of ESPCs, some of which address large geographical regions and incorporate many USACE facilities.	Specific target/metric for FY15-16: Award \$12.5M in energy performance contracting by end of FY16.
(A) Recommended Strategy			
Evaluate 25% of agency's most energy intensive buildings for use with energy performance contracts	No		
Prioritize top five projects which will provide greatest energy savings potential	Yes	HQ USACE is centrally tracking all energy performance contracting projects, Corps-wide. In part, HQ tracking is intended to ensure all projects stay on-track; however, central tracking also ensures that all available resources are allocated to the top priority projects, i.e., the projects with the greatest investment and energy savings opportunity.	Specific target/metric for FY15-16: 100% on-time execution of Energy Performance Contracting milestone as reported in OMB MAX.
Cut cycle time of performance contracting process by at least 25%	No		

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Assign agency lead to participate in strategic sourcing initiatives	No		
Devote 2% of new commitments to small buildings (<20k sq. ft.)	No		
Identify and commit to include 3-5 onsite renewable energy projects in energy performance contracts	No		
Ensure relevant legal and procurement staff are trained by FEMP ESPC/ UESC course curriculum	No		
Provide measurement and verification (M&V) data for all awarded energy performance contracts	Yes	USACE will track and report M&V data for all executed energy performance contracts as required by federal law, regulation and executive order.	Specific target/metric for FY15-16: M&V data for 100% of energy performance contracts at USACE Covered Facilities will be reported.
Enter all reported energy savings data for operational projects into MAX COLLECT (max.gov)	Yes	USACE will complete MAX COLLECT energy savings data reporting.	Specific target/metric for FY15-16: Complete MAX COLLECT energy savings data reporting every other month as appropriate.

Goal 9: Electronic Stewardship

Agency Progress on Electronic Stewardship

E.O. 13693 section 3(l) requires that agencies promote electronics stewardship and requires (i) ensuring procurement preference for environmentally sustainable electronic products as established in section 3(i); (ii) establishing and implementing policies to enable power management, duplex printing, and other energy-efficient or environmentally sustainable features on all eligible agency electronic products; and (iii) employing environmentally sound practices with respect to the agency's disposition of all agency excess or surplus electronic products.

Table 9: Goal 9 Strategies – Electronic Stewardship

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Required Strategy under E.O. 13693			
Establish, measure, and report procurement preference for environmentally sustainable electronic products 3(l)(i)	Yes	USACE utilizes the Army Computer Hardware Enterprise Software and Solutions (CHES) IT e-Mart which is the Army's designated Primary Source for Information Technology products. All CHES products are energy star and EPEA star and EPEAT compliant	100% of devices in each category (PC, Laptop, Monitors, Flat Screen TVs) are EPEAT, FEMP-designated and/or EnergyStar Compliant
Establish policies, measure, and report compliance to enable power management, duplex printing, and other energy-efficient or environmentally sustainable features on all eligible agency electronic products 3(l)(ii)	Yes	Policies are in place for duplex printing and power management of PCs and laptops.	95% compliance with duplexing and energy management policies.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Establish, measure, and report sound practices with respect to the agency's disposition of excess or surplus electronic products 3(l)(iii)	Yes	Policies are already established. The Army dictates methods that must be used. All excess items are turned into the DLA per policy. It is their job to dispose of it properly. They do use approved sources for disposal.	100% compliance with Army disposal policies.
(A) Recommended Strategy			
Update and deploy policies to use environmentally sound practices for disposition of all agency excess or surplus electronic products and monitor compliance.	NA	Redundant to strategy above.	
Decrease the number of printing devices.	Yes	1) Appoint a PM for printing 2) Review current inventory for adherence to business rules, e.g. ration of printers to people, distance, capability, etc.	Target ratio is 1 device per 7 people by the end of FY16
Further reduce the quantity of servers at local sites.	Yes	Execute APPRAT and reduce the number of software titles. Implement Distributed Based Cost Distribution that charges each site by the number of servers and CPUs.	1) Complete the APPRAT Project and use analysis to retire unnecessary software from the network. 2) Implement new Software Lifecycle Management controls to better managed the increase in new titles 3) Create a Software Advisory Board (SAB) to identify standards and take action on waivers.

Goal 10: Climate Change Resilience

Table 10: Goal 10 Strategies – Climate Change Resilience

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Required Strategy under E.O. 13693			
Update agency external programs and policies (including grants, loans, technical assistance, etc.) to incentivize planning for, and addressing the impacts of, climate change. (In column C, identify names of agency programs or policies)	Yes	Agency will continue to produce and update policies and guidance to incorporate climate change in accordance with authorities. Published agency policy and technical guidance requiring that all projects account for hydrologic impacts of climate change: Engineering and Construction Bulletin (ECB) 2014-10, Guidance for Incorporating Climate Change Impacts to Inland Hydrology in Civil Works Studies, Design and Projects and Engineering Technical Letter (ETL) 1100-2-2: Appropriate Application of Paleoflood Information for Hydrology and Hydraulics Decisions. Published agency policy and technical guidance for climate preparedness and resilience actions for coastal projects: ETL 1100-2-1, Procedures to Evaluate Sea Level Change, Impacts, Responses, and Adaptation.	Release agency policy, guidance, and supporting tool to detect nonstationarity in observed hydrology time series. Draft agency policy, guidance, and supporting tool to develop projected flow frequency curves at selected USGS gauging station sites.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
(A) Recommended Strategy			
Update agency emergency response procedures and protocols to account for projected climate change, including extreme weather events.	No		
Ensure workforce protocols and policies reflect projected human health and safety impacts of climate change.	No		

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
<p>Update agency external programs and policies (including grants, loans, technical assistance, etc.) to incentivize planning for, and addressing the impacts of, climate change.</p>	<p>Yes</p>	<p>Agency will continue to produce and update policies and guidance to incorporate climate change in accordance with authorities. Published agency policy and technical guidance requiring that all projects account for hydrologic impacts of climate change: Engineering and Construction Bulletin (ECB) 2014-10, Guidance for Incorporating Climate Change Impacts to Inland Hydrology in Civil Works Studies, Design and Projects and Engineering Technical Letter (ETL) 1100-2-2: Appropriate Application of Paleoflood Information for Hydrology and Hydraulics Decisions. Published agency policy and technical guidance for climate preparedness and resilience actions for coastal projects: ETL 1100-2-1, Procedures to Evaluate Sea Level Change, Impacts, Responses, and Adaptation</p>	<p>Release agency policy, guidance, and supporting tool to detect nonstationarity in observed hydrology time series. Draft agency policy, guidance, and supporting tool to develop projected flow frequency curves at selected USGS gauging station sites.</p>

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Ensure agency principals demonstrate commitment to adaptation efforts through internal communications and policies.	No		
Identify vulnerable communities that are served by agency mission and are potentially impacted by climate change and identify measures to address those vulnerabilities where possible.	No		
Ensure that agency climate adaptation and resilience policies and programs reflect best available current climate change science, updated as necessary.	Yes	Agency will continue to work with science agencies directly and through other established forums to produce and test actionable science and to incorporate best available science in our risk-informed decision-making.	Incorporate internal and external experts in climate preparedness and resilience policy and guidance development. Update tools with latest available climate hydrology data.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
Design and construct new or modify/manage existing agency facilities and/or infrastructure to account for the potential impacts of projected climate change.	Yes	Agency will continue to develop guidance that supports implementation of climate change and resilience measures based on best available science for new and existing infrastructure as that science becomes useful in future for informing decisions at finer scales such as individual infrastructure elements. Agency established a Climate Preparedness and Resilience Community of Practice which is selecting Agency Technical Reviewers to provide quality management of climate preparedness and resilience planning and implementation. Agency is mainstreaming climate consideration into planning and design of new projects. Agency is currently developing and implementing tools to assess the vulnerability of existing projects.	Agency will continue to conduct progressively more detailed vulnerability assessments to identify existing projects that are most vulnerable to changing climate.

(A) Strategy	(B) Top Five? Yes/No/NA	(C) Strategy Narrative (100 word limit)	(D) Specific targets/metrics to measure success including milestones in next 12 months
<p>Incorporate climate preparedness and resilience into planning and implementation guidelines for agency-implemented projects.</p>	<p>Yes</p>	<p>Agency has developed technical guidance to incorporate climate preparedness and resilience into planning and implementation guidelines for agency-implemented projects. Agency will continue to develop and update policies and guidance to incorporate climate change in guidance for projects, based on best available science.</p>	<p>Publish new or updated policy and guidance requiring incorporation of climate preparedness and resilience in planning and implementation guidelines for agency-implemented projects</p>
<p>Ensure climate change adaptation is integrated into both agency-wide and regional planning efforts, in coordination with other Federal agencies as well as state and local partners, Tribal governments, and private stakeholders.</p>	<p>Yes</p>	<p>Agency actively participates in a number of interagency and regional partnerships which include state and local partners, Tribal governments, nongovernmental organizations, and private stakeholders.</p>	<p>Agency will make progress as lead of Climate Natural Resources Working Group Task 52, working with state, tribal, and local partners to identify appropriate regional associations dealing with water resources management and develop Federal agency support teams, comparable to the existing WestFAST partnership wherein Federal agencies embed a dedicated Federal liaison to work with the Western states on issues of common concern.</p>

Appendices

Appendix A: 2015 Vehicle Fleet Management Plan

Appendix B: 2015 Vehicle Allocation Methodology Results

Appendix C: Climate Preparedness and Resilience Requirements of section 13(a) and (b) of E.O. 13693

Appendix D: 2015 USACE Climate Adaptation Plan (separate document)

Appendix A: 2015 Fleet Management Plan

(A) Introduction that describes the agency mission, organization, and overview of the role of the fleet in serving agency missions.

The U.S. Army Corps of Engineers (USACE) has a diverse Civil and Military mission. The USACE fleet supports missions such as outdoor recreation; environmental engineering (restoration and cleanup); operations of more than 600 locks and dams; operations and maintenance of 12,000 miles of commercial inland navigation channels; the dredging of more than 200 million cubic yards of construction and maintenance dredge material annually; maintaining of 926 coastal, Great Lakes and inland harbors; restoration; the Corps Regulatory Program for wetlands; water supply storage in major Corps lakes; operating 24 percent of the U.S. hydropower or 3 percent of the total U.S. electric capacity; support to Army and Air Force installations; technical and construction support nationally and internationally; management the Army military construction program; research and development technologies to protect the nation's environment and enhance quality of life; real estate (Civil and Military); research and development; emergency operations for Civil disasters; and OCONUS Military contingencies. USACE manages this nation-wide fleet by utilizing a web-based fleet management information systems which compiles nomenclature, acquisition and disposal information as well as operation costs, utilization and fuel consumption for compliance reporting of EAct 2007, Executive Order 13423/13514, Energy Independence and Security Act 2007, White House Memorandum May 2011 and OMB financial and property management reports. The fleet is configured based on Civil and Military missions. The Corps has a large civil mission which contributes to a majority of the funding used for fleet management. The structure spans across the entire United States (CONUS boundary and includes Alaska, Hawaii and San Juan, Puerto Rico. Currently, we provide limited support to our 2 OCONUS Districts (Japan and Korea); the USACE is projecting to directly support and report the Japan, Korea, and Germany Fleet beyond FY15. There are a total 41 Districts in the Corps of Engineers from the East Coast to the West Coast. Each District has anywhere from 10 to 20 Project sites. Administrative Functions include Logistics, Resource Management, Information Management (ACE-IT), Safety, Internal Review and Security. Vehicles are primarily used for daily operations and authorized based on the missions stated above.

(B) Criteria for justifying and assigning vehicles (including home-to-work vehicle assignments).

OPORDS for sustainability and fleet performance have been written and distributed to all USACE Commanders. Vehicles are justified and approved IAW Federal mandates, regulatory guidance, mission requirements and funding. Each Division/Center/District/Field Operating Activities (FOAs) (hence referred to as commands) execute unique fleet operations autonomously. Commands execute a variety of changing programmatic initiatives mandated by Executive and Legislative initiatives. The criteria related to justification for fleet resources can be traced to appropriations language along with associated budgetary authorities each year. Assignment of vehicles follows closely with established strategic plans; organizational missions;

and Federal mandates. The ULA developed a standardized acquisition request form that contains all the appropriate information IAW with regulatory guidance and Federal mandates to assist Commands in preparing vehicle justifications; emphasis placed on cost methodologies and life cycle cost analysis. The ULA has implemented two (2) web-based sites. The acquisition request site allows customers review and submit vehicle acquisition requests that will immediately notify the USACE Fleet Manager, Transportation Division, and Fleet Program Manager. The second site, the Vehicles Available for Transfer, allows districts to identify early turn-ins with photos and other pertinent fleet information. This allows USACE to centrally manage vehicles needed for cross leveling.

The primary source for vehicle acquisition is GSA (Lease/Purchase); all other sources are required to have a life cycle cost analysis to determine the vehicle sourcing decision. Unique circumstances (geography, terrain, mission, etc) coupled with a vehicle sourcing decision will allow District's the flexibility to acquire outside the primary acquisition source. Approved outside sources may include local economy, GSA excess, and DRMS; vehicles acquired from the latter two sources typically have met or exceeded its life expectancy but merit further service which is determined by a technical inspection. All vehicle upgrades and additions are reviewed by Transportation Division for regulatory compliance and authorized by the MSC Commander. FOAs are not authorized to go directly to contracting to purchase a vehicle to circumvent the acquisition process as outlined in ES 29305.

There are no home-to-work vehicles authorized.

(C) Vehicle Allocation Methodology (VAM) target development and explanation for reported fleet size and cost changes or not meeting agency VAM targets.

USACE uses all Federal mandates, GAO-13-659 and FMR Bulletin B-30 for developing VAM targets in FY2015. The USACE met its optimal fleet Size (forecasted in FY11) of an inventory of 8,007 in FY 2013.

1. Criteria used is based on regulatory guidance from DOD 4500.36-R, AR 58-1 and ER 56-2-1 for retaining under-utilized and not replacing vehicles during the annual acquisition cycle. Two indicators used by USACE to determine effectiveness are miles driven and days used. If actual usage is 85% or more of the standard this is considered acceptable. Training was conducted for FOAs to develop their VAM targets and respond to questions from the Districts. USACE does monthly/quarterly reports (utilization, costs, fuel consumption etc.,) and analysis to assist with developing the VAM.

(a) Quarterly utilization reports are required for all Corps assigned or owned vehicles, including GSA vehicles, which are not exempted as mission essential, or special purpose.

Mileage. Vehicle utilization criteria of 10,000 miles per vehicle per year analyzed over a consecutive 12 month period of time. This measurement is effective when analyzing 12 month period to take advantage of seasonal adjustments

Days Used. Days used utilization standard must be determined for vehicle types, missions, or garaged areas known to never be able to meet a mileage standard. Agency established day use standard will be endorsed with agency head/Commander's approval. Available days will include each work day minus holidays, vehicle maintenance days, est. based on a five day work week of 20 days a month. Days used are then compared against the standard to determine how effective the fleet is being used. This measurement will be more effective when analyzing a consecutive 12-month period of time or longer to take advantage of seasonal adjustments.

(2) The NTV fleet reductions in VAM tool and Fleet Management Plan which is submitted by each FOA, provides the Commanders an improved snapshot of their fleets. The completion of Military and Civil projects are reported in the USACE Strategic Sustainability Performance Plan. Fleet reductions for GSA NTVs have resulted in significant cost reductions. However, agency owned vehicles that were not forecasted to be replaced on 2013 VAM, resulted in an increase for agency owned vehicle acquisition costs in FAST. USACE has exceeded VAM targets on fleet reductions.

(3) Reporting VAM numbers for OCONUS locations. Although our OCONUS locations (Europe [NAU], Korea [POF], and Japan [POJ]) report FAST numbers, USACE is not capturing their VAM. USACE, through the ULE/ULA, plans to bring OCONUS fleet reporting underneath the ULA umbrella.

(D) Description of efforts to control fleet size and cost.

Controlling fleet size and cost will be through centralized planning; working with DA and GSA to develop USACE FOAs' TDAs/CPADs; implementation of the USACE Sustainability Plan and development of vehicle metrics for Districts/Divisions/Centers. USACE is working closely with FOAs to ensure DOD and Army regulations are followed to identify most cost effective means to acquire vehicles. USACE also provides monthly and quarterly reports for Commanders to monitor vehicle inventory, utilization and cost. USACE continues to partner with GSA's National Account Advisory Team and Department of Energy to establish optimal fleet size that is efficient and cost effective while meeting mission requirements.

From FY11 to FY14, the overall fleet reduction toward the VAM goal was 100% and fleet management costs were reduced by 10%. Actions have been taken to ensure vehicles are procured from the most the USACE primary source. GSA; all acquisitions outside of GSA requires justification and cost methodology to be submitted. The only trends for larger, less fuel-efficient vehicles center on special purpose type vehicles not available through GSA lease or those requiring modification for special equipment. Future costs are based on forecast of new mission requirements for Civil and Military projects; published inflation estimates; historical trends; flat across-the-board percentage increases; and mission changes.

(E) Explanation of how law enforcement vehicles are categorized within the agency (See FMR Bulletin B-33).

USACE classifies vehicles as LE based on GSA Bulletin FMR B-33. There are no exemptions required because USACE vehicles do meet criteria for LE. There are no LE vehicles in USACE.

(F) Justification for restricted vehicles.

All Class III and IV vehicles are justified by USACE and approved by Department of Army (DA). Justifications are on file. There is not an executive vehicle fleet in USACE and there are no limousines or armored vehicles in the USACE inventory. Armored vehicles would be authorized by DA, IAW Army guidelines and appropriations.

(G) Description of vehicle replacement strategy and results.

USACE will achieve its optimal fleet inventory, as forecasted in FY15, including plans for acquiring all light duty Alternative Fueled Vehicles (AFVs) by December 31, 2015. USACE to date has demonstrated compliance with required AFV acquisitions. Hybrid acquisitions are maximized based on funding available and incremental costs assessed. USACE is currently acquiring AFVs based on proximity to AFV fueling stations and maintenance availability. However, the agency continues to be challenged with the lack of the E85 fuel infrastructure. If there are no alternative fuels available, USACE will use electric plug-ins and/or low green house vehicles, if this type of vehicle will meet the mission requirements. Additionally, the ULA Fleet Team developed an electronic form for comparing the purchase of an agency owned vehicle to a GSA leased vehicle that includes all direct and indirect costs projected for the life cycle of owned vehicles to the total lease costs over an identical lifecycle. In most instances, the FOAs did not want to use life cycle management to compare the most cost effective source. The USACE Fleet Manager reviews all new vehicle requirements and upgrades for compliance with Federal mandates, DOD, Army regulations and Agency OPORDS to ensure Commanders are aware of all new acquisitions that has impact to the Command's fleet inventory, operational costs, and impacts on fuel consumption targets.

(H) Description of the agency-wide Vehicle Management Information System (See FMR 102-34.340)

USACE currently utilizes two Vehicle Management Information Systems, GSA Drive-Thru to capture GSA Fleet data and GSA's Federal Fleet Management Information System (FedFMS) to capture Agency Owned Fleet data; both are fleet-dedicated and GSA developed. Additionally, GSA Drive-Thru captures all transactions and costs that covers complete life cycle of all GSA leased vehicles. FEDFMS requires manual data entry of miles driven and days used which is being captured on a monthly basis. The challenges with the use of FedFMS for agency vehicles is capturing accurate and complete data for the Agency Owned Fleet, and GSA Drive Thru is capturing day use data for GSA vehicles. The Wright Express (WEX) Fuel Card is issued to each Agency Owned Vehicle that is registered in FedFMS; the utilization of the WEX card would automate fleet data reporting (fuel and maintenance). However, many agency owned vehicles do not utilize its assigned fleet card. The majority of agency owned fleet data is requested and captured at the end of the year during FAST reporting. Bulk fuel is an issue for agency owned vehicles in remote areas, which may adversely affect reporting accurate fuel consumption for agency owned vehicles. Both systems will satisfy requirements for internal and external reports if used consistently.

(I) Plans to increase the use of vehicle sharing.

Vehicles are pool shared within the agency when possible. Vehicle sharing is primarily done at the District HQs. However, with utilization surveys and current initiatives in right sizing the fleet we are seeing more field offices cross share vehicles between project sites. The USACE fleet Manager is working to identify opportunities to advance vehicle sharing. Vehicles are not assigned to individuals only missions and/or projects.

(J) Impediments to optimal fleet management.

Early turn-in of vehicles that do not meet replacement criteria and infrastructure for AFVs that includes fuel and maintenance support. Examples are: the costs of charging stations for projects; and natural gas maintenance facilities and fuel infrastructure. Part of the issue is a culture change. Additional funds are needed to acquire charging stations for electric plug-ins to register energy consumption. Documentation has been through discussion and/or emails. Currently, support from the Commanding General to meet all Federal Laws and GSA government-wide regulations has had the biggest impact on the organization requirements compliance. USACE is making progress through educating the workforce and Command emphasis. The USACE Logistics Conference, held in March 2015, addressed senior leaders across the USACE with emphasis on developing strategic plans to meet sustainability targets. A representative from the Department of Energy's Clean Cities Coalition addressed the benefits of AF fuels and implementation of AFVs within the USACE, and how to bring AF infrastructure within the USACE footprint.

USACE is working towards the centralization of all vehicle acquisitions; some commands bypass the USACE policy on vehicle acquisitions and acquire vehicles through their Command's Contracting Division.

(K) Anomalies and possible errors.

Flagged errors are due to inaccurate reporting by FOAs and lack of reporting from some locations this caused the USACE VAM baseline and FAST inventories to not match from year to year. The enforcement of the use of current Fleet Management Information Systems coupled with training our fleet managers will have a significant impact on the accuracy of data collection and FAST reporting.

(L) Summary and contact information.

POC is Valerie Wimberly, USACE Fleet Manager (202) 761-1618, Email is Valerie.D.Wimberly@usace.army.mil. The Budget Officer did not participate in this process. However, Budget will do the final review. Budget POC is Ms. Gertie Mouzon @ (202) 761-4886, Email is gertie.mouzon@usace.army.mil.

Appendix B: 2015 Vehicle Allocation Methodology Results and Optimal Fleet Attainment Plan

OPTIMUM FLEET ATTAINMENT PLAN

Agency:

USACE

Exempt Vehicle Summary																			
Vehicles reported here should NOT also be counted in the Covered section below.																			
Enter data in shaded boxes only!	Sedan						Other passenger					Truck				Other		TOTAL FLEET	
	LSEV	Subcompact or smaller	Compact	Midsize	Large	Limousine	Sedan Subtotal	Light SUV	Medium SUV	Light Passenger Van	Medium Passenger Van	Other passenger Subtotal	Light 4x2 (8500 or less)	Light 4x4 (8500 or less)	Medium (8501-16,000)	Heavy (over 16,000)	Truck Subtotal		Ambulance
Current exempted vehicles*																			
Law enforcement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emergency response	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Overseas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total exempted vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*It is recommended that the VAM cover an agency's entire fleet, including domestic and foreign operations, and all vehicles types including law enforcement and emergency vehicles. However, it is only required that the VAM cover domestic, light duty vehicles. The decision to include overseas vehicles or to exempt law enforcement and emergency vehicles may only be made by the head of the agency, and must be documented.

Covered Vehicle Plan																		
Vehicles counted here should NOT be counted in the Exempt section above.																		
Enter data for the agency's current baseline fleet, the optimal fleet as indicated from the VAM, and the estimated changes in the fleet through 2015																		
Enter data in shaded boxes only!	Sedan						Other passenger					Truck				Other		TOTAL FLEET
	LSEV	Subcompact or smaller	Compact	Midsize	Large	Limousine	Sedan Subtotal	Light SUV	Medium SUV	Light Passenger Van	Medium Passenger Van	Other passenger Subtotal	Light 4x2 (8500 or less)	Light 4x4 (8500 or less)	Medium (8501-16,000)	Heavy (over 16,000)	Truck Subtotal	

2011 Baseline fleet

Agency owned																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	6	0	3	0	9	55	41	187	461	744	0	0	753
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	3
Total	0	0	0	0	0	0	0	6	0	3	0	9	55	41	190	461	747	0	0	756
GSA Fleet																				
Conventional Fuel Vehicles	0	116	206	5	0	0	327	1,199	62	105	52	1418	494	466	1,486	187	2633	0	0	4,378
Alternative Fuel Vehicles	0	24	336	193	1	0	554	561	11	324	20	916	682	913	203	1	1799	0	0	3,269
Total	0	140	542	198	1	0	881	1760	73	429	72	2334	1176	1379	1689	188	4432	0	0	7,647
Comml lease																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	9	2	1	0	12	0	5	0	0	5	0	2	19
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	9	2	1	0	12	0	5	0	0	5	0	2	19
Total Conventional	0	116	206	5	0	0	327	1,214	64	109	52	1,439	549	512	1,673	648	3,382	0	2	5,150
Total AFV	0	24	336	193	1	0	554	561	11	324	20	916	682	913	206	1	1,802	0	0	3,272
Baseline Total	0	140	542	198	1	0	881	1,775	75	433	72	2,355	1,231	1,425	1,879	649	5,184	0	2	8,422

Optimal fleet

Agency owned																				
Conventional Fuel Vehicles	10	0	0	0	0	0	10	4	1	3	0	8	36	30	172	432	670	0	0	688
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	0	0	4
Total	10	0	0	0	0	0	10	4	1	3	0	8	36	30	173	435	674	0	0	692
GSA Fleet																				
Conventional Fuel Vehicles	0	30	50	0	0	0	80	367	11	7	18	403	134	202	934	190	1460	0	0	1,943
Alternative Fuel Vehicles	1	153	478	27	0	0	659	965	8	377	49	1399	901	1,355	693	16	2965	0	0	5,023
Total	1	183	528	27	0	0	739	1332	19	384	67	1802	1035	1557	1627	206	4425	0	0	6,966
Comml lease																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	3
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	2	4
Total Conventional	10	30	50	0	0	0	90	371	12	10	18	411	170	232	1,106	623	2131			

	Sedan						Other passenger					Truck				Other		TOTAL FLEET	
	LSEV	Subcompact or smaller	Compact	Midsize	Large	Limousine	Sedan Subtotal	Light SUV	Medium SUV	Light Passenger Van	Medium Passenger Van	Other passenger Subtotal	Light 4x2 (8500 or less)	Light 4x4 (8500 or less)	Medium (8501-16,000)	Heavy (over 16,000)	Truck Subtotal		Ambulance
Alternative Fuel Vehicles	0	28	39	(58)	(1)	0	8	(13)	(1)	18	13	(31)	107	81	4	161	0	0	186
Comml leased																			
Acquisitions																			
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Disposals																			
Conventional Fuel Vehicles	0	0	0	0	0	0	0	9	2	1	0	12	0	5	0	1	6	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net change																			
Conventional Fuel Vehicles	0	0	0	0	0	0	0	(9)	(2)	(1)	0	(12)	0	(5)	0	(1)	-6	0	(18)
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined net change																			
Conventional Fuel Vehicles	0	(1)	(20)	0	0	0	(21)	(160)	(18)	(40)	(14)	(232)	(69)	(40)	(97)	(14)	-220	1	0
Alternative Fuel Vehicles	1	28	39	(58)	(1)	0	9	(15)	(1)	18	13	15	(31)	107	84	4	164	0	0
Total	1	27	19	(58)	(1)	0	(12)	(175)	(19)	(22)	(1)	(217)	(100)	67	(13)	(10)	-56	1	0
Resulting fleet																			
Conventional Fuel Vehicles	0	115	186	5	0	0	306	1,054	46	69	38	1,207	480	472	1,576	634	3162	1	2
Progress toward goal	0.0%	1.2%	12.8%	0.0%	100.0%	100.0%	8.9%	19.0%	34.6%	40.4%	41.2%	22.6%	18.2%	14.3%	17.1%	56.0%	17.6%	100.0%	100.0%
Alternative Fuel Vehicles	1	52	375	135	0	0	563	546	10	342	33	931	651	1,020	290	5	1966	0	0
Progress toward goal	100.0%	21.7%	27.5%	34.9%	100.0%	100.0%	8.6%	-3.7%	33.3%	34.0%	44.8%	3.1%	-14.1%	24.2%	17.2%	22.2%	14.0%	#DIV/0!	10.7%
Fleet size	1	167	561	140	0	0	869	1,600	56	411	71	2138	1,131	1,492	1,866	639	5128	1	2
Progress toward goal	9.1%	62.8%	-135.7%	33.9%	100.0%	100.0%	9.1%	39.9%	34.5%	47.8%	20.0%	39.8%	62.9%	41.4%	16.5%	142.9%	67.5%	100.0%	100.0%
2013 plan																			
Agency owned																			
Acquisitions																			
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11	0	0
Alternative Fuel Vehicles	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0
Disposals																			
Conventional Fuel Vehicles	0	1	0	0	0	0	1	1	0	0	0	1	3	1	5	16	25	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net change																			
Conventional Fuel Vehicles	0	(1)	0	0	0	0	(1)	(1)	0	0	0	(1)	(3)	(1)	(5)	(5)	-14	0	0
Alternative Fuel Vehicles	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0
GSA Fleet																			
Acquisitions																			
Conventional Fuel Vehicles	0	27	4	2	0	0	33	83	3	7	1	94	58	78	159	17	312	0	0
Alternative Fuel Vehicles	0	23	62	11	0	0	96	158	2	80	4	244	168	207	100	4	479	0	0
Disposals																			
Conventional Fuel Vehicles	0	16	33	2	0	0	51	265	21	36	2	324	150	129	234	26	539	0	0
Alternative Fuel Vehicles	0	6	30	64	12	0	112	120	1	56	14	191	108	112	43	0	263	0	0
Net change																			
Conventional Fuel Vehicles	0	11	(29)	0	0	0	(18)	(182)	(18)	(29)	(1)	(230)	(92)	(51)	(75)	(9)	-227	(230)	0
Alternative Fuel Vehicles	0	17	32	(53)	(12)	0	(18)	38	1	24	(10)	53	60	95	57	4	216	0	0
Comml leased																			
Acquisitions																			
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Disposals																			
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net change																			
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined net change																			
Conventional Fuel Vehicles	0	10	(29)	0	0	0	(19)	(183)	(18)	(29)	(1)	(231)	(95)	(52)	(80)	(14)	-241	0	0
Alternative Fuel Vehicles	1	17	32	(53)	(12)	0	(15)	38	1	24	(10)	53	60	95	57	5	217	0	0
Total	1	27	3	(53)	(12)	0	(34)	(145)	(17)	(5)	(11)	(178)	(35)	43	(23)	(9)	-24	0	0
Resulting fleet																			
Conventional Fuel Vehicles	0	125	157	5	0	0	287	871	28	40	37	976	385	420	1,496	620	2921	1	2
Progress toward goal	0.0%	-10.5%	31.4%	0.0%	100.0%	100.0%	16.9%	40.7%	69.2%	69.7%	44.1%	45.0%	43.3%	32.9%	31.2%	112.0%	36.9%	100.0%	100.0%
Alternative Fuel Vehicles	2	69	407	82	(12)	0	548	584	11	366	23	984	711	1,115	347	10	2183	0	0
Progress toward goal	200.0%	34.9%	50.0%	66.9%	1300.0%	100.0%	-5.7%	5.7%	0.0%	79.2%	10.3%	14.1%	13.2%	45.7%	28.9%	50.0%	32.0%	100.0%	100.0%
Fleet size	2	194	564	87	(12)	0	835	1,455	39	406	60	1960	1,086	1,535	1,843	630	5104	1	2
Progress toward goal	18.2%	125.6%	-157.1%	64.9%	1300.0%	100.0%	34.8%	72.9%	65.5%	58.7%	240.0%	72.5%	84.9%	67.9%	45.6%	271.4%	96.4%	100.0%	100.0%
2014 Plan																			
Agency owned																			
Acquisitions																			
Conventional Fuel Vehicles	10	0	0	0	0	0	10	0	0	0	0	0	0	0	2	7	9	0	0
Alternative Fuel Vehicles	2	0	0	0	0	0	2	0	0	0	0	0	1	1	1	3	6	0	0
Disposals																			
Conventional Fuel Vehicles	0	0	0	0	0	0	0	2	0	0	0	2	2	1	3	14	20	0	0
Alternative Fuel Vehicles	0	0	1	0	0	0	1	0	0	0	0	0	2	3	0	0	5	0	0
Net change																			
Conventional Fuel Vehicles	10	0	0	0	0	0	10	(2)	0	0	0	(2)	(2)	(1)	(1)	(7)	-11	0	0
Alternative Fuel Vehicles	2	0	(1)	0	0	0	1	0	0	0	0	0	(1)	(2)	1	3	1	0	0
GSA Fleet																			
Acquisitions																			
Conventional Fuel Vehicles	0	3	11	0	0	0	14	48	1	10	2	61	73	107	84	21	285	0	0
Alternative Fuel Vehicles	3	26	55	0	0	0	84	108	2	51	6	167	86	210	91	4	391	0	0
Disposals																			

Enter data in shaded boxes only!	Sedan						Other passenger					Truck				Other		TOTAL FLEET		
	LSEV	Subcompact or smaller	Compact	Midsize	Large	Limousine	Sedan Subtotal	Light SUV	Medium SUV	Light Passenger Van	Medium Passenger Van	Other passenger Subtotal	Light 4x2 (8500 or less)	Light 4x4 (8500 or less)	Medium (8501-16,000)	Heavy (over 16,000)	Truck Subtotal		Ambulance	Bus
Conventional Fuel Vehicles	0	14	21	1	0	0	36	157	6	14	7	127	109	182	27	445	0	0	665	
Alternative Fuel Vehicles	3	1	93	44	0	0	141	93	5	57	2	121	180	21	0	322	0	0	620	
Net change																				
Conventional Fuel Vehicles	0	(11)	(10)	(1)	0	0	(22)	(109)	(5)	(4)	(5)	(54)	(2)	(98)	(6)	-160	0	0	(305)	
Alternative Fuel Vehicles	0	25	(38)	(44)	0	0	(57)	15	(3)	(6)	4	(35)	30	70	4	69	0	0	22	
Commi leased																				
Acquisitions																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	4	0	0	0	0	0	2	0	2	0	0	6	
Alternative Fuel Vehicles	0	1	2	0	0	0	3	0	0	1	0	0	5	5	0	10	0	0	14	
Disposals																				
Conventional Fuel Vehicles	0	0	0	1	0	0	1	6	0	1	1	0	2	9	3	14	0	0	23	
Alternative Fuel Vehicles	0	6	1	3	0	0	10	3	0	1	0	0	3	0	1	4	0	0	18	
Net change																				
Conventional Fuel Vehicles	0	0	0	(1)	0	0	(1)	(2)	0	(1)	(1)	0	(2)	(7)	(3)	-12	0	0	(17)	
Alternative Fuel Vehicles	0	(5)	1	(3)	0	0	(7)	(3)	0	0	0	0	2	5	(1)	6	0	0	(4)	
Combined net change																				
Conventional Fuel Vehicles	10	(11)	(10)	(2)	0	0	(13)	(113)	(5)	(5)	(6)	(56)	(5)	(106)	(16)	-183	0	0	(325)	
Alternative Fuel Vehicles	2	20	(38)	(47)	0	0	(63)	12	(3)	(6)	4	(36)	30	76	6	76	0	0	20	
Total	12	9	(48)	(49)	0	0	(76)	(101)	(8)	(11)	(2)	(92)	25	(30)	(10)	-107	0	0	(305)	
Resulting fleet																				
Conventional Fuel Vehicles	10	114	147	3	0	0	274	758	23	35	31	329	415	1,390	604	2738	1	2	3,862	
Progress toward goal	100.0%	2.3%	37.8%	40.0%	100.0%	100.0%	22.4%	54.1%	78.8%	74.7%	61.8%	57.6%	58.0%	34.6%	49.9%	176.0%	51.5%	100.0%	100.0%	51.2%
Alternative Fuel Vehicles	4	89	369	35	(12)	0	485	596	8	360	27	675	1,145	423	16	2,259	0	0	3,735	
Progress toward goal	400.0%	50.4%	23.2%	95.2%	1300.0%	100.0%	-65.7%	8.7%	100.0%	67.9%	24.1%	15.5%	-3.2%	52.5%	44.5%	83.3%	39.1%	100.0%	100.0%	26.4%
Fleet size	14	203	516	38	(12)	0	758	1,354	31	395	58	1,004	1,560	1,813	620	4,997	1	2	7,597	
Progress toward goal	127.3%	146.5%	185.7%	93.6%	1300.0%	100.0%	92.4%	95.9%	80.0%	82.6%	280.0%	142.8%	83.3%	83.5%	414.3%	225.3%	100.0%	100.0%	108.6%	
2015 Plan																				
Agency owned																				
Acquisitions																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	8	0	0	8	
Alternative Fuel Vehicles	0	0	0	0	0	0	0	20	0	1	0	0	0	0	3	3	0	0	24	
Disposals																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	7	3	0	0	4	1	6	18	29	0	0	39	
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	
Net change																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	(7)	(3)	0	0	(4)	(1)	(5)	(11)	-21	0	0	(31)	
Alternative Fuel Vehicles	0	0	0	0	0	0	0	20	0	1	0	0	0	0	1	1	0	0	22	
GSA Fleet																				
Acquisitions																				
Conventional Fuel Vehicles	0	10	4	0	0	0	14	46	0	2	3	12	21	70	14	117	0	2	184	
Alternative Fuel Vehicles	2	25	58	4	0	0	89	117	4	36	1	92	243	122	7	464	0	0	711	
Disposals																				
Conventional Fuel Vehicles	0	40	13	4	0	0	57	129	12	3	4	49	50	143	21	263	0	0	468	
Alternative Fuel Vehicles	2	4	49	5	0	0	60	77	3	36	2	89	179	52	3	323	0	0	501	
Net change																				
Conventional Fuel Vehicles	0	(30)	(9)	(4)	0	0	(43)	(83)	(12)	(1)	(1)	(37)	(29)	(73)	(7)	-146	0	2	(284)	
Alternative Fuel Vehicles	0	21	9	(1)	0	0	29	40	1	0	(11)	3	64	70	4	141	0	0	210	
Commi leased																				
Acquisitions																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Disposals																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Net change																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)	
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)	
Combined net change																				
Conventional Fuel Vehicles	0	(30)	(9)	(4)	0	0	(43)	(90)	(15)	(1)	(1)	(41)	(30)	(78)	(18)	(167)	0	0	(317)	
Alternative Fuel Vehicles	0	21	9	(1)	0	0	29	60	1	1	(1)	3	64	70	5	142	0	0	232	
Total	0	(9)	0	(5)	0	0	(14)	(30)	(14)	0	(2)	(38)	34	(8)	(13)	-25	0	0	(85)	
Resulting fleet																				
Conventional Fuel Vehicles	10	84	138	(1)	0	0	231	668	8	34	30	288	385	1,312	586	2,571	1	2	3,545	
Progress toward goal	100.0%	37.2%	43.6%	120.0%	100.0%	100.0%	40.5%	64.8%	107.7%	75.8%	64.7%	68.0%	68.9%	45.4%	63.7%	248.0%	64.8%	100.0%	100.0%	63.8%
Alternative Fuel Vehicles	4	110	378	34	(12)	0	514	656	9	361	26	678	1,209	493	21	2,401	0	0	3,967	
Progress toward goal	400.0%	66.7%	29.6%	95.8%	1300.0%	100.0%	-38.1%	23.5%	66.7%	69.8%	20.7%	28.2%	-1.8%	67.0%	58.8%	111.1%	51.3%	100.0%	100.0%	39.6%
Fleet size	14	194	516	33	(12)	0	745	1,324	17	395	56	966	1,594	1,805	607	4,972	1	2	7,512	
Progress toward goal	127.3%	125.6%	185.7%	96.5%	1300.0%	100.0%	103.0%	102.7%	105.5%	82.6%	320.0%	166.7%	104.3%	93.7%	600.0%	255.4%	100.0%	100.0%	119.7%	
2016 plan																				
Agency owned																				
Acquisitions																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	3	0	0	0	1	2	7	2	12	0	0	15	
Alternative Fuel Vehicles	0	0	1	0	0	0	1	3	0	4	0	4	4	2	0	10	0	0	18	
Disposals																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	3	0	0	0	3	2	9	4	18	0	0	21	
Alternative Fuel Vehicles	0	0	1	0	0	0	1	3	0	4	2	4	4	2	0	10	0	0	20	
Net change																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	(2)	0	(2)	(2)	-6	0	0	(6)	
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	(2)	0	0	0	0	0	0	0	(2)	
GSA Fleet																				

	Sedan						Other passenger					Truck				Other		TOTAL FLEET		
	LSEV	Subcompact or smaller	Compact	Midsize	Large	Limousine	Sedan Subtotal	Light SUV	Medium SUV	Light Passenger Van	Medium Passenger Van	Other passenger Subtotal	Light 4x2 (8500 or less)	Light 4x4 (8500 or less)	Medium (8501-16,000)	Heavy (over 16,000)	Truck Subtotal		Ambulance	Bus
Enter data in shaded boxes only!																				
Acquisitions																				
Conventional Fuel Vehicles	0	8	28	0	0	0	36	59	2	0	1	62	31	28	77	12	148	0	0	246
Alternative Fuel Vehicles	1	42	101	1	0	0	145	132	13	58	12	215	118	199	130	1	448	0	0	808
Disposals																				
Conventional Fuel Vehicles	0	28	33	0	0	0	61	149	9	3	7	168	57	47	159	13	276	0	0	505
Alternative Fuel Vehicles	1	23	96	1	0	0	121	63	3	54	3	123	93	164	46	0	303	0	0	547
Net change																				
Conventional Fuel Vehicles	0	(20)	(5)	0	0	0	(25)	(90)	(7)	(3)	(6)	(106)	(26)	(19)	(82)	(1)	-128	0	0	(259)
Alternative Fuel Vehicles	0	19	5	0	0	0	24	69	10	4	9	92	25	35	84	1	145	0	0	261
Comml leased																				
Acquisitions																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Disposals																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net change																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined net change																				
Conventional Fuel Vehicles	0	(20)	(5)	0	0	0	(25)	(90)	(7)	(3)	(6)	(106)	(28)	(19)	(84)	(3)	-134	0	0	(265)
Alternative Fuel Vehicles	0	19	5	0	0	0	24	69	10	4	7	90	25	35	84	1	145	0	0	259
Total	0	(1)	0	0	0	0	(1)	(21)	3	1	1	(16)	(3)	16	0	(2)	11	0	0	(6)
Resulting fleet																				
Conventional Fuel Vehicles	10	64	133	(1)	0	0	206	578	1	31	24	634	260	366	1,228	583	2437	1	2	3,280
Progress toward goal	0.0%	58.1%	9.0%	80.0%	100.0%	100.0%	28.7%	21.4%	42.3%	4.0%	20.6%	20.7%	18.2%	17.5%	28.6%	84.0%	24.1%	100.0%	100.0%	23.1%
Alternative Fuel Vehicles	4	129	383	34	(12)	0	538	725	19	365	33	1142	703	1,244	577	22	2546	0	0	4,226
Progress toward goal	0.0%	31.0%	9.9%	0.6%	0.0%	100.0%	50.5%	31.9%	-366.7%	9.4%	20.7%	31.3%	12.7%	22.4%	31.6%	33.3%	24.6%	100.0%	100.0%	28.0%
Fleet size	14	193	516	33	(12)	0	744	1,303	20	396	57	1776	963	1,610	1,805	605	4983	1	2	7,506
Progress toward goal	0.0%	-23.3%	0.0%	2.9%	0.0%	100.0%	11.4%	11.6%	20.0%	-2.2%	20.0%	11.4%	25.8%	30.9%	10.1%	214.3%	16.9%	100.0%	100.0%	12.0%
2017 plan																				
Agency owned																				
Acquisitions																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	3	0	0	0	3	1	0	2	1	4	0	0	7
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	5	0	5	3	3	5	0	11	0	0	16
Disposals																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	1	0	0	0	1	1	3	2	2	8	0	0	9
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	5	0	5	3	3	5	0	11	0	0	16
Net change																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	2	0	0	0	2	0	(3)	0	(1)	-4	0	0	(2)
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GSA Fleet																				
Acquisitions																				
Conventional Fuel Vehicles	0	16	12	0	0	0	28	27	0	0	1	28	18	14	59	10	101	0	0	157
Alternative Fuel Vehicles	2	38	34	1	0	0	75	77	0	43	9	129	72	188	116	15	391	0	0	595
Disposals																				
Conventional Fuel Vehicles	2	33	19	0	0	0	54	87	2	0	2	91	31	35	133	12	211	0	0	356
Alternative Fuel Vehicles	0	21	27	1	0	0	49	29	1	40	8	78	59	157	42	13	271	0	0	398
Net change																				
Conventional Fuel Vehicles	(2)	(17)	(7)	0	0	0	(26)	(60)	(2)	0	(1)	(63)	(13)	(21)	(74)	(2)	-110	0	0	(199)
Alternative Fuel Vehicles	2	17	7	0	0	0	26	48	(1)	3	1	51	13	31	74	2	120	0	0	197
Comml leased																				
Acquisitions																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Disposals																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net change																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined net change																				
Conventional Fuel Vehicles	(2)	(17)	(7)	0	0	0	(26)	(58)	(2)	0	(1)	(61)	(13)	(24)	(74)	(3)	-114	0	0	(201)
Alternative Fuel Vehicles	2	17	7	0	0	0	26	48	(1)	3	1	51	13	31	74	2	120	0	0	197
Total	0	0	0	0	0	0	0	(10)	(3)	3	0	(10)	0	7	0	(1)	6	0	0	(4)
Resulting fleet																				
Conventional Fuel Vehicles	8	47	126	(1)	0	0	180	520	(1)	31	23	573	247	342	1,154	580	2323	1	2	3,079
Progress toward goal	-20.0%	43.0%	7.7%	0.0%	100.0%	100.0%	21.5%	17.6%	17.3%	3.0%	20.6%	16.2%	10.8%	15.4%	27.9%	24.0%	19.8%	100.0%	100.0%	18.5%
Alternative Fuel Vehicles	6	146	390	34	(12)	0	564	773	18	368	34	1193	716	1,275	651	24	2666	0	0	4,423
Progress toward goal	200.0%	27.9%	8.5%	0.0%	0.0%	100.0%	47.6%	29.0%	-300.0%	13.2%	27.6%	29.2%	17.3%	14.9%	32.4%	16.7%	22.7%	100.0%	100.0%	26.0%
Fleet size	14	193	516	33	(12)	0	744	1,293	17	399	57	1766	963	1,617	1,805	604	4989	1	2	7,502
Progress toward goal	0.0%	-2.3%	0.0%	0.0%	0.0%	100.0%	0.8%	7.1%	0.0%	-8.7%	-20.0%	4.8%	1.9%	14.2%	0.0%	42.9%	-20.5%	100.0%	100.0%	1.3%
2018 Plan																				
Agency owned																				
Acquisitions																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	2	0	0	0	2	4	0	3	0	7	1	0	1	0	2	0	0	11
Disposals																				
Conventional Fuel Vehicles	0	0	1	0	0	0	1	1	0	0	0	1	1	0	1	0	2	0	0	4
Alternative Fuel Vehicles	0	0	1	0	0	0	1	2	1	3	0	6	0	0	0	0	0	0	0	7
Net change																				

	Sedan						Sedan Subtotal	Other passenger				Other passenger Subtotal	Truck				Truck Subtotal	Other		TOTAL FLEET
	LSEV	Subcompact or smaller	Compact	Midsize	Large	Limousine		Light SUV	Medium SUV	Light Passenger Van	Medium Passenger Van		Light 4x2 (8500 or less)	Light 4x4 (8500 or less)	Medium (8501-16,000)	Heavy (over 16,000)		Ambulance	Bus	
Disposals																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net change																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GSA Fleet																				
Acquisitions																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	6	2	0	0	0	8	9	0	4	0	13	15	5	9	7	36	0	0	57
Disposals																				
Conventional Fuel Vehicles	0	0	1	0	0	0	1	2	0	0	0	2	5	2	6	7	20	0	0	23
Alternative Fuel Vehicles	0	6	1	0	0	0	7	6	1	4	0	11	10	3	3	0	16	0	0	34
Net change																				
Conventional Fuel Vehicles	0	0	(1)	0	0	0	(1)	(2)	0	0	0	(2)	(5)	(2)	(6)	(7)	-20	0	0	(23)
Alternative Fuel Vehicles	0	0	1	0	0	0	1	3	(1)	0	0	2	5	2	6	7	20	0	0	23
Comml leased																				
Acquisitions																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Disposals																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net change																				
Conventional Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Fuel Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined net change																				
Conventional Fuel Vehicles	0	0	(1)	0	0	0	(1)	(2)	0	0	0	(2)	(5)	(2)	(6)	(7)	-20	0	0	(23)
Alternative Fuel Vehicles	0	0	1	0	0	0	1	3	(1)	0	0	2	5	2	6	7	20	0	0	23
Total	0	0	0	0	0	0	0	1	(1)	0	0	0	0	0	0	0	0	0	0	0
Resulting fleet																				
Conventional Fuel Vehicles	8	47	122	(1)	0	0	176	485	0	30	23	538	233	303	1,136	571	2243	1	2	2,960
Progress toward goal	-20.0%	19.8%	7.1%	0.0%	100.0%	100.0%	12.7%	11.0%	1.9%	1.0%	2.9%	9.3%	7.1%	22.5%	16.2%	48.0%	15.5%	100.0%	100.0%	12.7%
Alternative Fuel Vehicles	6	146	394	34	(12)	0	568	812	13	369	34	1228	730	1,315	669	33	2747	0	0	4,543
Progress toward goal	200.0%	13.2%	7.7%	0.0%	0.0%	100.0%	28.6%	21.5%	200.0%	7.5%	3.4%	17.8%	12.3%	16.1%	18.9%	61.1%	17.2%	100.0%	100.0%	18.1%
Fleet size	14	193	516	33	(12)	0	744	1,297	13	399	57	1766	963	1,618	1,805	604	4990	1	2	7,503
Progress toward goal	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	1.4%	12.7%	-6.5%	0.0%	1.8%	0.0%	4.9%	0.0%	14.3%	-8.4%	100.0%	100.0%	0.4%

Appendix C: Climate Preparedness and Resilience Requirements of Section 13(a) and (b) of E.O. 13693

The Assistant Secretary of the Army for Civil Works established an overarching agency policy in 2011, reaffirmed in 2014, that requires USACE to mainstream climate preparedness and resilience. Mainstreaming means that climate preparedness and resilience are incorporated in all new projects, and that climate vulnerabilities for existing projects will be identified through progressively more detailed vulnerability assessments. Agency Adaptation Plans filed in 2011-2014 outline plans and progress toward the goal of identifying and addressing the projected impacts of climate change agency missions and operations. This information, including any required benefit-costs analyses, will be used to guide climate preparedness and resilience decision-making and investment strategies. An updated Climate Adaptation Plan is attached as an appendix.



USACE JUNE 2015

Climate Change Adaptation Plan

Update to 2014 Plan



EXECUTIVE SUMMARY

This US Army Corps of Engineers (USACE) June 2015 Adaptation Plan update, prepared at the direction of the USACE Committee on Climate Preparedness and Resilience (USACE CCPR), provides an update to the 2014 Adaptation Plan. This update will be publicly available to our staff, partners and stakeholders following the required review by the White House.

This USACE 2015 Adaptation Plan is an update to the 2014 Adaptation Plan. The 2014 Adaptation Plan describes activities underway to evaluate the most significant climate change related risks to, and vulnerabilities in, agency operations and missions in both the short and long term, and outlines actions that USACE is taking to manage these risks and vulnerabilities. It contains an update on climate preparedness and resilience programs, policies, and plans USACE has already put in place, as well as information about progress on additional actions that will help us manage climate risks and build resilience in the short and long term.

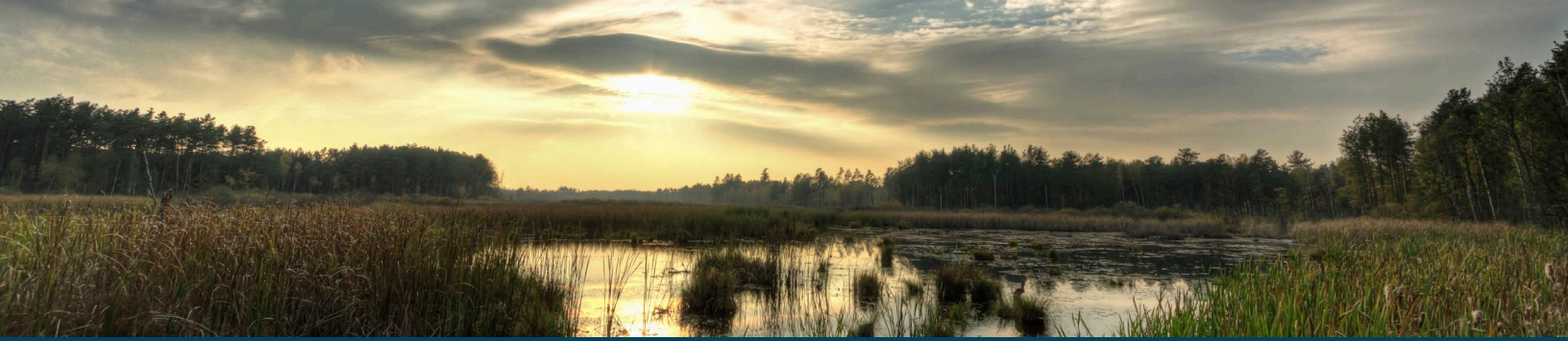
USACE established an overarching USACE Climate Change Adaptation Policy Statement and a governance structure to support mainstreaming adaptation in 2011, following the release of Executive Order (EO) 13514 (Federal Leadership in Environmental, Energy, and Economic Performance) and its Implementing Instructions. Following the release of the President's Climate Action Plan and EO 13693 (Planning for Federal Sustainability in the Next Decade) in 2013, the policy was updated as shown in the 2014 Adaptation Plan.

This 2015 Adaptation Plan update reflects climate preparedness and resilience actions in the *Climate and Natural Resources Priority Agenda* and recommendations from the State, Local, and Tribal Leaders Task Force for Climate Preparedness and Resilience, released in fall 2014. This update also addresses EO 13677 (Climate-Resilient International Development), EO 13689 (Enhancing Coordination of National Efforts in the Arctic), EO 13690 (Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input), and EO 13693 (Planning for Federal Sustainability in the Next Decade).

This Update addresses the following priority areas: modernizing USACE programs and policies to support climate-resilient investment, managing USACE lands and waters for climate preparedness and resilience, supporting State, local, and tribal preparedness, providing actionable climate information, tools, and projections, and international leadership provided by USACE supporting climate preparedness.

“The activities reflected in this Adaptation Plan will permit USACE to lead in developing and adopting resiliency concepts which will serve USACE missions, other federal agencies, civilian and military communities, as well as security cooperation interests abroad.”

Lloyd Caldwell, PE, SES
Director of Military Programs



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ADAPTATION POLICY STATEMENT

The primary and overarching policy document for USACE is the *USACE Climate Preparedness and Resilience Policy Statement*, signed by Assistant Secretary of the Army Jo-Ellen Darcy in June 2014.

As the Nation's largest and oldest manager of water resources, the US Army Corps of Engineers (USACE) has long been successfully adapting its policies, programs, projects, planning, and operations to impacts from important drivers of global change and variability.

It is the policy of USACE to integrate climate change preparedness and resilience planning and actions in all activities for the purpose of enhancing the resilience of our built and natural water-resource infrastructure and the effectiveness of our military support mission, and to reduce the potential vulnerabilities of that infrastructure and those missions to the effects of climate change and variability. USACE shall continue undertaking its climate change preparedness and resilience planning, in consultation with internal and external experts and with our districts, divisions, and Centers, and shall implement the results of that planning using the best available – and actionable – climate science and climate change information. USACE shall also continue its efforts with other agencies to develop the science and engineering research on climate change information into the actionable basis for adapting to climate change impacts. Furthermore, USACE shall continue to consider potential climate change impacts when undertaking long-term planning, setting priorities, and making decisions affecting its resources, programs, policies, and operations.

These actions, which USACE is now conducting and has outlined for the future, are fully compatible with the guiding principles and framework of the Council on Climate Preparedness and Resilience and its predecessor, the Federal Interagency Climate Change Adaptation Task Force; with Executive Order 13653 and its December

19, 2013 instructions *Preparing Federal Agency Climate Change Adaptation Plans In Accordance with Executive Order 13653*; and with Executive Order 13514 and the *Implementing Instructions for Federal Agency Climate Change Adaptation* issued on March 4, 2011.

USACE understands and is acting to integrate climate adaptation (managing the unavoidable impacts) with mitigation (avoiding the unmanageable impacts). USACE recognizes the very significant differences between climate change adaptation and climate change mitigation in terms of physical complexity, fiscal and material resources, level of knowledge and technical readiness, and temporal and geographic scale. These differences mean that very different knowledge, skills, and abilities are needed to understand, plan and implement climate preparedness and resilience policies and measures as compared to the ones for implementing mitigation measures. It is the policy of USACE that mitigation and adaptation investments and responses to climate change shall be considered together to avoid situations where near-term mitigation measures might be implemented that would be overcome by longer-term climate impacts requiring adaptation, or where a short-term mitigation action would preclude a longer-term adaptation action.

Work to understand and adapt to the impacts of climate and global change is well underway at USACE, and the policy enunciated here is closely aligned with the USACE Campaign Plan and the USACE Civil Works Strategic Plan. USACE has several integrated programs directed at parts of climate change adaptation; in addition, many coordinated elements from other programs support the development of approaches to understand and mainstream climate change

adaptation. Mainstreaming climate change adaptation means that it will be considered at every step in the project life cycle for all USACE projects, both existing and planned, through a logical, rational, legally justifiable process that develops practical, nationally consistent, and cost-effective adaptation measures, both structural and nonstructural, to reduce vulnerabilities and enhance the resilience of our water-resource infrastructure.

The magnitude and complexity of climate change impacts facing water-resource managers in the US has spurred USACE to embark on closer, more fruitful interagency cooperation for developing methods supporting climate change adaptation. Close collaboration, both nationally and internationally, is the most effective way to develop the measures to identify and reduce the USACE mission vulnerabilities to potential future climate changes. USACE has demonstrated its commitment to engage and lead such collaboration through efforts including the “Building Strong Collaborative Relationships for a Sustainable Water Resources Future Initiative” and the federal interagency Climate Change and Water Working Group (CCAWWG).

It is the policy of USACE that these and other productive collaborative efforts around climate and global change adaptation shall continue.

This policy establishes the Assistant Secretary of the Army for Civil Works as the Agency official responsible for ensuring implementation of all aspects of this policy. This policy does not alter or affect any existing duty or authority and recognizes that USACE has established the USACE Committee on Climate Preparedness and Resilience to oversee and coordinate agency-wide climate change adaptation planning and implementation. The Committee is chaired by the USACE Chief, Engineering and Construction, and reports regularly to the Assistant Secretary of the Army for Civil Works.

This policy statement reaffirms and supersedes the commitment made by USACE in its June 3, 2011 Climate Change Adaptation Policy Statement. This policy shall be effective beginning June 27, 2014, for all USACE missions, operations, programs and projects and shall remain in effect until it is amended, superseded, or revoked.

Signed,



Jo-Ellen Darcy

Assistant Secretary of the Army for Civil Works



“Climate-resilient systems are sustainable systems.”

Mr. Steven L. Stockton, PE, SES, Director of Civil Works
American Water Resources Association conference, New Orleans, June 15, 2015



WHAT'S NEW SINCE THE 2014 ADAPTATION PLAN

This 2015 Adaptation Plan updates information in the 2014 Adaptation Plan and provides new information stemming from two significant Administration actions: the release of the Climate and Natural Resources Priority Agenda in October 2014, recommendations from the State, Local, and Tribal Leaders Task Force for Climate Preparedness and Resilience in November 2014. Also, since the 2014 Adaptation Plan was submitted, several related Executive Orders (EOs) have been released: EO 13677 (Climate-Resilient International Development) in September 2014, EO 13689 (Enhancing Coordination of National Efforts in the Arctic) and EO 13690 (Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input) in January 2015, and EO 13693 (Planning for Federal Sustainability in the Next Decade) in March 2015.

Climate and Natural Resources Priority Agenda

In response to Section 3 of Executive Order 13653, Preparing the United States for the Impacts of Climate Change, the interagency Council on Climate Change Preparedness and Resilience convened a Climate and Natural Resources Working Group (CNRWG). The CNRWG includes the Departments of Agriculture, Defense, and Interior, the Environmental Protection Agency, the Federal Emergency Management Agency, the National Oceanic and Atmospheric Administration, and the U.S. Army Corps of Engineers.

This interagency working group developed a report titled Priority Agenda: Enhancing the Climate Resilience of America's Natural Resources. The report, released by the administration on 8 October 2014, identifies four priority strategies to make the Nation's natural resources more resilient to a changing climate:

- Foster climate-resilient lands and waters
- Manage and enhance U.S. carbon sinks

- Enhance community preparedness and resilience by utilizing and sustaining natural resources
- Modernize Federal programs, investments, and delivery of services to build resilience and enhance sequestration of biological carbon

For each strategy, the Agenda documents significant progress and provides a roadmap for future actions. In the future, USACE and other relevant Federal agencies will provide resources and technical assistance to State, tribal, local, and private sector partners to enhance the resilience of America's natural resources to the impacts of climate change.

State, Local, and Tribal Leaders Task Force

In 2013, the President established the State, Local, and Tribal Leaders Task Force (SLTL TF) as part of his Climate Action Plan. The Task Force is made up of governors, mayors, county executives, and tribal leaders from across the United States who, as recently as 17 November 2014,

presented recommendations to Vice President Biden and Senior White House Officials on how the Federal Government can respond to the needs of American communities dealing with the impacts of climate change. In response to early recommendations from the SLTL TF, the Administration developed a *Climate Resilience Toolkit website*.

EO 13677, Climate-Resilient International Development

On 23 September 2014, President Obama released EO 13677, which calls for agencies to consider climate-resilience in all United States international development work and encourage multilateral entities to take a similar approach. The order builds on EO 13514 (Federal Leadership in Environmental, Energy, and Economic Performance) and EO 13653 (Preparing the United States for the Impacts of Climate Change). EO 13677 seeks to: (1) improve the resilience of the Federal Government's international development programs, projects, and investments, (2) promote knowledge sharing, including data and tools, in incorporating resilience considerations, and (3) complement efforts by the Federal Government to reduce greenhouse gas emissions at home and globally.

EO 13689, Enhancing Coordination of National Efforts in the Arctic

On 21 January 2015, President Obama released EO 13689, which establishes an Arctic Executive Steering Committee. Steering Committee membership consists of persons from the Office of Science and Technology Policy, the Council on Environmental Quality, the Domestic Policy Council, and the National Security Council, various Federal departments, the Office of the Director of National Intelligence, the Environmental Protection Agency, the National Aeronautics and Space Administration, the National Science Foundation, the Arctic Research Commission, the Office of Management and Budget, and the Assistant to the President for Public Engagement and Intergovernmental Affairs. The committee is tasked with providing guidance; establishing a working group; working with various stakeholders, including Federal, State, and local governments, and Alaska Native organizations, on Arctic policies and practices, and identifying a Federal Arctic Point of Contact.

EO 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input

EO 13690, signed by the President on 30 January 2015, amends EO 11988 (Floodplain Management), and establishes a Federal Flood Risk Management Standard (FFRMS). This EO addresses the requirement in the June 2013 President's Climate Action Plan for Federal agencies to update their flood-risk reduction standards. The new FFRMS will help ensure that federally-funded buildings and infrastructure are constructed to withstand the impacts of flooding (now and in the future), improves the resilience of communities, and protects Federal investments. The FFRMS builds on the work of the Hurricane Sandy Rebuilding Task Force, which recommended that the Federal Government create a national flood risk standard for federally-funded projects beyond the Sandy-affected region.

EO 13693, Planning for Federal Sustainability in the Next Decade

On 19 March 2015, President Obama released EO 13693. This EO replaces EO 13423 (Strengthening Federal Environmental, Energy, and Transportation Management), and EO 13514 (Federal Leadership in Environmental, Energy, and Economic Performance). It calls for Federal agencies to increase the efficiency of their operations and improve their environmental performance with the goal of reducing agency direct greenhouse gas emissions by a minimum of 40 percent over the next decade. EO 13693 seeks to achieve this goal through improved efficiency and management in the following areas (1) energy, (2) water, (3) fleet, and (4) buildings. With respect to climate preparedness and resilience, EO 13693 does require that new and existing Federal buildings include consideration of climate change resilience and employee and visitor wellness (Sections 3, 4, 7, and 13); ensure regional agency actions consider and are consistent with climate preparedness priorities of States, local governments, and tribal communities where agency facilities are located (Section 7); and include climate preparedness and resilience into Federal leadership and educational programs in courses and training (Section 11).

In alignment with EO 13653, EO 13693 also stresses that agencies should conduct regional coordination in the areas of water resource management and drought response opportunities and climate change preparedness and resilience planning in coordination with State, local, and tribal communities (Section 10).



MODERNIZING USACE PROGRAMS AND POLICIES TO SUPPORT CLIMATE-RESILIENT INVESTMENT

Section 2 of EO 13653 requires federal agencies to work with the White House Council on Climate Preparedness and Resilience (CCPR) to modernize their programs and policies to support climate-resilient investments at all levels, while ensuring continued protection of public and environmental health. Examples of modernizing actions include identifying, removing, or reforming barriers that discourage investments to increase climate change resilience or that increase the vulnerability of natural and built systems, economic sectors, natural resources, or communities to climate change. This includes developing and encouraging smarter investment strategies for use by States, local communities, and tribes.

USACE activities underway to modernize agency guidance to increase climate change preparedness and resilience are guided by the USACE Committee on Climate Preparedness and Resilience and supported by the O&M Remaining Items programs Responses to Climate Change (RCC) and Actions for Change. Our modernized policies, guidance, tools, and methods not only allow us to understand our vulnerabilities, but they support improvements to resilience internally and can assist State, local, and tribal communities as well.

New Policy and Guidance to Support Climate Preparedness and Resilience

By involving internal and external experts; district, division, lab, center, and USACE HQ staff; other agencies; NGOs; and the private sector in this process, we support and encourage the transfer of knowledge between our partners and stakeholders at all levels necessary to reduce vulnerability and improve resilience to the effects of climate and extreme weather. Through our work with the State, Local and Tribal Leaders Task Force established under Section 7 of EO 13653, USACE is developing an improved understanding of their needs and working to provide solutions as appropriate.

The lessons learned from these interactions will help guide the development of USACE policy, guidance, tools, and methods in this critical area. Our goal is to develop practical, nationally consistent, legally justifiable, and cost effective measures, both structural and nonstructural, to reduce vulnerabilities and improve the resilience of our water resources infrastructure impacted by climate change

Policy and Guidance to Adapt to Changing Sea Levels

On 30 June 2014, USACE issued Engineer Technical Letter (ETL) 1100-2-1, *Procedures to Evaluate Sea Level Change: Impacts, Responses, and Adaptation*, which explains how USACE staff will account for the direct and indirect physical and ecological effects of projected future sea level change on USACE projects and systems of projects, including considerations for adapting to those effects.

This ETL provides guidance for USACE staff on how they will plan and implement adaptation to changing sea levels for every USACE coastal activity as far inland as the extent of estimated tidal influence. The ETL presents a broadly applicable method with special attention to four USACE mission areas (Flood Damage Risk Reduction, Coastal Storm Damage Reduction, Navigation, and Ecosystems) as

well as insight into application to multipurpose projects. The information presented in the technical letter is applicable to the full range of USACE projects and systems, from simple to complex, from small to very large, and over the full life cycle.

The procedure recommends three sea level change curves for use ranging from the extrapolated historical sea level trend to a higher curve that incorporates additional ocean warming and ice melt. The tiered approach acknowledges the potential significant impacts of extremes, and cumulative and system effects. USACE is encouraging the movement away from designing and evaluating projects in isolation and instead considering projects from a system perspective. Emphasis is placed both on how the project operates within a larger system as well as how project decisions now can influence future impacts. An essential task is to identify key elevations, weak links and thresholds in the system. With changing loading conditions throughout the project lifetime, the identification of a wide array of possible thresholds and tipping points (both physical and social) can affect the actual project performance and alternative acceptability.

This technical guidance is suitable for use by State, local, and tribal governments and by the private sector to help better prepare them for changing sea levels

Policy and Guidance for Paleoflood Hydrology

On 31 October 2014, the U.S. Army Corps of Engineers (USACE) issued Engineer Technical Letter [ETL 1100-2-2](#) establishing guidance for the appropriate use of paleoflood analyses and information to support USACE hydrology and hydraulics (H&H) decision making.

Paleohydrology describes the evidence of the movement of water and sediment in stream channels before the time of continuous hydrologic records or direct measurements. Paleofloods can provide direct and useful information about stage histories and can be used, given caution, to estimate discrete event discharge values. However, there is limited evidence to support using paleoflood information to estimate a series of hydrologic events with multiple peaks, flood volumes, or durations.

ETL 1100-2-2 provides guidance for the application of paleoflood information to H&H decision making. Information in its appendices includes a summary of the appropriate use of paleoflood information specifically for USACE H&H decision making, examples of paleohydrological studies, methods for calculating paleoflood discharge, and calculation of paleoflood volume.



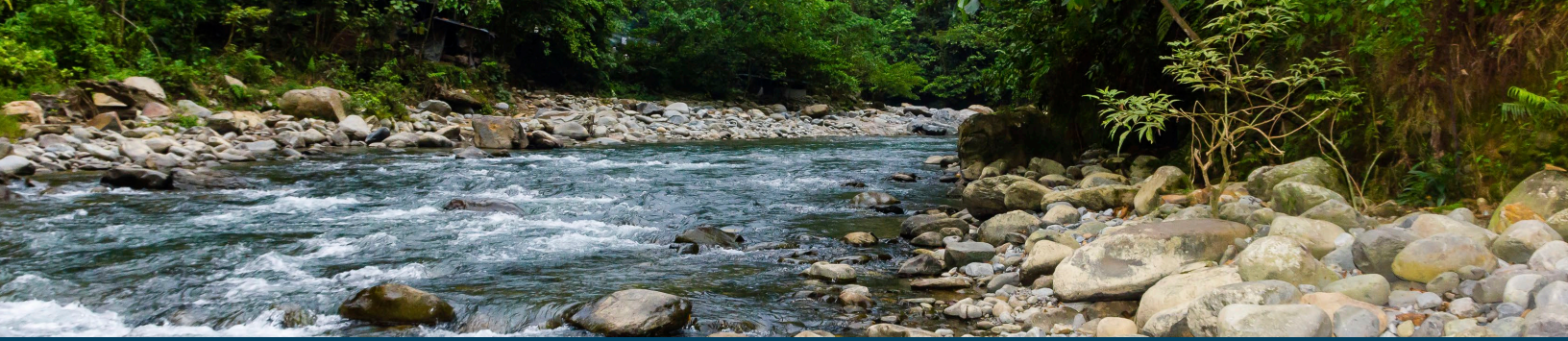
USACE's Approach to Resilience

In simple terms, resilience is the capacity of a system to absorb disturbance and still retain its basic function and structure. In the current popular context, “resilience” is being used to describe a more holistic approach to community capacity building in the face of increased extreme natural disasters, globalization, and urbanization. Increasing community ability to successfully manage expected and unexpected shocks and stresses is a proactive way to avoid loss of life and precious resources, including fiscal and natural.

USACE defines resilience as “the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions.” USACE has adopted this definition from Executive Order 13653, “Preparing the U.S. for Climate Change.” USACE’s approach to resilience is comprised of four actions – plan, absorb, recover, and adapt – to address shocks from adverse events such as superstorms and stresses from changing conditions such as sea level rise.

Even with the increased national focus on community resilience, USACE has long incorporated resilience into our projects through planning and project design features. The Mississippi River & Tributary (MR&T) system is a great example of USACE’s application of resilience principles. The MR&T was designed and built after the devastating Mississippi River floods of 1927. With the 2011 Mississippi River Flood, the MR&T was tested like never before and it performed as designed. In great contrast to 1927, no lives were lost in 2011 and the system prevented flooding in 62 percent of the land flooded in 1927. The system cost \$14B (adjusted) to build and avoided an estimated \$230B in damages in 2011.

Moving forward, USACE is developing our internal strategy on resilience, in the current context, to clearly lay out how we can leverage our expertise, including in preparing for climate change; collaborate more extensively with stakeholders, academia, other agencies, nongovernmental organizations, and industry; and develop/adopt approaches to measure resilience in greater support community resilience.



MANAGING USACE LANDS AND WATERS FOR CLIMATE PREPAREDNESS AND RESILIENCE

Section 3 of EO 13653 requires the heads of the DoD, DOI, USDA, EPA, NOAA, FEMA, USACE, and other agencies as recommended by the Council to complete an inventory and assessment of proposed and completed changes to their land- and water-related policies, programs, and regulations necessary to make the Nation's watersheds, natural resources, and ecosystems, and the communities and economies that depend on them, more resilient in the face of a changing climate.

Water Resources Management

USACE reservoirs are operated according to water control manuals, including reservoir rule curves and drought contingency plans. USACE operations have proved relatively robust to observed climate changes. When combined with the deviation process, there is a great deal of flexibility to respond to short-term and long-term needs based on best available information and science. Two current efforts will improve our ability to manage water resources for climate preparedness and resilience. The first effort is developing and implementing methods to update drought contingency plans to account for climate change. The objective of the second is to enhance reservoir sediment information for climate preparedness and resilience. The reservoir sediment information can help identify current and future reservoir sediment volumes, which can impact flood and water supply storage.

Updating Drought Contingency Plans to Account for Climate Change

Requirements for developing Drought Contingency Plans (DCPs) were first put in place following the drought of the late 1970s. These are detailed in Engineer Regulation (ER) 1110-2-1941, Drought Contingency Plans, dated 15 September 1981. Systematic preparation and revision of DCPs was last undertaken in the 1980s and early 1990s. The high-level vulnerability assessment performed by USACE under the Implementing Guidelines for EO 13514 identified drought as a source of continuing vulnerability in the future. The DCP Update team has established a

geospatial portal to document, store, and disseminate information relative to droughts and drought contingency plans. This includes a complete library of digitized DCPs (142 DCPs covering 301 USACE projects) and summaries of each. Projected climate hydrology for helping characterize specific drought threats to different regions of USACE operations. Updated policy and guidance regarding DCP updates to account for climate change is a planned product of this effort.

Enhancing Reservoir Sediment Information to Support Climate Preparedness and Resilience

Adaptation pilots conducted by USACE staff in the upper Missouri and Rio Grande watersheds, and two tributaries to the Great Lakes, have shown that climate impacts to reservoir sediment is likely to vary widely across the Nation. Proper evaluation of reservoir vulnerabilities to sedimentation effects is critical to their long-term management and reliable performance in providing authorized purposes. The reservoir sediment effort conducted pilots to determine the general extent of reservoir data types and availability as well as to identify gaps in knowledge, developed a method and tool to streamline data input to the interagency RESSED database supported by USGS, and developed "report cards" of reservoir volume, volume loss due to sedimentation, and loss due to sedimentation in the different reservoir zones. The team is conducting a national assessment of the relationship between hydrologic indicators and reservoir sedimentation that should support identification of projects at risk and help prioritize sediment data collection.

Updating System Boundaries

USACE owns more than 7.6 million acres and manages an additional 4.1 million acres of land, together with about 26 million acres of water at full pool. We operate and maintain 13,000 miles of deep draft navigation channels and another 12,000 miles of inland navigation channels. As part of our continued efforts to better manage these land and water resources for climate preparedness and resilience, we requested each USACE district to identify the top 20 most important projects in their districts. We are collecting information on each of these projects to better place them in a systems context for further evaluations supporting climate preparedness and resilience. This effort will also help us to identify flagship or exemplar sites as requested in the *Priority Agenda*.

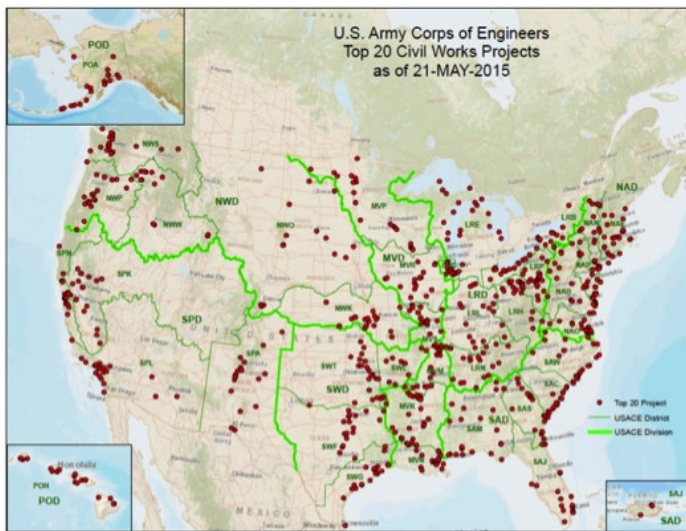


Figure 1. USACE Top 20 Civil Works Projects as of May 21, 2015

Biosequestration

USACE projects can contribute significantly to carbon sequestration, primarily through the long-term burial of organic carbon. In 2012-2013, we conducted a pilot study to assess biosequestration potential in Upper Mississippi River using rapid assessment techniques based on established science and existing information. This pilot allowed us to develop a land-cover modeling approach to characterize sequestration potentials that are fully generalizable and could be applicable to a wide range of public and private lands and waters.

We followed up with additional pilot studies in 2013-2014 in the USACE New England, Omaha, and Savannah Districts. These pilots yielded new insight into how reservoirs contribute to carbon sequestration: the initial, rough estimates for carbon sequestration in reservoir sediments are much greater than the estimate for carbon sequestration in the associated terrestrial areas. These surprising results require careful study, so we continue to test estimation



USACE Roots in Climate Change Adaptation: Programmatic Support to Civil Works

Prompted by the droughts of the late 1970s, the USACE Institute for Water Resources (IWR) undertook a series of studies related to climate change and its implications for water resources planning. The *Economic Impacts of Climate Change research program* was initiated in 1992 to examine the effects of global warming on reservoir operations. One product was the first national conference on climate change and water resources held in 1991, which addressed current knowledge, potential future impacts, and adaptation policy and implementation. As the USACE continued to examine the potential impacts of climate change and variability to water resources management, attention turned to the need for adaptation, appropriate adaptation policies, and how to appropriately manage the adaptation process in the face of uncertainty. In a foundational 1998 paper on the topic of policy implications of climate change impacts on water resources management, IWR's Dr. Eugene Stakhiv identified three approaches to adapt to the impacts of climate change: reactive, anticipatory, and adaptive management - these approaches have been widely accepted and are in use today. USACE first addressed the possibility that climate variability impacted distribution of flood flows in the Upper Mississippi, Lower Missouri, and Illinois Rivers beginning in 1999, laying a solid foundation for later statistical analyses of nonstationary conditions. The incorporation of new and changing conditions, including sea level change, land subsidence, and hydrologic climate change, received increased attention following Hurricane Katrina under the auspices of the Actions For Change Program. By 2007, when changes to western snowpack-dominated watersheds were the subject of increasing documentation, the USACE Director of Civil Works directed the development of an interagency evaluation of climate change impacts to water resources (*USGS Circular 1331*). The Responses to Climate Change (RCC) Program was established in 2009 to reduce vulnerabilities and improve resilience to climate change, and has been the major supporter of USACE climate preparedness and resilience activities.

techniques for reducing input and parameter uncertainty in the assessment of sequestration potential. We are obtaining and developing higher precision inputs to the approach for estimating sequestration potentials, starting with high priority projects on the national listing. CONUS-wide testing and review is beginning in 2015. We are now considering how to develop methods and metrics for estimating sequestration potentials and managing carbon.



SUPPORTING STATE, LOCAL, AND TRIBAL PREPAREDNESS

In 2013, the President established the State, Local, and Tribal Leaders Task Force (SLTL TF) as part of his Climate Action Plan. The Task Force is made up of governors, mayors, county executives, and tribal leaders from across the United States.

North Atlantic Coastal Comprehensive Study

The North Atlantic Coast Comprehensive Study (NACCS) was submitted to Congress in January 2015. This report details a two-year study to address coastal storm and flood risk to vulnerable populations, property, ecosystems, and infrastructure in the North Atlantic region of the United States affected by Hurricane Sandy in October 2012. The study, authorized by Congress in January 2013 in the Disaster Relief Appropriations Act of 2013 (Public Law 113-2), brought together experts from Federal, State, and local agencies, as well as non-governmental organizations and academia, to assess the flood risks facing coastal communities and ecosystems, and collaboratively develop a coastal storm and flood risk management framework to address increasing risks, which are driven in part by climate and sea level change.

In addition to the NACCS framework, numerous technical products generated by USACE and others are identified for each step of the process. The various technical products advanced by the NACCS to further the state of the science include but are not limited to the following: environmental and cultural resources conditions report, including a planning aid report prepared by the U.S. Fish and Wildlife Service called the North Atlantic Coast Comprehensive Study: Biological Resources and Habitats Vulnerable to Sea Level Rise and Storm Activity in the Northeast U.S.; the Coastal Hazards System (CHS) that provides information about future storms and sea level change to inform future studies and analyses; a report on Use of Natural and Nature-based Features for Coastal Resilience Report; the Coastal Program Guide; and enhanced depth-damage functions for coastal storms.



Climate Champion Award

For the second year in a row, USACE was recognized for our progress in adapting to climate change and increasing our preparedness and resilience through the awarding of a 2014 GreenGov Presidential Climate Champion Award. The 2014 award went to the late Mr. William D. Goran from the Engineer Research and Development Center (ERDC). Mr. Goran, who retired from USACE earlier this year, is universally recognized as a pioneer in Federal agency efforts to integrate the impacts and risks of climate change into Federal planning processes. His work began in 2007 when he proposed a technical focus area on climate change within the Center for the Advancement of Sustainability Innovations at the Engineer Research and Development Center. Also in 2007, he co-founded with NASA the Interagency Forum on Climate Change Impacts and Adaptation. That group provides an opportunity for the Federal community to share technical information and best practices related to impacts of climate change on Federal agencies' resources and missions. The effectiveness of Mr. Goran's leadership in the Interagency Forum and his contribution to ensuring incorporation of climate change consideration into climate change adaptation planning are a testament to his skill and commitment. Mr. Goran's commitment to advancing knowledge of climate change impacts and adaptation are a model for continuing efforts supporting State, local, and tribal leader preparedness.

The NACCS report also references the need to continually improve climate preparedness and resilience with adaptation to climate change. The NACCS advocates using a scenario planning approach across the full range of future conditions to address uncertainty associated with climate change. The NACCS framework incorporates climate change adaptation considerations associated with future coastal storm and flood risk, including the magnitude and frequency of future storm events along with the range of potential impacts associated with forecasted sea level change. The report notes that coastal storm and flood risk management strategies must include periodic and ongoing review and revision to incorporate new science and climate scenarios as they develop. To access the full report and study products available online click [here](#).

Resilient Lands and Waters (RLW) Initiative

The Priority Agenda - Enhancing the Climate Resilience of America's Natural Resources released by the Climate Natural Resources Working Group (CNRWG) of the White House Council on Climate Preparedness and Resilience

in October 2014 included a key theme to foster climate-resilient lands and waters. During spring 2015, the CNRWG identified several locations for multi-agency participation in improving the resilience of lands and waters. One of the sites selected for the RLW initiative is California's North-Central Coast and Russian Watershed. In the Russian River watershed, Federal, State and local partners are all working to provide data and tools to enhance resilience to climate and extreme events. USACE is working closely with NOAA, the Sonoma County Water Agency, the U.S. Geological Survey (USGS), Bureau of Reclamation, California Department of Water Resources and Scripps Institution of Oceanography to develop actionable science and methods to support Forecast-Informed Reservoir Operations (FIRO). The FIRO research will include using Lake Mendocino as a pilot to determine whether more sophisticated hydro-meteorological forecasting data can be used to better inform water management decisions in a manner which reflects current and forecasted conditions. The research is projected to be a five year effort.

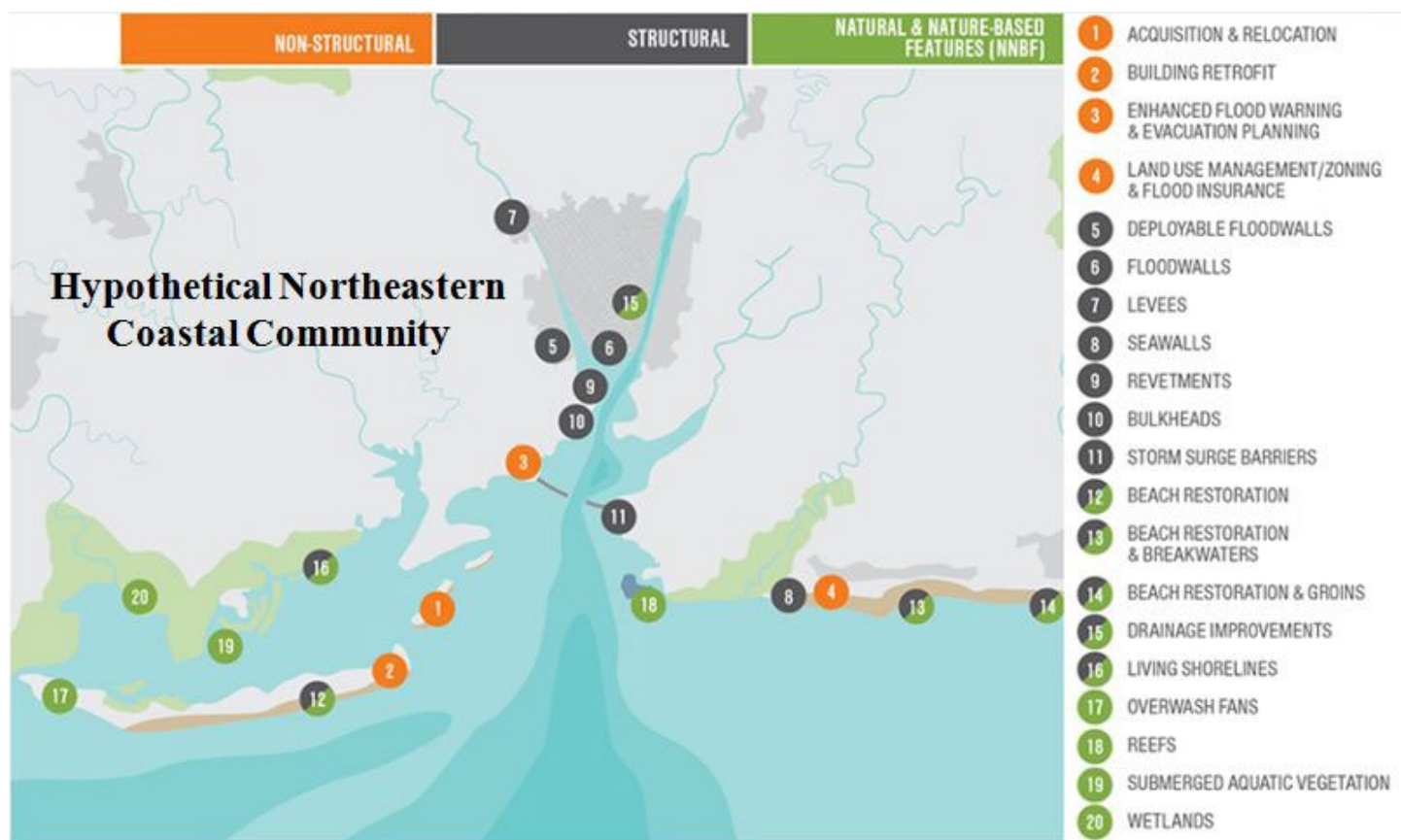


Figure 2. The North Atlantic Coast Comprehensive Study identified a number of ways to improve community climate preparedness and resilience. Shown here is an example of the use of a variety of risk reduction measures.

PROVIDING ACTIONABLE CLIMATE INFORMATION, TOOLS, AND PROJECTIONS

Section 4 of EO 13653 requires a group of federal agencies to work together to develop and provide authoritative, easily accessible, usable, and timely data, information, and decision-support tools on climate preparedness and resilience to support Federal, regional, State, local, tribal, private sector and nonprofit sector efforts to prepare for the impacts of climate change. Named agencies include the DoD, DOI, USDA, US Department of Commerce (DOC), US Department of Health and Human Service (HHS), US Department of Housing and Urban Development (HUD), DOT, US Department of Energy (DOE), DHS, EPA, NASA, and any other agencies recommended by the Council. This activity will support CEQ, the Office of Science and Technology Policy (OSTP), and OMB as they oversee the development of a web-based portal on data.gov consistent with EO 13642 (Making Open and Machine Readable the New Default for Government Information).

Information: Regional Literature Syntheses

Between late 2014 and May 2015, USACE has developed and released sixteen regional Climate Change and Hydrology Literature Syntheses directed at topics of interest to water resources managers. The reports, which will eventually include 21 in total, provide context and climate information at the scale of 2-digit U.S. Geological Survey (USGS) Water Resources Regions across the continental United States, Alaska, Hawaii, and Puerto Rico. Each of these regional reports summarizes observed and projected climate and hydrological patterns cited in reputable peer-reviewed literature and authoritative national and regional reports, and characterizes climate threats to USACE business lines, (e.g., flood risk management). They also provide context and linkage to other agency resources for climate resilience planning, such as downscaled climate data for subregions and watershed vulnerability assessment tools. The reports are *publically available*, and positive feedback has been received by non-USACE users.

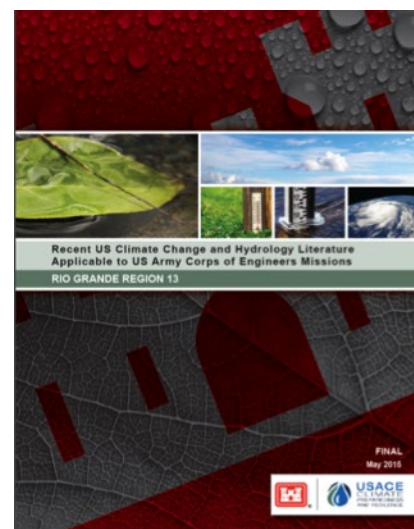


Figure 3. One of a series of 21 regional climate literatures syntheses being published by USACE to aid water resources adaptation planning.

Projections: Interagency Archive of Downscaled Climate Data and Information

The *archive of simulated historical and future climatology and hydrology* maintained at Lawrence Livermore National Lab is maintained by a consortium of Federal and non-Federal partners including USACE, and early supporter. The information available there is free and open to all. Several archive updates are planned for June 2015, including an expanded set of climate hydrology supported by USACE in collaboration with DOI's Bureau of Reclamation, the National Center for Atmospheric Research, and other experts. The new hydrology information is prepared using the USGS Precipitation-Runoff Modeling System (PRMS) and the Community Land Model (CLM). The addition of these two sets of climate hydrology to the previous data developed using the Variable Infiltration Capacity (VIC) model helps to reveal additional uncertainty in projected future conditions.

Tools

USACE continues to develop and test new tools to support climate preparedness and resilience decision-making in conjunction with the published guidance. All tools are designed to place the emphasis on analysis and decision-making rather than on data management for the substantial amount of climate data required for effective decision-making. All USACE tools are made available to the Climate Data Initiative and the Climate Resilience Toolkit as appropriate.

A web tool has been developed to assist in performing the steps required in Engineering and Construction Bulletin (ECB) 2014-10 (*Guidance for Incorporating Climate Change Impacts to Inland Hydrology in Civil Works Studies, Designs, and Projects*). The tool accesses data from the interagency archive of downscaled climate data and information and stream gage station observations by USGS in a single location, removing the need to download and manage the data. Currently in agency review, the tool will be undergoing external review before being released publicly in 2015.

A second tool to detect nonstationarities in annual maximum and minimum observed flows, is in draft form and will

be released in concurrence with the planned guidance on "Detection of Nonstationarities in Annual Maximum and Minimum Discharges," also in draft at this time. This tool addresses a fundamental issue of climate hydrology: detection of nonstationarity in observed hydrological time series data, and represents a significant step forward in hydrological studies.

Training

USACE continues to develop and deploy technical training for managing water resources under climate changed futures in partnership with other Federal partners in the Climate Change and Water Working Group (CCAWWG; <https://ccaawwg.us>) and with the COMET program of the University Corporation for Atmospheric Research (UCAR). USACE, DoI's Reclamation, and COMET have produced and delivered a series of courses titled "*Assessing Natural System Impacts Under Climate Change.*" These courses in this series deliver technical training to water resources professionals to support incorporation of climate science and climate change information into impact assessments. This collaborative team has now developed and delivered courses five times to an array of federal and non-federal professionals whose work includes assessing water resource-related impacts under climate changed conditions.

In 2013, courses were taught to a total of 36 professionals from ten local, State, and Federal agencies. In 2014, 78 professionals from 25 different agencies attended courses either in person or through the online version. And in the first four months of 2015, 12 professionals from seven agencies participated in the course developed for sedimentation impacts under climate changed futures. The team is also building the next two courses in this series, one to teach climate change and water resources issues to a general, non-technical audience, and the other to teach implementation of approaches for calculating coastal impacts from sea-level change. These courses are planned to be available to Federal, State, local, and tribal agency staff, academics, and the private sector in 2016. Online, self-directed learning tools based on these courses is also being prepared.

"Adaptation is not optional."

Mr. James C. Dalton, PE, SES, Chair of the USACE
Climate Change Adaptation Steering Committee, January 19, 2012



PLANNING FOR CLIMATE CHANGE RELATED RISKS TO USACE MISSIONS AND OPERATIONS

This 2015 Adaptation Plan update describes updates to the 2014 Adaptation Plan. We have made progress in evaluating the most significant climate change related risks to, and vulnerabilities in, agency operations and missions in both the short and long term. Our new policies and guidance ensure that all new projects incorporate assessments of climate risk as well as adaptation measures supporting climate preparedness and resilience. Our progressively more detailed vulnerability assessments of existing projects, programs, missions, and operations identify and assess climate risks. We are continuing to develop, implement, and update comprehensive adaptation plans that integrate consideration of climate change into agency operations and overall mission objectives. These plans have been submitted to CEQ and OMB for review in June 2011, 2012, 2013, and 2014.

Pursuant to Section 5 of EO 13653, this June 2015 Adaptation Plan reports that USACE has not yet identified a climate risk during the adaptation planning process that is deemed so significant that it impairs USACE's statutory missions or the operations addressed.

Planning

USACE policy requires that climate change preparedness and resilience be mainstreamed in all phase of the life cycle. In 2014, the Climate Preparedness and Resilience Community of Practice established and certified a number of Subject Matter Experts (SMEs) to perform technical and policy reviews for all projects. Over the past year, these SMEs have conducted formal agency technical review of the climate preparedness and resilience of approximately 20 projects reaching Headquarters at various stages of the planning process. The objectives of the review process are to achieve a climate-resilient plan that is compliant with policy and technical guidance, addresses a systems approach, and includes cost estimates for adaptation measures in the cost and schedule risk analysis.

Plan formulation is a very complex process, and the SMEs find that early involvement can save time and cost later on. They noted that more (and more sophisticated) questions on climate-related issues are being brought up by public and independent external peer reviewers. Progress has been made in improving how planning studies address climate risk and preparedness. Additional planning-specific guidance and tools are planned for 2015-2016 to facilitate climate-resilient planning. These include the addition of a new planning guidance to ensure that datums are established at the beginning of the planning process and adding planning capability to the coastal vulnerability assessment tool.

Supply Chain

The 2014 Adaptation Plan listed several climate change related supply chain issues from the customer side and from the supply side. We are currently dealing with many of these types of disruptions now due to extreme weather events, and thus have fairly robust policies, guidance, and contingency plans in place to address these disruptions.

Supply chain disruptions due to drought are a focus of two efforts described in the Section Managing Land and Water Resources for Climate Preparedness and Resilience: Updating Drought Contingency Plans to Account for Climate Change and Enhancing Reservoir Sediment Information to Support Climate Preparedness and Resilience.

A more tailored program to understand and address supply chain impacts began in 2014 to evaluate supply chain effects and possible responses to improve climate adaptation and resilience. In 2015, this program initiated a preliminary study to explore the effects of both flood and drought on navigation efficiency. A second related effort pulled information from the interagency archive of downscaled climate data and information to develop projections of future heat stress. This information will be made available in a web tool to support analyses of if and when projected heat waves may begin to impact construction scheduling.



COMPREHENSIVE EVALUATION OF PROJECTS WITH RESPECT TO SEA LEVEL CHANGE - CESL

The purpose of this tool is to inventory and assess the vulnerability of installations to the effects of Sea Level Change (SLC). Sea level change accounts for changes both in water levels due to climate change and to land elevations due to complex factors that are occurring that cause the land to rise over time or to fall. Two methods to determine vulnerability to sea level change are used in this tool. One looks at when projected sea level heights will surpass a critical elevation for key infrastructure components on an installation, such as communication buildings, hospitals, power plants, and main roads. The second method examines the vulnerability of installation infrastructure when flooded using simple bathtub flooding models based on future sea level scenarios. Both methods provide a screening level vulnerability assessment of Army installations and sites due to projected sea level changes.

HOW DOES CLIMATE CHANGE AFFECT ARMY INSTALLATIONS?

Sea level changes may affect an installation's training lands, natural resources, and built infrastructure by reducing training capability and throughout as well as raising the cost of maintenance and repair of facility assets and natural infrastructure. To ensure sustainable performance with respect to potential impacts of sea level rise in the future, this tool evaluates Army installations vulnerability to this key climate change factor.

- Provide assistance in evaluating robustness of installations to potential SLC.
- Screen installations to develop a prioritization process that identifies those that need to take SLC into consideration immediately and those that can take longer. This screening process will build on existing tools, including NOAA tide gauge and sea-level visualizations, the USGS Coastal Vulnerability Index, and the data in CorpsMap. The prioritization strategy will encompass the specified Army installations over the whole life cycle and be used to guide the more detailed project-scale evaluation.
- During screening, we will identify and capture (some of) the information about each installation that is needed to perform the more detailed installation-scale evaluation.
- Assist the districts in performing a more detailed project-scale evaluations according to the prioritization process. This phase will identify current SLC scenarios, identify triggers or thresholds at which future measures should be considered, and provide measures appropriate to support sustainable performance under potential SLC scenarios.
- Assist the installations in performing a more detailed project-scale evaluations according to the prioritization process. This phase will identify current SLC scenarios, identify triggers or thresholds at which future measures should be considered, and provide measures appropriate to support sustainable performance under potential SLC scenarios.

OBTAINING A USER ROLE:

- Installation level Users are able to enter project data for their installation. Users of the tool at the IMCOM, AMC, Army National Guard, and Army Reserves level are able to enter and review data for all installations within their command. If this is your first time accessing the site, you will need to contact the CESL Army Help Desk at CESL.ARMYPDESK@usace.army.mil in order to request a User Role. In your email, please specify which installation(s) you wish to be assigned to. Please allow 24-48 hours for your user role to be added. You may then begin entering and submitting data for projects within your district. Please contact the CESL Army Help Desk with any additional questions.

Figure 4. Tools developed by USACE to assess climate risks can be transferred to others as in this example of a tool being modified for use by the Army.

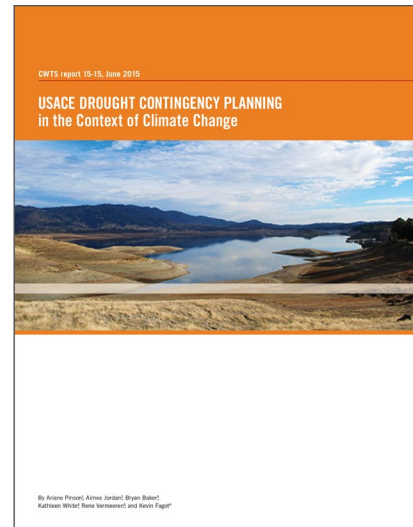


Figure 5. Drought has been identified as a source of risk to supply chains. USACE has begun an effort to update drought contingency plans to account for climate change.

Planning for Climate-Related Risks

USACE is conducting a series of progressively more detailed climate vulnerability assessments to better understand the risks posed by climate change to our missions and operations. In late 2014, we completed a screening-level assessment of our coastal projects using a web-based tool that interfaces with USACE geospatial databases. This Comprehensive Evaluation With Respect to Sea Level (CESL) web tool relies on information developed by other agencies, including the Federal Emergency Management Agency (FEMA), National Oceanic and Atmospheric Administration (NOAA), and the US Geological Survey (USGS). CESL tool results help us to identify projects with the highest consequences, and allow for prioritization of projects, which require more detailed assessments. This information is critical to planning for climate-related risks. This web-based tool, used in USACE screening-level analyses, can be made available to others who wish to perform similar coastal vulnerability assessments. This technical transfer has already begun, with the transfer of the technology to Army staff for Installations, Environment, and Energy in 2015.



INTERNATIONAL LEADERSHIP PROVIDED BY USACE SUPPORTING CLIMATE PREPAREDNESS

International leadership supporting climate preparedness one of the three key pillars of the PCAP released in 2013 and EO 13677, Climate-Resilient International Development, released in 2014. Through its Civil Works and Military Programs support activities, USACE is quite active internationally in water resources management, a key sector impacted by climate change. For example, USACE has long been involved with the international community for inland and maritime navigation, PIANC. Our work supporting the international Permanent Task Group on Climate Change will be highlighted at the United Nations Climate Change Conference, COP21, to be held later in 2015 in Paris, France.

One mechanism for international leadership in climate preparedness is the International Center for Integrated Water Resources Management (ICIWaRM), a UNESCO Category 2 water center headquartered at the USACE Institute for Water Resources (IWR) in Alexandria, Virginia, USA. The objective of ICIWaRM is to advance the science and practice of Integrated Water Resources Management (IWRM) to address water security and other water-related challenges. ICIWaRM is the global secretariat for UNESCO's Global Network on Water and Development Information in Arid Lands (G-WADI) network (www.gwadi.org), focusing on droughts and floods in the climate-sensitive regions. USACE plays a leading role, along with the World Bank and Conservation International, in the Alliance for Global Water Adaptation (AGWA), an international consortium focused on developing practical guidance for planning and design decision-making in the face of climate uncertainty. The AGWA method combines traditional approaches for planning and design with a 'decision scaling' approach. The goal is to work with stakeholders to first assess system vulnerabilities to changes in climate parameters and additional stressors (e.g., population growth, development). Given the vulnerabilities, water managers can then evaluate the observed and projected climate information to develop adaptation strategies that are reflective of the

vulnerability of the system and the level of confidence in the available information.

USACE currently collaborates with the U.S. Agency for International Development (USAID)'s Mekong-Building Climate Resilience in Asian Cities (MBRACE) program on AGWA pilot studies in Thailand and Vietnam, and with the UN Economic Commission for Europe (UNECE) and the Organization for Security and Co-operation in Europe (OSCE) on Climate Adaptation through Transboundary Water Management in the Dniester River Basin (Ukraine and Moldova).

USACE personnel are working with US Combatant Commands (COCOMs) and select countries to assess, interpret, plan for and mitigate impact from climate change. The objective of these efforts is to collaborate with host countries in the transition of existing science and engineering tools to support vulnerability assessments to develop an understanding of potential impacts that is sufficient to inform adaptation planning. For example, the US Army is supporting efforts by USACE scientists and engineers to work with African nations, including Gabon, Ghana, South Africa, Namibia, and Botswana, to develop approaches for measuring adaptive capacity.