U.S. Department of
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2016 Strategic Sustainability Performance Plan

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U.S. Department of Energy

2016 Strategic Sustainability Performance Plan

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DOE 2016 Strategic Sustainability Performance Plan Policy Statement

The Department of Energy (DOE or the Department) delivers its seventh annual Strategic Sustainability Performance Plan (SSPP) at a critical juncture. The need to transform the nation's energy system is urgent as the effects of climate change, and the complex interactions between climate and energy security, water resources, and national security have become more apparent. Climate change and extreme weather events are also impacting DOE's operations, highlighting the need to accelerate adaptation efforts. DOE pledges to continue to be a leader in the Federal government, working aggressively to achieve sustainability goals and requirements through teamwork and continuous improvement. Along with mission objectives, energy efficiency and the principles of sustainability drive decisions on capital infrastructure, real property, and information technology.

The Department commits to "**LEAD"** the Federal government by implementing the following sustainability approaches:

- ***L****everage the Science*
  DOE will leverage the science conducted by our National Laboratories to benefit the Federal government and the nation. Cross-functional laboratory teams will identify cost-effective energy solutions at DOE facilities in areas such as energy intensive processes and renewable energy.

- ***E****mpower our Employees*
  Coordinated by the Department's Sustainability Performance Office (SPO), DOE collaborates across programs and offices, embraces whole-enterprise thinking, and challenges habits and procedures to ensure that its employees are empowered to make sustainability a personal priority.

- ***A****nalyze our Progress, Bridge the Gaps*
  The Department commits to continuously improve its operations, and provides many opportunities for its sites and Program Offices to share best practices and lessons learned in operating sustainable, resilient facilities.

- ***D****rive Innovation*
  DOE will continue to be a Federal leader in the application of innovative clean technologies, including larger utility scale renewable energy projects on DOE land.

As a leader in developing clean energy and energy efficiency technologies, DOE will continue to aggressively leverage its mission to exceed sustainability goals and requirements, while leading the Federal government and the Nation to a more sustainable future.

SEP 0 2 2016

David M. Klaus
Chief Sustainability Officer

Date

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DOE Strategic Sustainability Performance Plan Executive Summary

The mission of the Department of Energy (DOE or the Department) is to ensure America's security and prosperity by addressing energy, environmental, and nuclear challenges through transformative science and technology solutions. Carried out at 47 geographically dispersed locations across the United States, the Department's mission depends on high-energy mission-specific facilities that support the pursuit of new and advanced forms of energy, basic science and research, and technologies that will lead to a clean and affordable energy economy.

As the Federal leader in energy efficiency, renewable energy, and clean energy research and development (R&D), DOE has both a unique opportunity and a responsibility to lead by example and integrate sustainability into all aspects of its operations. For example, in Fiscal Year (FY) 2015, DOE began construction or operation of multiple on-site renewable generating projects. DOE will continue to pursue projects that advance renewable energy and energy efficiency at its facilities. As DOE plans for the future, the Department will ensure that new facilities serve as a showcase for energy efficiency and sustainability.

DOE leverages its foundation in scientific research to engage local communities—including businesses, local governments, and schools—to test and deploy technologies developed by DOE National Laboratories, and to implement comprehensive, effective approaches to reduce energy consumption and environmental impacts. DOE sites will continue to act as test beds for R&D pilots to advance energy technology and improve performance.

DOE promotes sustainability through the assignment of the Deputy Under Secretary for Management and Performance as the Department's Chief Sustainability Officer (CSO). In this capacity, the CSO chairs the Senior Sustainability Steering Committee and oversees Departmental achievement of sustainability goals and requirements. The Sustainability Performance Office (SPO) serves as the principal lead for the Department on matters relating to sustainability and provides support to the CSO. SPO develops guidance, collects data, reports on Departmental sustainability performance, performs analysis, and updates and implements the Strategic Sustainability Performance Plan (SSPP). DOE Under Secretaries also support the CSO in achieving sustainability goals and implementing and monitoring the plans, resources, and results for their respective portfolios.

The annual budget process is informed by the goals of the SSPP, starting at the Under Secretary level and progressing through the Program Secretarial Offices to DOE's National Laboratories and sites. The Department aligns site-level environmental, energy, and real property planning systems to elevate sustainability in site management. DOE Order 436.1, *Departmental Sustainability*, ensures that senior leaders, managers, staff, and DOE contractors are accountable for meeting sustainability requirements.

The following table summarizes DOE's FY 2015 performance toward many of the SSPP goals. The progress does not address all goals prescribed by Executive Order (E.O.) 13693 *Planning for Federal Sustainability in the Next Decade*, as some require new baseline year data and end goal targets.

	Goal	FY 2015 Target	FY 2015 Performance (vs. baseline)
	Scope 1 & 2 Greenhouse Gas Reduction (FY 2008 baseline)	-19%	-33%
	Scope 3 Greenhouse Gas Reduction (FY 2008 baseline)	-6%	-17.4%
	Energy Use Intensity Reduction (FY 2003 baseline)	-30%	-30.1%
	Sustainable Buildings	15%	7.6%
	Petroleum Reduction (FY 2005 baseline)	-20%	-24.7%
	Potable Water Use Intensity Reduction (FY 2007 baseline)	-16%	-34.5%
	Renewable Electric Energy	7.5%	19.8%

Since its first SSPP, DOE quickly advanced on numerous sustainability goals and exceeded targets for Greenhouse Gas (GHG) emissions, renewable energy, energy and water intensity, and alternative fuel use. While there is more work ahead, DOE looks forward to partnering with its sites, National Laboratories, and other Federal agencies to secure a sustainable future for the Department.

Progress on Administration Priorities

President's Performance Contracting Challenge: DOE set new targets of $125 million in new ESPC and UESC awards in both FY 2017 and FY 2018 and is working to fulfill its commitment toward the President's Performance Contracting Challenge.

Electric and Zero Emission Vehicles: In FY 2017, DOE will deploy a Tiger Team to assess Electric Vehicle Supply Equipment (EVSE) needs at two fleet sites that are ready to replace conventional sedans with electric vehicles (EV).

Climate Preparedness and Resilience: DOE is in the process of updating its 2014 Climate Adaptation Plan. In the next 18 months, DOE will strengthen its focus on the integration of climate change resilience into its domestic and international technical assistance programs, as well as energy technology research, development and demonstration and deployment program planning and implementation. DOE will think broadly and consider ways in which resilience, adaptation and sustainability might be promoted through program activities and information collection.

Goal 1 – Greenhouse Gas Reductions

DOE has made significant progress in reducing GHG emissions. Through FY 2015, the Department reduced Scope 1 & 2 (direct) and Scope 3 (indirect) GHG emissions by 33 and 17.4 percent, respectively, each relative to a FY 2008 baseline. Consistent with E.O. 13693, DOE committed to making further reductions to agency GHG emissions through FY 2025. DOE's goal is to reduce Scope 1 & 2 GHG emissions by 50 percent and Scope 3 GHG emissions by 25 percent, each relative to a FY 2008 baseline, by FY 2025.

Employee commuting is the largest contributor to DOE's Scope 3 GHG emissions, accounting for 56 percent of the Department's total. To reduce Scope 3 GHG emissions, DOE encourages the use of mass transit, carpooling, vanpooling, and alternative transportation; and promotes teleworking,

teleconferencing, and alternative work schedules. The Department is currently evaluating barriers to improve employee commuting and increase teleworking, and will develop a strategy for making additional strides in these areas. DOE's Scope 3 GHG emissions are also attributable to transmission and distribution (T&D) losses. As the Department expands on-site renewable and clean energy generation at DOE sites, T&D loss emissions should decrease.

While recent progress is encouraging, continued success in reducing GHG emissions remains challenging. At DOE sites, mission-related activities are expected to increase, expanding the demand for energy and electricity and potentially increasing the use of certain high-Global Warming Potential (GWP) gases. Thus, DOE will be challenged to sustain reductions. To counter these increases, DOE intends to continue performing site-level energy and fugitive emissions management assessments (while considering the use of potential alternatives to certain high-GWP gases). The Department will also focus on implementing cost-effective conservation measures to maximize efficiency, including utilization of Energy Savings Performance Contracts (ESPC).

Goal 2 – Sustainable Buildings

The Department conducts its mission in a diverse portfolio of buildings. This portfolio of buildings spans unique scientific laboratories, accelerators, light sources, supercomputers, data centers, industrial facilities, as well as traditional office space environments.

Through FY 2015, 7.6 percent of the Department's building stock complied with the 2008 *Guiding Principles for Sustainable Federal Buildings (Guiding Principles).* DOE made significant progress over the past year to improve sustainable building performance. In FY 2015, DOE added 43 buildings to its green building portfolio, for a total of 174 High Performance Sustainable Buildings (HPSB) facilities. This represents more than a 32 percent increase in HPSB compliant facilities over FY 2014 performance. DOE set a new HPSB target of 17 percent by building count complying with the *Guiding Principles* by 2025. DOE also plans to expand the design and implementation of net zero buildings. The FY 2025 target for net zero energy, waste, and/or water buildings is 1 percent of existing building stock over 5,000 gross square feet, or approximately 30 buildings, consisting of both new facilities and retrofits of existing facilities.

DOE will also strive to reduce energy intensity 25 percent by FY 2025, by reducing 2.5 percent each year, relative to a to-be-determined FY 2015 baseline. DOE will actively promote the use of sound energy management, cost-effective energy conservation measures, and building-level and data center metering to meet this goal.

Goal 3 – Renewable Energy

DOE significantly expanded on-site renewable energy generation across the complex. In FY 2015, DOE's renewable energy performance amounted to 19.8 percent of total electricity use. DOE's performance is attributed to developing on-site renewable energy projects, awarding renewable energy siting bonuses, and purchasing renewable energy credits. This progress places DOE on-track to meet E.O. 13693's goal of 30 percent by FY 2025. In addition to striving to meet the renewable electricity goal, DOE will implement clean energy technologies to meet the new 25 percent goal for building thermal and electric energy. DOE developed several large-scale on-site renewable energy projects, with many financed through performance-based energy contracts, including ESPCs.

The economic feasibility of large renewable energy systems continues to challenge DOE sites, as many receive low cost electricity making payback periods too long to pursue. However, DOE will continue to encourage the inclusion of on-site renewable generation into all new construction projects. In addition, DOE issued a policy on preference for purchasing renewable energy from Indian Tribes per the Department's authorities under the Energy Policy Act (EPAct) of 2005. Through these collective strategies, DOE anticipates meeting the 30 percent target by FY 2025.

Goal 4 – Water Use Efficiency & Management

Water is essential to the DOE mission, as industrial processes account for the majority of DOE's potable and non-potable water use. Many DOE sites use water for evaporative cooling towers, process heat removal, cooling accelerators, supercomputers, and data centers. The reliance on water-intensive mission-critical activities presents a unique challenge for DOE in meeting the E.O. 13693 water use reduction goals.

The Department is currently on-track to meet the goal of a 36 percent reduction in potable water use intensity by FY 2025. As of FY 2015, DOE reduced potable water intensity by 34.5 percent relative to the FY 2007 baseline, exceeding the interim target of 16 percent. DOE's performance can be attributed to the efforts of several large water consuming sites that upgraded processes in FY 2015.

DOE will work to maintain success over the next few years as water-intensive mission-related activities increase. Cooling demand for supercomputers and scientific processes makes future progress difficult to predict. The Department will continue to employ proactive water management strategies and pursue alternative water options to reduce potable water use, including water recycling and reuse. Several DOE sites are converting once-through cooling systems to closed-loop and reusing process water or gray water and/or storm water runoff.

Goal 5 – Fleet Management

DOE promotes fleet management principles that increase the acquisition of alternative fuel vehicles and encourage reductions in petroleum consumption. Collectively, these measures improve the Department's ability to optimize the size and composition of its vehicle fleet required to fulfill mission objectives.

Through FY 2015, the Department reduced fleet petroleum use 24.7 percent relative to the FY 2005 baseline, a 6 percent goal improvement from FY 2014. In addition, in FY 2015 the Department increased alternative fuel consumption to 1.65 million gasoline gallon equivalent (GGE), which comprises 29 percent of total DOE fleet fuel use, and well exceeds the goal for the required percent increase over the FY 2005 baseline. The Department is currently meeting or exceeding interim goal targets for petroleum use, alternative fuel use, and alternative fuel vehicle acquisition.

The Department will be challenged in the coming years to achieve further progress against the fleet goal targets. DOE's varied mission requires the use of heavy-duty, petroleum-intensive fleet vehicles, some of which are not readily available in alternative fuel, zero emission, or plug-in hybrid platforms. In addition, many DOE sites are located in remote locations inaccessible to alternative fueling stations.

In the next year, the Department will continue efforts to reduce fleet-related GHG emissions. When fueling and acquiring new fleet vehicles, DOE will promote vehicle right-sizing, fleet optimization, and the use of available alternative fueling locator tools. Also, DOE will search for opportunities to replace petroleum-dedicated vehicles, and in FY 2017 will update its Vehicle Allocation Methodology (VAM)

to determine the optimum fleet inventory with an emphasis on eliminating unnecessary or non-essential vehicles from the agency's fleet. DOE will include costs for telematics in the FY 2017 and subsequent year budget projections, and start installation of the system, where required, on vehicle deliveries starting March 2017. This will allow DOE to collect and utilize accurate agency fleet operational data.

Goal 6 – Sustainable Acquisition

DOE continues to meet or exceed its sustainable acquisition goals and requirements. Federal policy requires all agencies to purchase sustainable products that use less energy and water, reduce or eliminate waste at the source, promote the use of nontoxic or less toxic substances, implement conservation techniques, and reuse materials instead of putting them into the waste stream. In FY 2015, DOE maintained a level of 95 percent or greater for applicable new contract actions that included sustainable clauses and provisions, as determined by quarterly sustainable acquisition contract reviews and will strive to achieve a level of 100 percent in the future.

DOE will continue to support its sites by providing tools and resources to its procurement professionals. By FY 2016, the Department will release to its sites an accredited sustainable acquisition web-based training program. DOE is also revising the Sustainable Acquisition chapter of DOE's internal Acquisition Guide. DOE's Sustainable Acquisition Working Group will continue to provide Federal policy requirements on the purchase of sustainable products and services identified by the U.S. Environmental Protection Agency (EPA) programs, including Significant New Alternatives Policy (SNAP), WaterSense, Safer Choice, and SmartWay. By increasing training opportunities and providing the right resources, DOE will continue to develop procedures to help navigate this large, overlapping set of requirements for its sites.

The Department will continue to recognize DOE sites that are leaders in sustainable purchasing as part of the GreenBuy program. The GreenBuy program features annual DOE site awards based on purchasing from a list of products, known as the Priority Products List. The award winners represent leadership-level sustainability attributes by achieving mission goals while promoting greener products in the marketplace.

For FY 2017, DOE has established a target of 300 contracts and $50 million in biobased products to be delivered.

Goal 7 – Pollution Prevention & Waste Reduction

The Department attempts to prevent or reduce pollution at the source. Pollutants and waste that cannot be prevented through source reduction will be diverted from entering the waste stream through environmentally safe and cost-effective reuse or recycling if at all possible.

As prescribed by E.O. 13693, the Department will continue efforts to divert at least 50 percent of non-hazardous solid waste and construction and demolition (C&D) debris. In FY 2015, DOE reported a 55.0 percent diversion rate for non-hazardous waste and a 65.8 percent diversion rate for C&D waste.

Over the course of FY 2015, many DOE sites proactively improved recycling and diversion of wastes by expanding the number of recycling bins throughout the facilities and adding composting programs. The Department also continues to reduce fugitive emissions from sulfur hexaflouride (SF_6) and other potent GHGs. Multiple DOE sites that emit SF_6 implemented comprehensive capture programs. In addition to SF_6, DOE sites track emissions on a wide variety of other potent GHGs, including hydrofluorocarbons

(HFC). DOE maintains a Fugitive Emissions Workgroup—comprised of representatives from Departmental elements that are significant users of fluorinated gases—to stay abreast of emerging issues and to share best practices and lessons learned. DOE is collaborating with EPA and the Council on Environmental Quality (CEQ) to support the phase-down of HFC use in the Federal sector.

Goal 8 – Energy Performance Contracts

Performance-based contracts are an important component of DOE's approach to integrating sustainability into all aspects of its mission. Implementing projects that save energy and water and reduce deferred maintenance is critical to ensuring efficient, effective and sustainable operations. The Department understands the capabilities of performance contracting to make improvements that would have been otherwise difficult to attain. Since DOE began participating in the ESPC program in the late 1990s, total project investment has reached over $550 million.

DOE remains committed to its pledge to increase the use of performance based contracts. The President's Performance Contracting Challenge (PPCC) urged Federal agencies to enter into $4 billion in performance-based contracts at Federal facilities by December 2016. In January 2014, DOE pledged a commitment value of $275 million by December 2016. By FY 2015, DOE awarded $162.6 million in ESPCs and Utility Energy Savings Contracts (UESC) to contribute to the PPCC goal.

The Department recognizes this progress is well short of its goal and will increase efforts to meet its commitment. Viable projects are increasingly difficult to find, due to the number of energy and water efficiency upgrades that the Department has implemented over the years, under performance-based contracts and conventional funding methods.

Goal 9 – Electronics Stewardship

The Department continues to address the lifecycle impacts of electronic equipment through sustainable practices. DOE purchases Electronic Product Environmental Assessment Tool (EPEAT)-registered and ENERGY STAR certified electronics across the Department, and worked with EPEAT to identify and address challenges in procuring EPEAT-registered televisions due to low manufacturer participation. DOE is continuing to address power management implementation challenges, and many sites have improved their compliance following technical assistance in FY 2015-16.

In November 2015, the Department issued DOE Guide 436.1-1 *Federal Sustainable Print Management,* calling for policies and procedures to be in place to meet automatic duplexing and sustainable print management. DOE continues to ensure environmentally sound management of all used electronics through appropriate reuse and recycling activities. A handful of sites that rely on dated guidance for identifying responsible recyclers will transition to certified recyclers in FY 2016-17. DOE continues to support interagency electronics stewardship activities, co-chairing the Federal Electronics Stewardship Working Group and the National Electronics Stewardship Policy leadership team. DOE is also leveraging its successes and lessons learned to develop online electronics stewardship training to be made available to Department staff and contractors as well as other Federal agencies.
DOE is committed to ensuring at least 95 percent of monitors, PCs, and laptops acquired meet environmentally sustainable electronics criteria, 100 percent of computers, laptops, and monitors have power management features enabled, and
100 percent of electronics are disposed using environmentally sound methods.

Goal 10 – Climate Change Resilience

DOE is making progress in its climate change adaptation and resilience activities by including regional stakeholders and planning for potential climate-related events. DOE has begun to integrate climate change modeling information into technical standards, orders, policies, and guidance. DOE is working to expand climate-related training opportunities in FY 2017 and is hosting a training event at its Hanford site in 2016, which will include local and regional stakeholders. The training offered will help increase climate literacy, inform resilience efforts, and leverage data and tools.

In December of 2015, SPO released a guide that provides practical strategies for the climate change vulnerability assessment process and highlights additional resources for modeling and support for DOE sites. Since FY 2014, four DOE sites have completed pilot climate change vulnerability assessments with help from the SPO, and four additional assessments are in progress. The vulnerability assessments are designed to quantify and assess climate change risks and vulnerabilities.

DOE utilizes internal working groups to provide guidance and best practices for climate adaptation activities across the Department, identify common vulnerabilities, develop coordinated adaptation plans and strategies, identify projected climate impacts to mission critical activities, and recommend procedures to incorporate these impacts into planning, budgeting, management and operations of DOE facilities. DOE and its employees also participate in partnerships and working groups from the local, regional, and the interagency level. Many DOE sites are engaged in research partnerships to further their understanding of climate change related risks and vulnerabilities.

Size & Scope of Agency Operations

Agency Size and Scope	FY 2014	FY 2015
Total Number of Employees as Reported in the President's Budget	109,160	108,400
Total Acres of Land Managed	2,225,843	2,213,452
Total Number of Buildings Owned	10,754	10,800
Total Number of Buildings Leased (GSA and Non-GSA Lease)	57	56
Total Building Gross Square Feet (GSF)	118,448,964	117,670,282
Operates in Number of Locations Throughout U.S.	47	47
Operates in Number of Locations Outside of U.S.	0	0
Total Number of Fleet Vehicles Owned	3,067	2,499
Total Number of Fleet Vehicles Leased	10,935	11,798
Total Number of Exempted-Fleet Vehicles (Tactical, Law Enforcement, Emergency, Etc.)	1,023	1,028
Total Amount Contracts Awarded as Reported in FPDS ($Millions)	25,386	25,117

Agency Progress and Strategies to Meet Federal Sustainability Goals

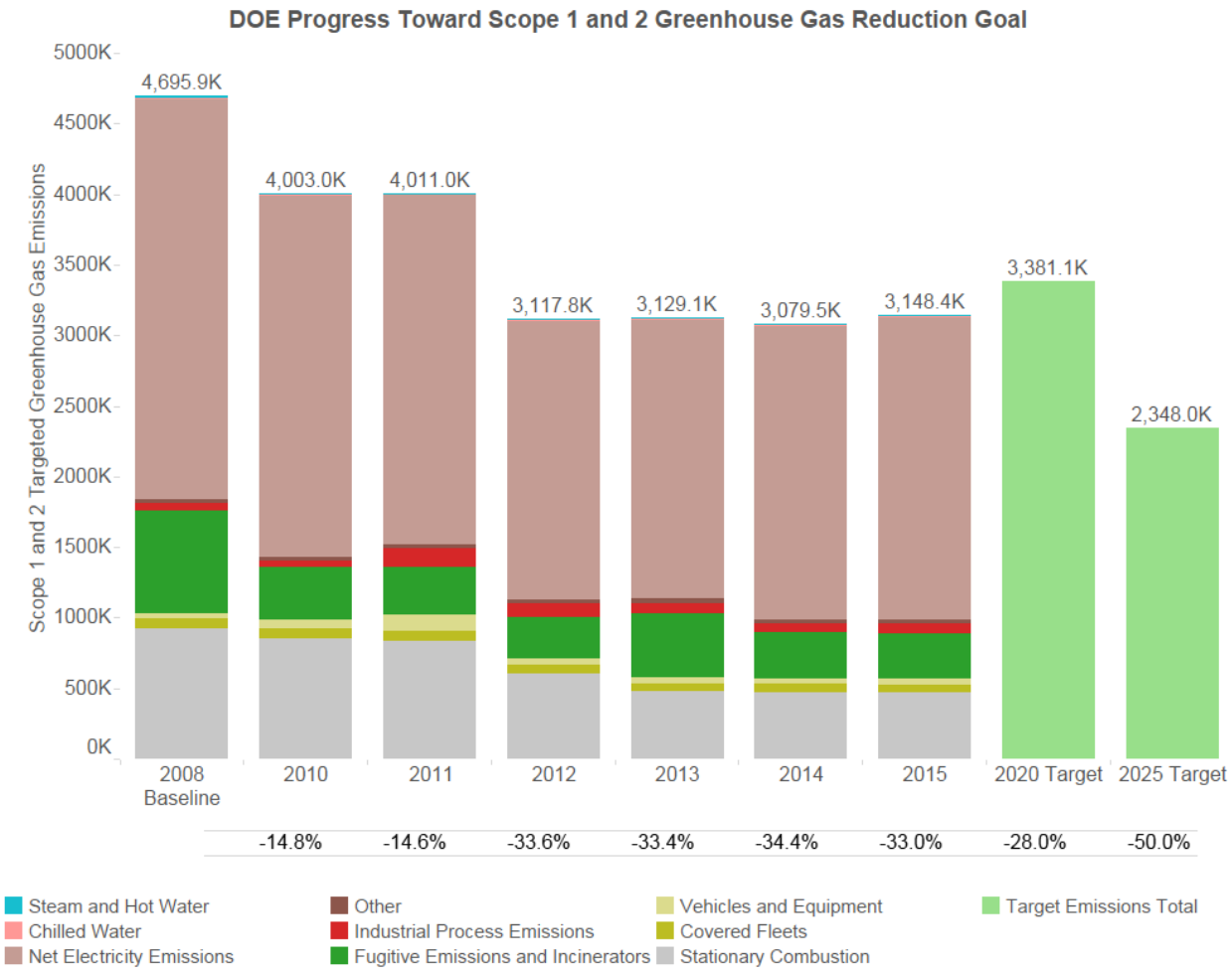
This section provides an overview of progress through FY 2015 on sustainability goals contained in Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, and agency strategies to meet the new and updated goals established by Executive Order 13693, *Planning for Federal Sustainability in the Next Decade*.

Goal 1: Greenhouse Gas (GHG) Reduction

Scope 1 & 2 GHG Reduction Goal

E.O. 13693 requires each agency to establish a Scope 1 & 2 GHG emissions reduction target to be achieved by FY 2025 compared to a 2008 baseline. DOE's 2025 Scope 1 & 2 GHG reduction target is 50 percent.

Chart: Progress Toward Scope 1 & 2 GHG Reduction Goal



Scope 1 & 2 GHG Reduction Strategies

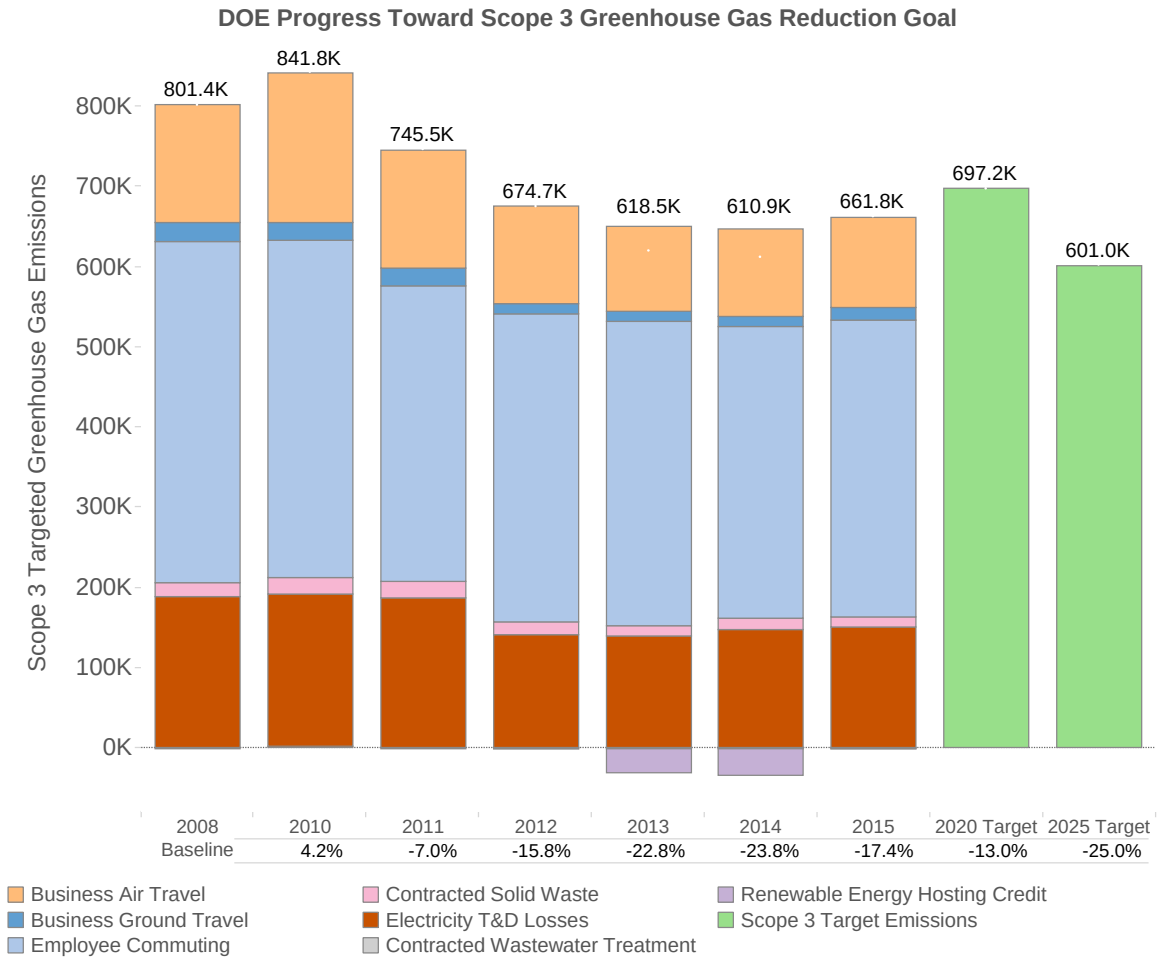
Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Use the Federal Energy Management Program (FEMP) GHG emission report to identify/target high emission categories and implement specific actions to address high emission areas identified.	Yes	DOE utilizes the FEMP tool and internal analyses to identify areas for prioritization. In addition, DOE is developing an enterprise sustainability reporting tool to consolidate analyses, and provide for overarching strategy prioritization by programs and sites.	(1) Continue to utilize FEMP GHG emissions report for strategy prioritization. Work with CEQ and Office of Federal Sustainability to revise Federal GHG accounting and reporting guidelines. (2) Refine and continue to deploy internal analyses, including the sustainability reporting tool, to accompany FEMP tool.
Identify and support management practices or training programs that encourage employee engagement in addressing GHG reduction.	Yes	DOE develops and provides training on a broad range of sustainability topics. DOE staff regularly attends FEMP and other vendor training opportunities. DOE is hosting a training event on climate change adaptation and will identify opportunities for additional sustainability training.	(1) In August 2016, DOE will hold comprehensive sustainability training as part of the Energy Exchange. (2) On a monthly basis, the SPO will disseminate internal and external sustainability training opportunities. (3) For internal training opportunities, the SPO will ensure video teleconferencing (VTC) is available.
Determine unsuccessful programs or measures to be discontinued to better allocate agency resources.	No	While not a top five strategy, DOE continuously evaluates projects and programs to ensure resources serve its missions.	
Given agency performance to date, determine whether current agency GHG target should be revised to a more aggressive/ambitious target.	Yes	DOE set the GHG target for FY 2025, and it can be reassessed using new data from FY 2015.	In FY 2017, DOE will analyze whether its GHG target is challenging enough.

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Employ operations and management best practices for emission generating and energy consuming equipment.	Yes	DOE maintains working groups that reduce emissions, share operating experience, and share best practices. DOE evaluates the performance of working groups and strives to find areas where they can be streamlined, and explores new areas where efforts could be increased.	(1) Continue to share operational best practices through established DOE working groups. (2) Continue to evaluate established working groups to ensure they best meet the needs of DOE sites.
Identify additional sources of data or analysis with the potential to support GHG reduction goals.	Yes	In September 2016, DOE will launch an enterprise-wide online tool for collecting and managing Departmental sustainability data. This system provides streamlined analytics to DOE program and site personnel.	DOE will continue to improve and expand upon the capabilities of the sustainability online tool. In early 2017, DOE will incorporate more content and analytical tools based on lessons learned from 2016.

Scope 3 GHG Reduction Goal

E.O. 13693 requires each agency to establish a Scope 3 GHG emission reduction target to be achieved by FY 2025 compared to a 2008 baseline. DOE's 2025 Scope 3 GHG reduction target is 25 percent.

Chart: Progress Toward Scope 3 GHG Reduction Goal



Scope 3 GHG Reduction Strategies

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Reduce employee business ground travel.	No	While not a top five strategy, DOE will actively promote alternatives to employee business ground travel, including VTC.	
Reduce employee business air travel.	Yes	DOE will promote the use of VTC and limit business air travel, except where missions dictate otherwise. DOE will rely on established travel and conference management protocols to ensure business travel meets business requirements.	(1) Reduce business air travel miles by 5 percent. (2) Investigate solutions for DOE National Laboratory personnel to connect via VTC for meetings and other business-related events.

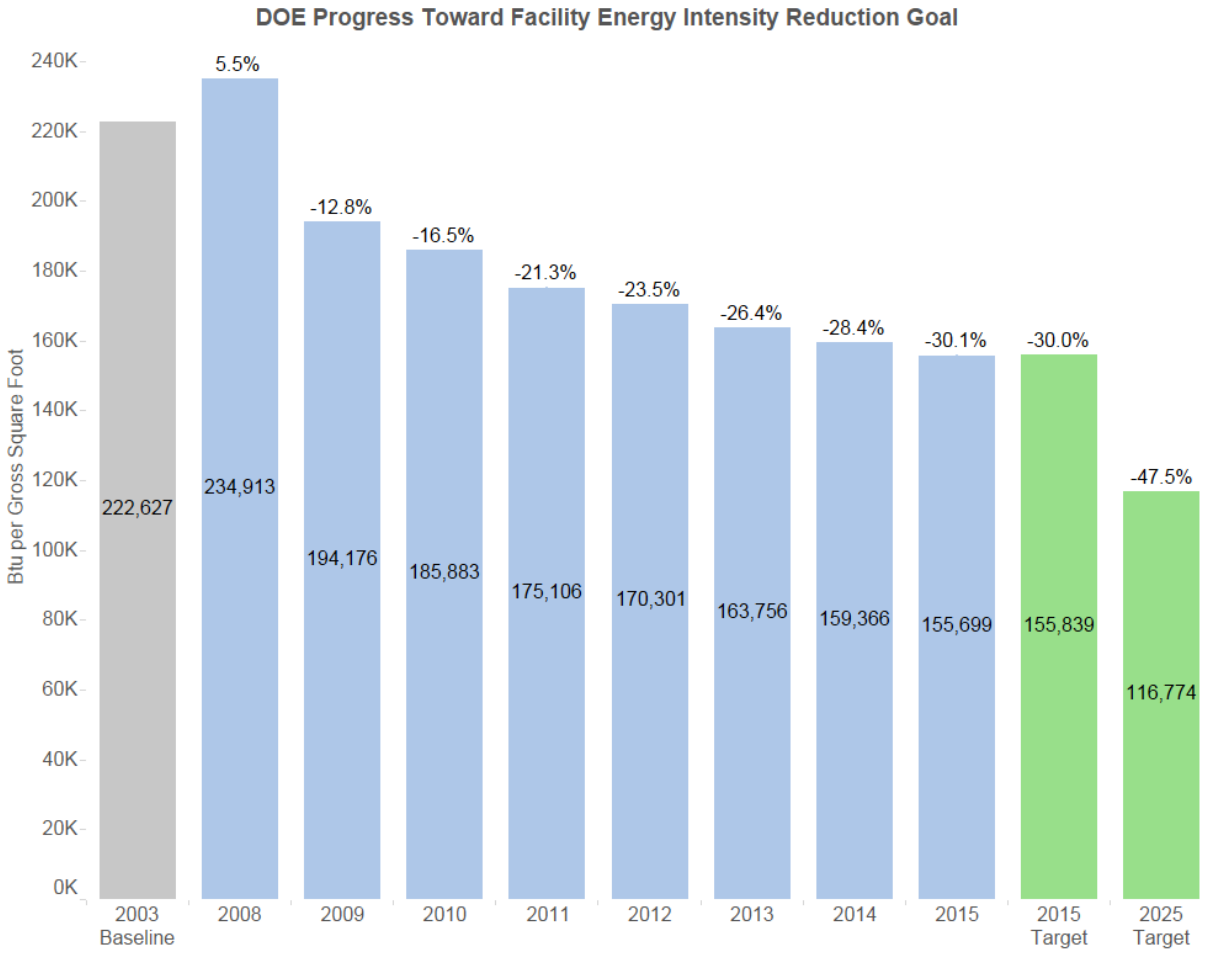
Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Develop and deploy an employee commuter emissions reduction plan.	Yes	In FY 2015, employee commuting-related emissions comprised 56 percent of DOE's total Scope 3 emissions. DOE will develop a strategy to improve commuting options at DOE National Laboratories and sites.	Develop and disseminate DOE Employee Commuting Strategy.
Use an employee commuting survey to identify opportunities and strategies for reducing commuter emissions.	No	The Department previously issued an employee commuting survey gathering data from its National Laboratories to assess successful programs and obstacles to commuting.	
Increase & track number of employees eligible for telework and/or the total number of days teleworked.	Yes	In 2015, DOE evaluated existing telework programs at 4 DOE sites to review similarities between sites and develop a unified strategy.	DOE is developing a telework toolkit for DOE sites and DOE National Laboratories.
Develop and implement a program to support alternative/zero emissions commuting methods and provide necessary infrastructure.	No	DOE will continue to identify opportunities to encourage alternative/ zero emissions commuting methods.	
Establish policies and programs to facilitate workplace charging for employee electric vehicles.	Yes	Several DOE sites employ workplace charging for employee electric vehicles.	In 2017, DOE will issue a best practices document based on lessons learned from existing agency charging infrastructure.
Include requirements for building lessor disclosure of carbon emission or energy consumption data and report Scope 3 GHG emissions for leases over 10,000 rentable square feet.	Yes	DOE will identify planned new leases over 10,000 rentable square feet and collect data on energy use and Scope 3 GHG emissions.	(1) Incorporate this requirement into the FY 2017 data collection and reporting process. (2) Issue related guidance no later than August 2017.

Goal 2: Sustainable Buildings

Building Energy Conservation Goal

The Energy Independence and Security Act of 2007 (EISA) requires each agency to reduce energy intensity 30% by FY 2015 as compared to FY 2003 baseline. Section 3(a) of E.O. 13693 requires agencies to promote building energy conservation, efficiency, and management and reduce building energy intensity by 2.5% annually through the end of FY 2025, 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.

Chart: Progress Toward Facility Energy Intensity Reduction Goal



Building Energy Conservation Strategies

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Make energy efficiency investments in agency buildings.	Yes	DOE will examine deep retrofit opportunities for ESPCs and other performance contracting instruments to implement Energy/Water Conservation Measures (ECM). DOE will increase use of interagency forums to share solutions to energy efficiency challenges.	In FY 2017, DOE will award $125 million in ESPC/UESC investment value and will conduct facility audits and implement ECMs on a four-year cycle, per EISA Section 432.
Use remote building energy performance assessment auditing technology.	No	DOE will incorporate this strategy to the extent that it is cost-effective and practicable.	
Participate in demand management programs.	No	DOE will participate in these programs such that they comply with national security interests and are cost-effective.	
Incorporate Green Button data access system into reporting, data analytics, and automation processes.	No	DOE will incorporate this strategy to the extent that it is cost-effective and practicable.	
Redesign interior space to reduce energy use through daylighting, space optimization, and sensors and control systems.	Yes	DOE will encourage its Program Offices and sites to undertake this strategy in appropriate spaces as mission and budget permit.	(1) Continue to use DOE standard of 200 Usable Square Feet (USF) of office space per person. (2) Plan for daylighting and sensors and control systems in future renovations to the extent practicable.
Identify opportunities to transition test-bed technologies to achieve energy reduction goals.	No	DOE will incorporate this strategy to the extent that it is cost-effective and practicable.	
Follow city energy performance benchmarking and reporting requirements.	No	DOE will incorporate this strategy to the extent that it is cost-effective and practicable.	
Install and monitor energy meters and sub-meters.	Yes	DOE will install energy meters and sub-meters per its metering plan schedule as submitted to FEMP.	DOE will install 50 new energy meters and sub-meters in FY 2017.

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Collect and utilize building and facility energy use data to improve building energy management and performance.	Yes	DOE will continue to ensure that building level meters are installed on energy loads that are not principally driven by scientific and industrial applications.	(1) In FY 2016, DOE will require sites to collect and use building and facility energy use data where feasible, and to report results in their annual Site Sustainability Plans. (2) DOE will provide sites with training and technical assistance.
Ensure that monthly performance data is entered into the EPA ENERGY STAR Portfolio Manager.	Yes	DOE requires sites to enter monthly performance data into Portfolio Manager per EISA Section 432. Starting in March 2015, DOE will release benchmarking data annually from Portfolio Manager into the EISA Section 432 Compliance Tracking System (CTS).	(1) DOE added 171 buildings to Portfolio Manager since 2015 and continues to provide monthly data. (2) DOE plans to add an additional 200 buildings to Portfolio Manager by March 2017.

Building Efficiency, Performance, and Management Goal

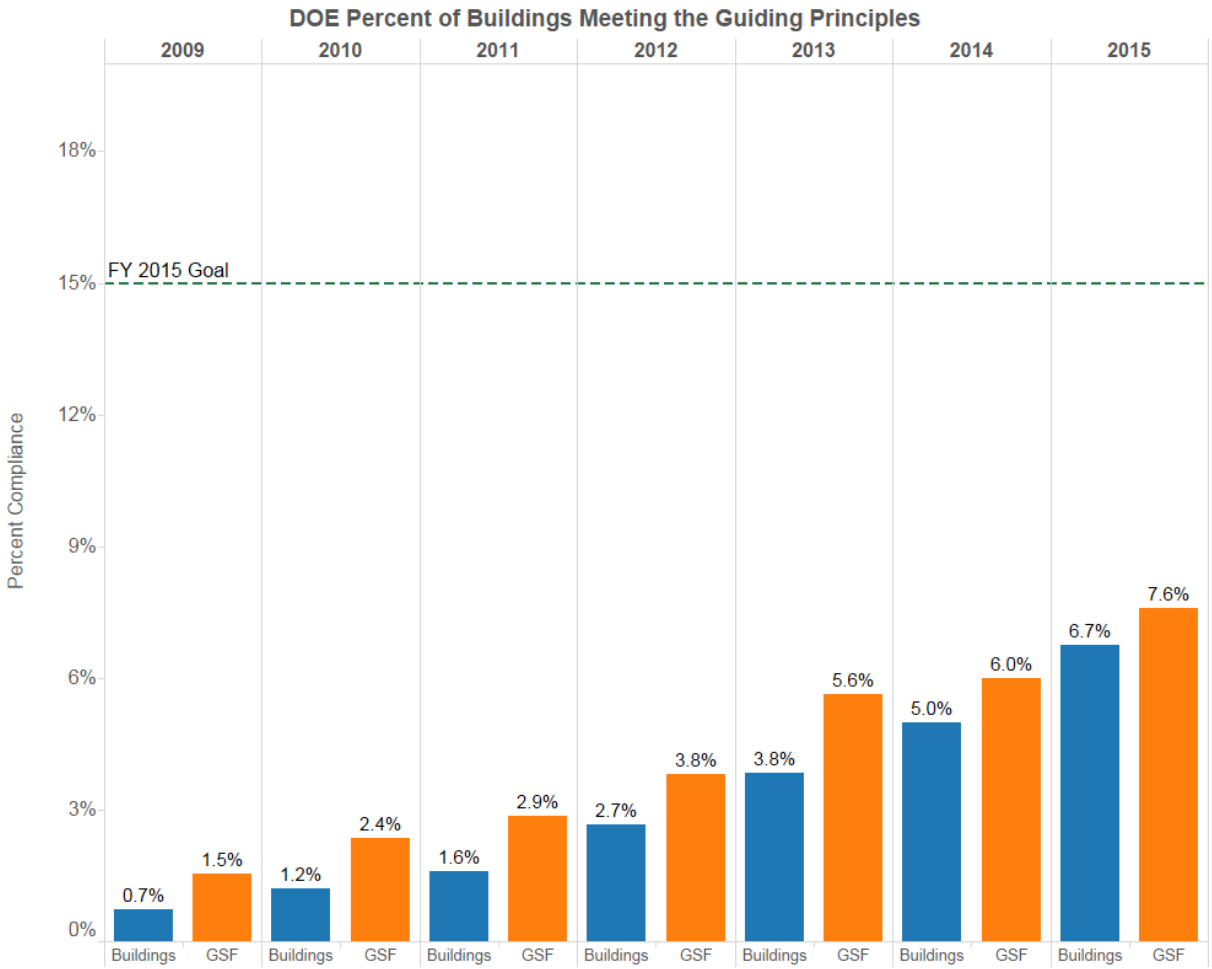
Section 3(h) of E.O. 13693 states that agencies will improve building efficiency, performance, and management and requires that agencies identify a percentage of the agency's existing buildings above 5,000 gross square feet intended to be energy, waste, or water net-zero buildings by FY 2025 and implementing actions that will allow those buildings to meet that target. DOE’s 2025 target is 1 percent.

Guiding Principles for Sustainable Federal Buildings

Section 3(h) of E.O. 13693 also states that agencies will identify a percentage, by number or total GSF, of existing buildings above 5,000 GSF that will comply with the *Guiding Principles for Sustainable Federal Buildings* by FY 2025.

DOE’s FY 2025 target is 17 percent by building count.

Chart: Percent of Buildings Meeting the Guiding Principles



Sustainable Buildings Strategies

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Include climate resilient design and management into the operation, repair, and renovation of existing agency buildings and the design of new buildings.	Yes	DOE incorporates adaptation into planning efforts per DOE's 2014 Adaptation Plan. DOE established a process for including climate resilient design and management into the operation, repair, and renovation of existing and new buildings. DOE developed methods for conducting climate vulnerability assessments across DOE sites.	(1) In FY 2017, DOE sites will identify climate related risks to mission, operations, and facilities with vulnerability assessments. (2) Integrate climate assessments into site planning efforts. (3) Develop a process to include adaptation considerations into procurement, acquisition, real property or leasing decisions.

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
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.	Yes	DOE will examine ways to strengthen regional transportation partnerships as new buildings are constructed on existing DOE sites. DOE will also implement cost-effective strategies for space optimization as part of adoption of Reduce the Footprint requirements.	(1) In FY 2017, all new facilities or leases will include consideration of existing transportation infrastructure in the planning process. (2) DOE will incorporate space optimization strategies in the Reduce the Footprint initiative.
Ensure all new construction of Federal buildings greater than 5,000 GSF that enters the planning process be designed to achieve energy net-zero and, where feasible, water or waste net-zero by FY 2030.	No	DOE will perform research, develop case studies, seek to pilot test-bed technologies, and review the actions of other agencies in accomplishing this.	In FY 2017, DOE will develop a database of best practices and tools that will help its building designs achieve net zero energy water or waste by FY 2030.
Include criteria for energy efficiency as a performance specification or source selection evaluation factor in all new agency lease solicitations over 10,000 rentable square feet.	Yes	To the extent practicable, DOE will comply with E.O. 13693 and prefer buildings certified as ENERGY STAR per EISA Section 435, LEED Gold or higher certified, and/or those that use renewable energy. This includes build-to-suit lease solicitations.	In FY 2017, all new agency lease solicitations over 10,000 rentable square feet will include criteria for energy efficiency as a performance specification or source selection evaluation factor.
Incorporate green building specifications into all new construction, modernization, and major renovation projects.	Yes	DOE already requires green building specifications be incorporated into construction and major renovation projects.	In FY 2017, DOE will continue to integrate green building specifications where appropriate and applicable.
Implement space utilization and optimization practices and policies.	Yes	DOE implements this under the Reduce the Footprint planning process.	DOE will maintain its office and warehouse space experiencing no net growth, at a minimum.
Implement programs on occupant health and well-being in accordance with the *Guiding Principles.*	Yes	DOE will promote opportunities for building occupants to increase physical movement, eat healthy, and access available daylight and exterior views.	DOE will encourage signage and information dissemination to encourage physical movement, healthy eating, and access to daylight and exterior views where available.

Goal 3: Clean & Renewable Energy

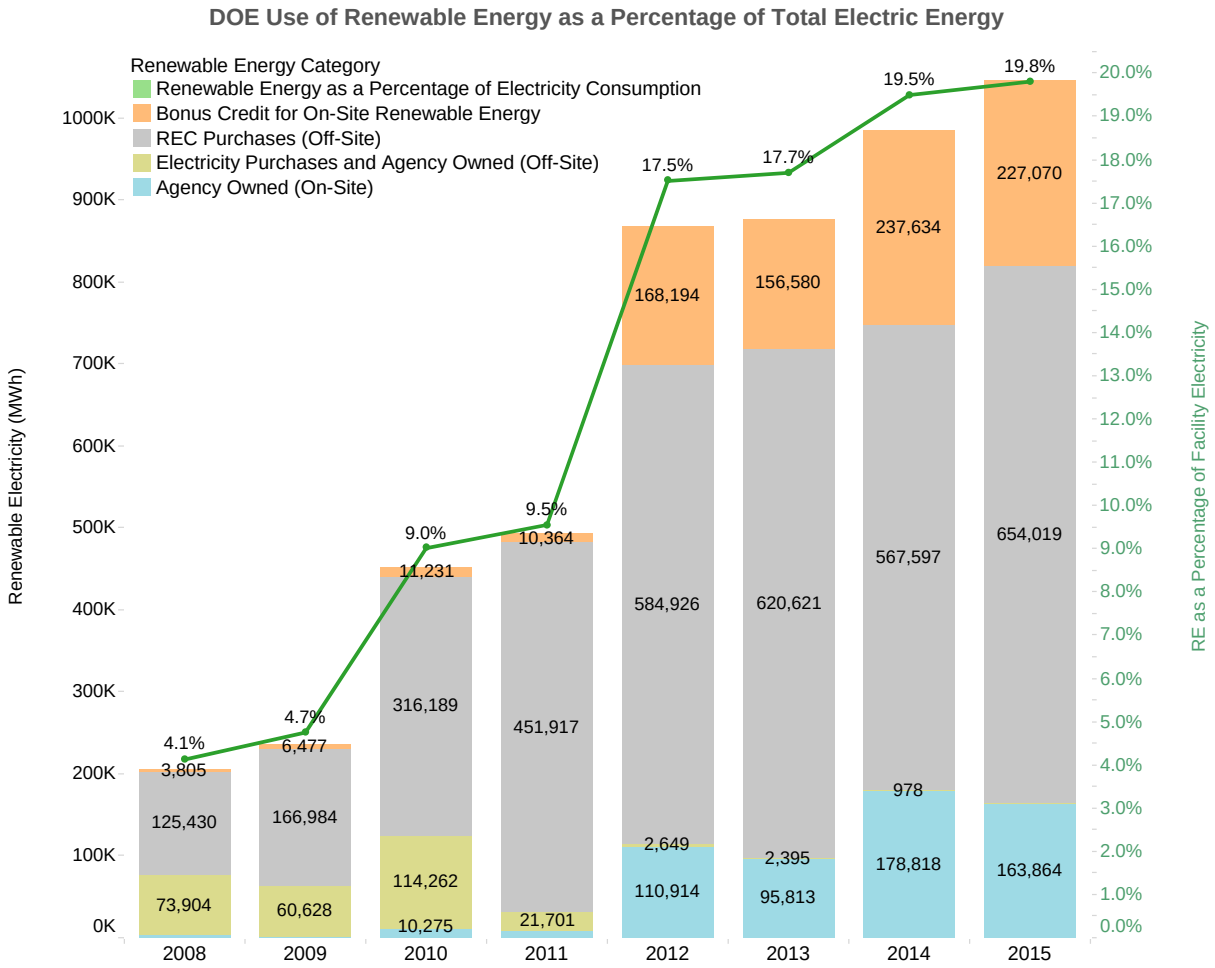
Clean Energy Goal

E.O. 13693 Section 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.

Renewable Electric Energy Goal

E.O. 13693 Section 3(c) 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.

Chart: Use of Renewable Energy as a Percentage of Total Electric Energy



Clean and Renewable Energy Strategies

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Install agency-funded renewable on-site and retain corresponding renewable energy certificates (REC).	Yes	DOE will continue to pursue on-site renewable energy systems where possible. DOE has nearly 400 on-site renewable energy systems, with several large systems planned in the near future.	(1) Update internal scoping study to evaluate the feasibility of renewable energy on DOE land based on current technologies and economic environment. (2) Ensure that all on-site renewable energy projects will retain the corresponding RECs or the appropriate replacement RECs.
Contract for the purchase of energy that includes installation of renewable energy on or off-site and retain RECs or obtain replacement RECs.	Yes	DOE will continue to evaluate opportunities to contract for the purchase of renewable energy and ensure that appropriate RECs are held by the government.	In 2016, a 3 MW solar photovoltaic array will become operational at Lawrence Livermore National Laboratory. This 20-year Power Purchase Agreement between Western Area Power Administration (WAPA) and the solar developer was finalized in January 2015.
Purchase electricity and corresponding RECs or obtain equal value replacement RECs.	Yes	DOE will continue to purchase RECs to supplement on-site renewable energy generation. Whenever possible, RECs will be purchased through third party bundlers to achieve the greatest cost savings and provide verification.	Continue to use RECs and green energy purchases to exceed renewable energy goals.
Purchase RECs to supplement installations and purchases of renewable energy, when needed to achieve renewable goals.	Yes	DOE will continue to purchase RECs to supplement on-site renewable energy generation. Whenever possible, RECs will be purchased through third party bundlers to achieve the greatest cost savings and provide verification.	Encourage sites to purchase RECs through third parties to pool resources and minimize costs. The primary third party purchasers utilized by DOE sites are WAPA and Defense Logistics Agency Energy.

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Install on-site thermal renewable energy and retain corresponding renewable attributes or obtain equal value replacement RECs.	Yes	DOE will continue to pursue on-site renewable energy systems, including thermal, where possible.	Update the internal scoping study evaluating the feasibility of thermal renewable energy on DOE land based on current technologies and economic environment. (2) DOE will ensure that all projects installed in FY 2016 and in the future will retain the corresponding RECs or the appropriate replacement.
Install on-site combined heat and power processes.	Yes	DOE used an ESPC to install a combined heat and power (CHP) plant and will continue to review opportunities for on-site CHP processes.	(1) Argonne National Laboratory's CHP plant will begin operation in FY 2016. (2) DOE will continue to evaluate the potential for CHP at other sites.
Identify opportunities to install on-site fuel cell energy systems.	No	While this is not a top strategy, DOE will continue to look for opportunities to implement technologies to reduce emissions.	
Identify opportunities to utilize energy that includes the active capture and storage of carbon dioxide emissions associated with energy generation.	No	While this is not a top strategy, DOE will continue to look for opportunities to implement technologies to reduce emissions.	
Identify and analyze opportunities to install or contract for energy installed on current or formerly contaminated lands, landfills, and mine sites.	No	DOE's priority is to install or contract for renewable energy where economically feasible, regardless of location type.	
Identify opportunities to utilize energy from small modular nuclear reactor technologies.	No	DOE is working with outside entities to potentially locate small modular reactors on the Idaho National Laboratory. DOE will continue to identify opportunities to reduce emissions.	

Goal 4: Water Use Efficiency & Management

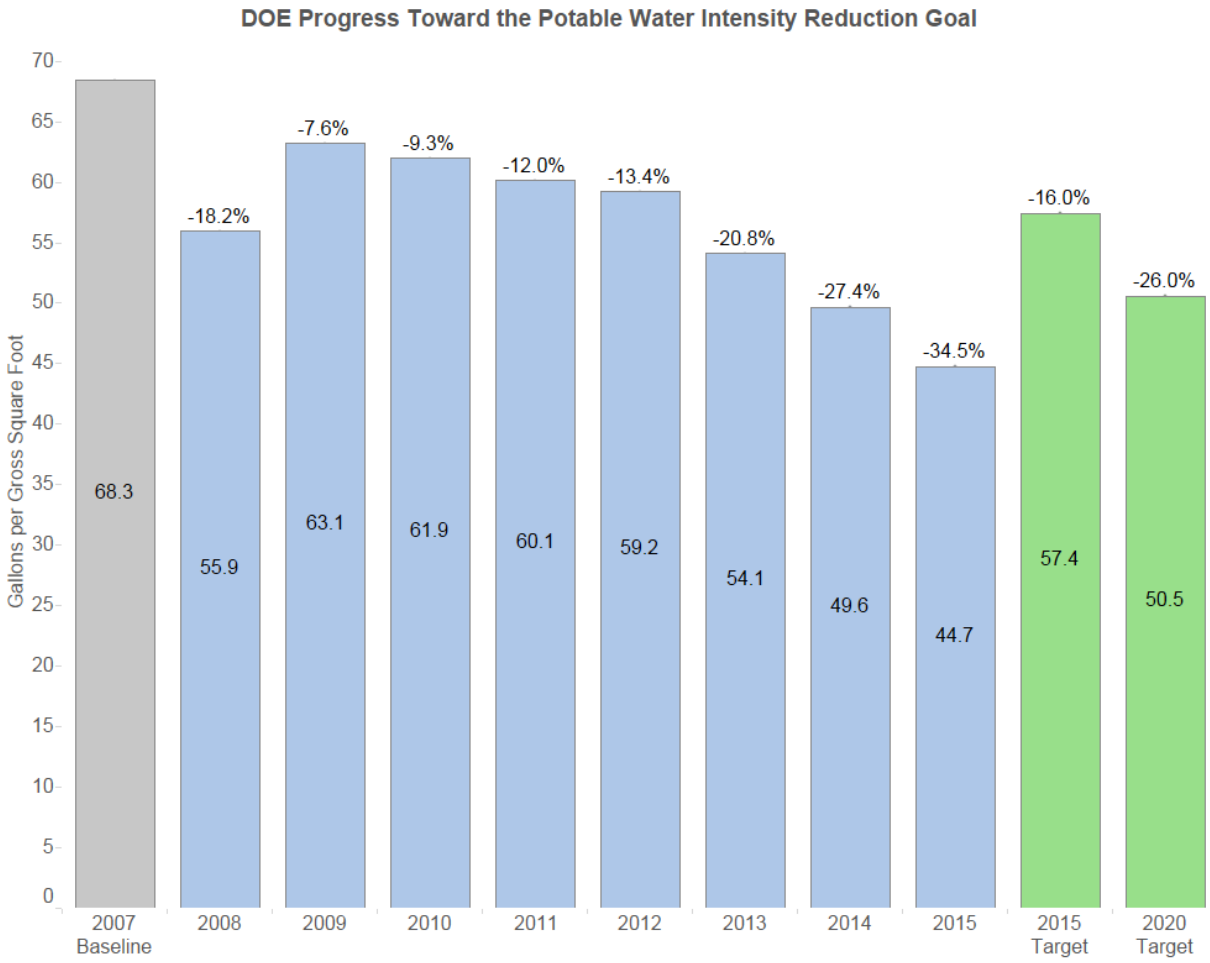
Potable Water Consumption Intensity Goal

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

Industrial, Landscaping and Agricultural (ILA) Water Goal

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

Chart: Progress Toward the Potable Water Intensity Reduction Goal



Water Use Efficiency & Management Strategies

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Install green infrastructure features to assist with storm and wastewater management.	No	Stormwater management falls outside of facility water management unless a site is capturing stormwater for beneficial use.	
Install and monitor water meters and utilize data to advance water conservation and management.	Yes	DOE will promote water meters to assess water use, perform water balance analyses, and plan water conservation. Implementation will be prioritized by the largest water consuming sites and DOE's Strategic Water Management Plan.	(1) Install 25 total water meters across the DOE complex. (2) Update DOE Metering Plan by FY 2017.
Install high efficiency technologies, e.g. WaterSense fixtures.	Yes	DOE released a Strategic Water Management Plan in May 2016 that provides strategies on implementation of water-efficient technologies and best management practices. DOE will promote the implementation of these technologies and best practices across the DOE inventory.	(1) By the end of FY 2016, disseminate DOE Strategic Water Management Plan on water efficient technologies and best practices and follow up on identified opportunities. (2) Conduct follow-on webinar and training events.
Prepare and implement a water asset management plan to maintain desired level of service at lowest life cycle cost.	Yes	DOE released a Strategic Water Management Plan in May 2016 that examines common uses of water across the complex and strategies for reducing use.	(1) Disseminate DOE Strategic Water Management Plan and follow up with sites on how to implement these practices. (2) Conduct follow-on webinar and training events.
Minimize outdoor water use and use alternative water sources as much as possible.	Yes	Outdoor irrigation water use represents a small percentage of water consumed. DOE will promote landscaping and irrigation best management practices to reduce outdoor irrigation. DOE will investigate the use of alternative water sources.	(1) Disseminate landscaping and irrigation best management practices to sites with irrigation use; prioritize these sites for alternative water projects. (2) Projects in progress at various DOE sites.

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Design and deploy water closed-loop, capture, recharge, and/or reclamation systems.	Yes	Approximately 22 percent of DOE's annual potable water consumption is due to once-through cooling processes. DOE will continue to pursue water savings through converting once-through cooling systems to closed loop and ways to recycle and reuse the cooling discharge water.	(1) Prioritize once-through cooling systems for conversion to closed loop; identify systems for reuse and recycling. (2) Disseminate DOE Strategic Water Management Plan; single pass cooling best practices are discussed in the aforementioned plan.
Install advanced meters to measure and monitor potable and ILA water use.	No	DOE will work to incorporate language to promote advanced water metering and installation, when cost-effective, into the 2017 update to DOE's metering plan.	
Develop and implement programs to educate employees about methods to minimize water use.	Yes	Webinars and additional training events will be available to DOE employees detailing DOE Strategic Water Management Plan findings concerning minimizing water use.	Conduct webinars and training events.
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	While most DOE sites do not produce their own power that requires large amounts of water, this is a concern of DOE's Power Marketing Administrations and is being addressed accordingly.	
Consistent with State law, maximize use of grey-water and water reuse systems that reduce potable and ILA water consumption.	No	DOE's Strategic Water Management Plan includes an alternative water strategy that prioritizes sites for alternative water projects.	
Consistent with State law, identify opportunities for aquifer storage and recovery to ensure consistent water supply availability.	No	Brookhaven National Laboratory recharges groundwater with treated water. DOE will investigate possible locations that can recharge groundwater.	

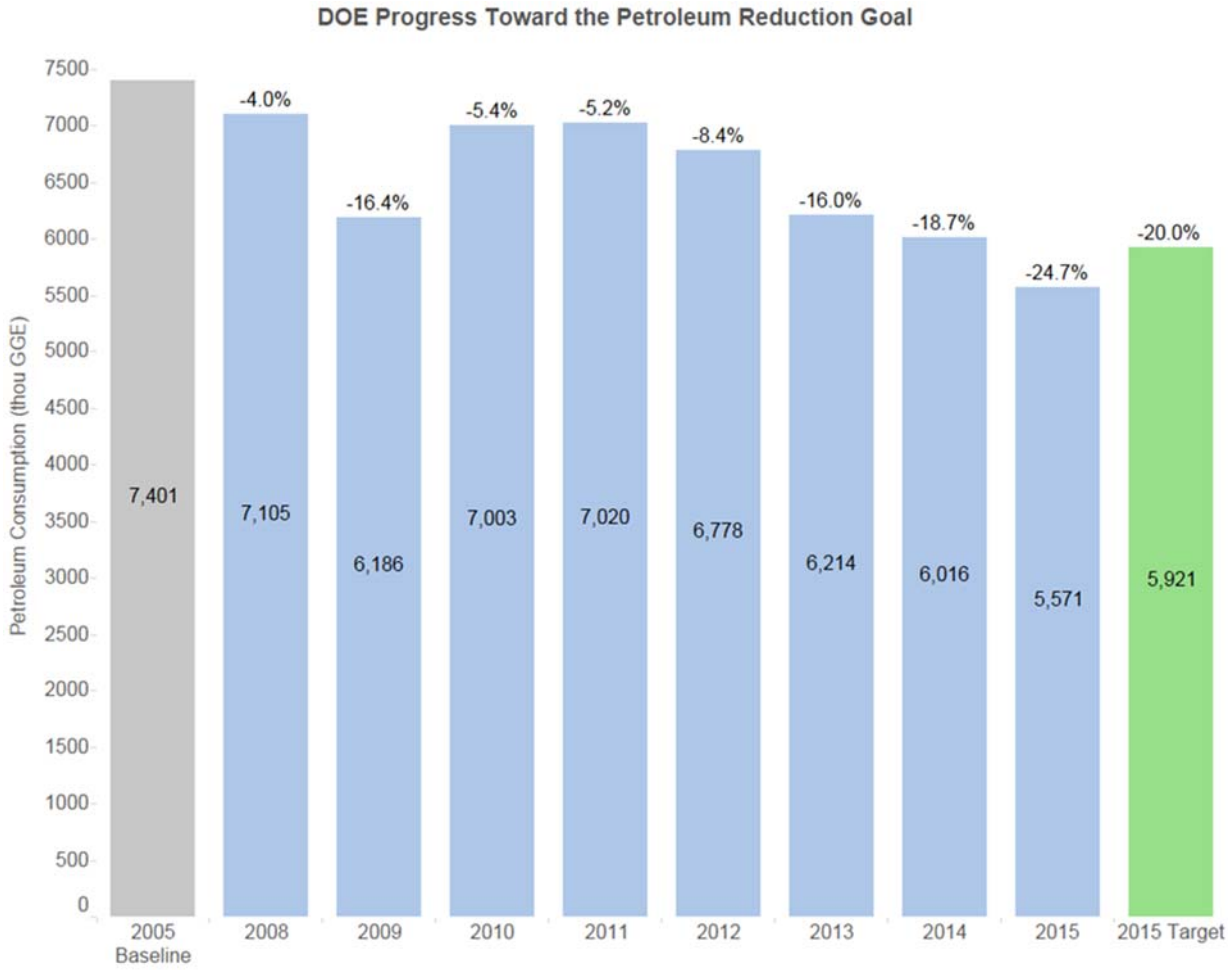
Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Ensure that planned energy efficiency improvements consider associated opportunities for water conservation.	No	DOE will include water efficiency projects in all ESPCs and UESCs, as appropriate, which may include provisions that require U.S. Energy Service Companies to investigate water efficiency and ensure contractor expertise.	
Where appropriate, identify and implement regional and local drought management and preparedness strategies that reduce agency water consumption.	Yes	Many DOE sites are affected by severe drought conditions. DOE will leverage conservation efforts completed at these sites and regional/local practices to address drought management and integrate findings into the DOE Strategic Water Management Plan.	(1) Communicate findings and best practices in DOE Strategic Water Management Plan in areas with high drought risk. (2) Link regional planning efforts on water conservation to related sustainability goals such as climate adaptation planning.

Goal 5: Fleet Management

Fleet Petroleum Use Reduction Goal

E.O. 13514 and the Energy Independence and Security Act of 2007 required that by FY 2015 agencies reduce fleet petroleum use by 20% compared to a FY 2005 baseline.

Chart: Progress Toward the Petroleum Reduction Goal



Fleet Alternative Fuel Consumption Goal

Agencies should have exceeded an alternative fuel use that is at least 5% of total fuel use. In addition, E.O. 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, required that agencies increase total alternative fuel consumption by 10% annually from the prior year starting in FY 2005. By FY 2015, agencies must have increased alternative fuel use by 159.4%, relative to FY 2005.

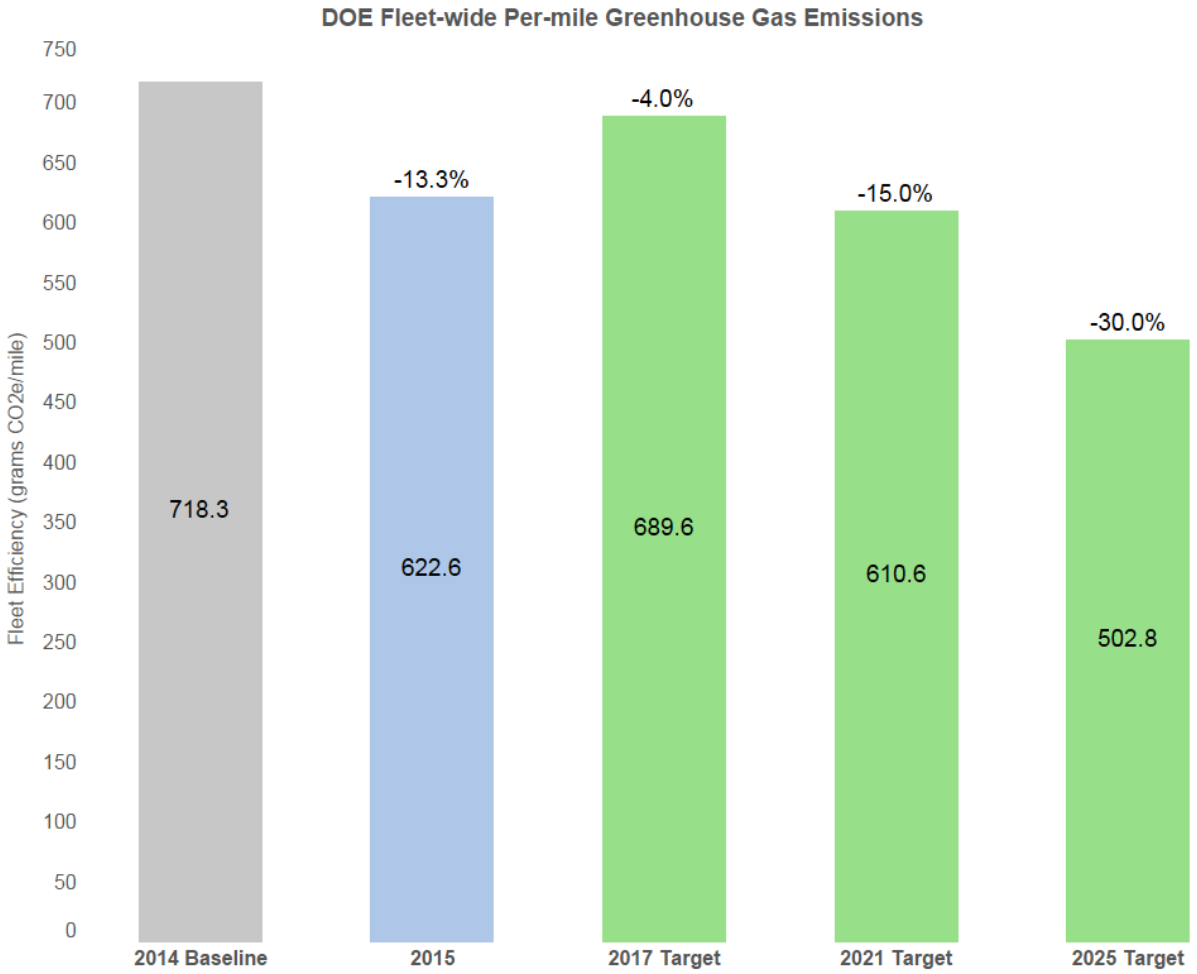
In FY 2015, DOE's use of alternative fuel equaled 29.7 percent of total fuel use. DOE has increased its alternative fuel use by 165 percent since FY 2005.

Fleet Per-Mile Greenhouse Gas (GHG) 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 reduce fleet-wide per-mile GHG emissions from agency fleet vehicles relative to a FY 2014 baseline and sets new goals for percentage reductions: not less than 4% by FY 2017; not less than 15 % by FY 2020; and not less than 30% by FY 2025.

E.O. 13693 Section 3(g)(i) requires that agencies determine the optimum fleet inventory, emphasizing eliminating unnecessary or non-essential vehicles. The Fleet Management Plan and Vehicle Allocation Methodology Report are included as appendices to this plan.

Chart: Fleet-wide Per-mile GHG Emissions



Fleet Management Strategies

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Collect and utilize agency fleet operational data through deployment of vehicle telematics.	Yes	DOE fleet sites will include telematics costs in their FY 2017 and future budget projections. They will also begin installing the systems on vehicle deliveries starting March 2017.	(1) Leverage the newly-awarded U.S. General Services Administration (GSA) Multiple Award Schedule contract for acquisition of telematics starting in FY 2017. (2) Through FY 2017, conduct webinars and training on telematics by the GSA telematics contractor.
Ensure that agency annual asset-level fleet data is properly and accurately accounted for in a formal Fleet Management Information System (FMIS) as well as submitted to the Federal Automotive Statistical Tool (FAST) reporting database, the Federal Motor Vehicle Registration System (FMVRS), and the Fleet Sustainability Dashboard (FleetDASH) system.	Yes	DOE will continue to update FMIS, FMVRS, and the FAST database to accurately reflect agency-wide data.	(1) By FY 2017, determine capability of current DOE FMIS to produce the data elements needed to comply with the new Asset Level Data reporting requirement. (2) Increase DOE-wide utilization of FleetDASH by 15 percent in FY 2017.
Increase acquisitions of zero emission and plug-in hybrid vehicles.	No	Zero Emission Vehicles (ZEV) are not practical in remote locations, however to ensure all DOE locations acquire new or replacement vehicles that qualify as ZEVs where appropriate, the DOE Fleet Manager approves all GSA AutoChoice or GSA Fleet vehicles, asset by asset.	Through FY 2017, deploy DOE Tiger Team to assess Electric Vehicle Supply Equipment (EVSE) needs at two fleet sites that are ready to replace conventional sedans with electric vehicles (EV).
Issue agency policy and a plan to install appropriate charging or refueling infrastructure for zero emission or plug-in hybrid vehicles and opportunities for ancillary services to support vehicle-to-grid technology.	Yes	DOE identified some sites that are ready to replace current sedans in their fleet with EVs. These sites lack infrastructure funds for installing chargers/EVSE.	Through FY 2017, deploy DOE Tiger Team to assess EVSE needs at 2 fleet sites that are ready to replace conventional sedans with EV.

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Optimize and right-size fleet composition, by reducing vehicle size, eliminating underutilized vehicles, and acquiring and locating vehicles to match local fuel infrastructure.	Yes	Update the DOE VAM aimed at right-sizing/right-typing the fleet and optimizing the inventory by eliminating under-utilized non-mission-critical vehicles.	In FY 2017, implement the "optimal fleet" recommended by the VAM in phases that coincide with normal/planned vehicle replacement cycles in order to mitigate operational impact.
Increase utilization of alternative fuel in dual-fuel vehicles.	Yes	DOE will continue to explore alternative fuel use, especially in its heavy duty (HD) fleet, the largest contributor to fleet-wide GHG emissions. DOE is ready to displace up to 600,000 gallons of diesel and B-20 with Hydrogenation-derived renewable diesel (HDRD)/R-99 for HD vehicles at two sites pending a reporting mechanism in FAST for FY 2016.	(1) By FY 2017, obtain FEMP approval to accept HDRD/R-99 "renewable diesel" in FAST. (2) Immediately, obtain Gasoline Gallon Equivalent (GGE) and GHG conversion factors for HDRD/R-99 from FEMP/National Renewable Energy Laboratory to assist the sites in evaluating financial risks against GHG emission reductions.
Use a FMIS to track real-time fuel consumption throughout the year for agency-owned, GSA-leased, and commercially-leased vehicles.	No	DOE's FMIS accurately accounts for vehicle-specific data. However real-time fuel consumption is not needed yet.	
Implement vehicle idle mitigation technologies.	No	Some sites are already implementing vehicle idle mitigation technologies. Idaho National Laboratory is researching no-idle Auxiliary Power Units for their buses.	
Minimize use of law enforcement exemptions by implementing GSA Bulletin Federal Management Regulation (FMR) B-33, *Motor Vehicle Management, Alternative Fuel Vehicle Guidance for Law Enforcement and Emergency Vehicle Fleets.*	No	GSA Bulletin FMR B-33 is implemented across DOE where applicable and cost-effective.	

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Where State vehicle or fleet technology or fueling infrastructure policies are in place, meet minimum requirements.	No	DOE meets all minimum requirements where vehicles, technologies, and infrastructure policies are in place unless deemed inapplicable or not cost-effective.	
Establish policy/plan to reduce miles traveled, e.g. through vehicle sharing, improving routing with telematics, eliminating trips, improving scheduling, and using shuttles, etc.	No	DOE is developing commuting best practices, tools, and resources that will assist fleet goals and will help reduce miles traveled and eliminate trips. Efforts include offering a free bus service between campuses through an innovative commuting partnership Oak Ridge National Laboratory entered into with the University of Tennessee and Pellissippi State Community College.	

Goal 6: Sustainable Acquisition

Sustainable Acquisition Goal

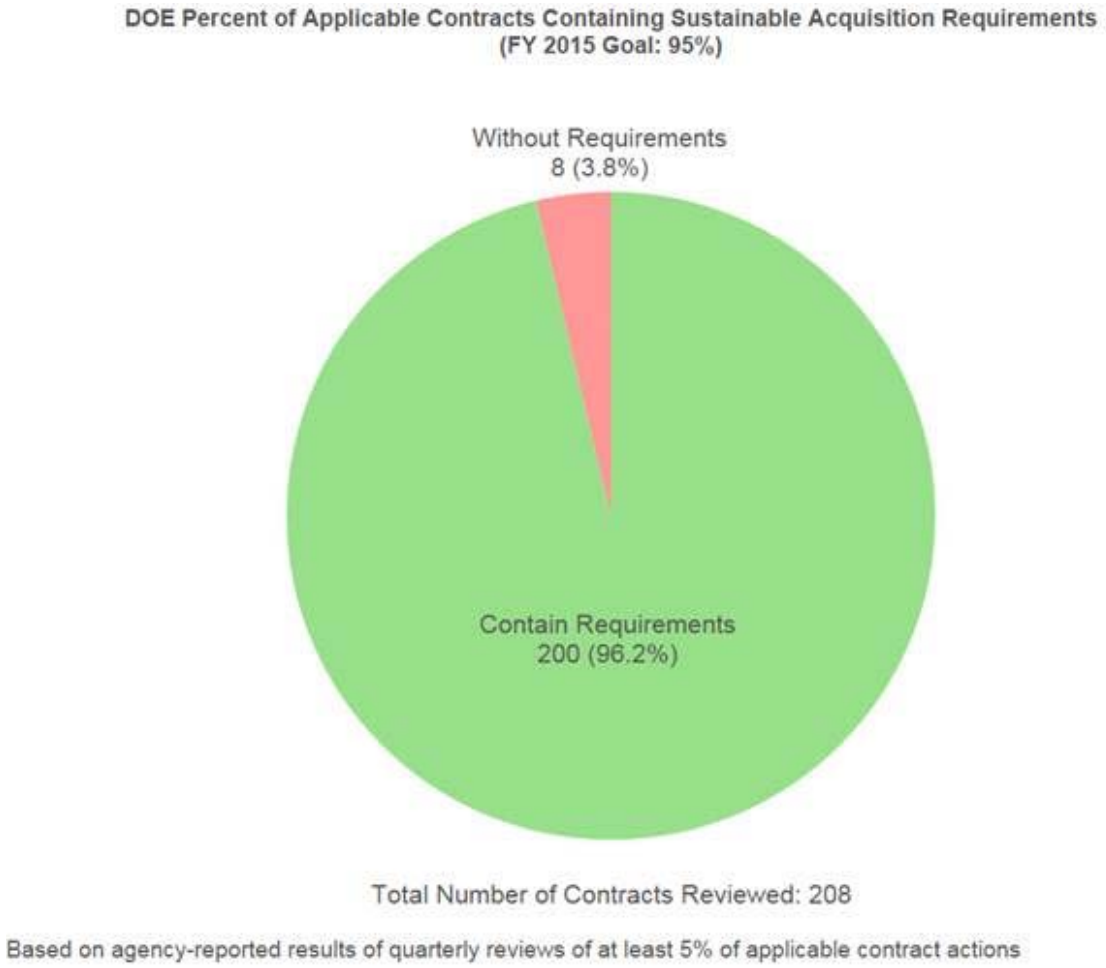
E.O. 13693 section 3(i) requires agencies to promote sustainable acquisition by ensuring that environmental performance and sustainability factors are considered to the maximum extent practicable for all applicable procurements in the planning, award and execution phases of acquisition.

Biobased Purchasing Targets

The Agricultural Act of 2014 requires that agencies establish a targeted biobased-only procurement requirement. E.O. 13693 section 3(iv) requires agencies to establish an annual target for increasing the number of contracts to be awarded with BioPreferred and biobased criteria and the dollar value of BioPreferred and biobased products to be delivered and reported under those contracts in the following fiscal year.

For FY 2017, DOE has established a target of 300 contracts and $50 million in biobased products to be delivered.

Chart: Percent of Applicable Contracts Containing Sustainable Acquisition Requirements



Sustainable Acquisition Strategies

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Establish and implement policies to meet statutory mandates requiring purchasing preference for recycled content products, ENERGY STAR qualified and FEMP-designated products, and BioPreferred and biobased products designated by the U.S. Department of Agriculture.	No	DOE will strive to meet the performance goal for sustainable purchasing in 100 percent of all contracts, ensuring applicable contracts contain appropriate clauses and provisions.	
Establish and implement policies to purchase sustainable products and services identified by EPA programs, including SNAP, WaterSense, Safer Choice, and Smart Way.	Yes	Since 2010, DOE has met the majority of the EPA programs but needs to incorporate the SmartWay program to expand supply chain efficiency.	(1) Provide contract language and additional guidance on SmartWay and other supply chain management programs. (2) Perform quarterly review of contract actions to assess performance against EPA programs and assign corrective actions.
Establish and implement policies to purchase environmentally preferable products and services that meet or exceed specifications, standards, or labels recommended by EPA.	Yes	DOE is a key partner with EPA and GSA on this important effort.	(1) DOE Sustainable Acquisition Working Group (SAWG) will provide information and resources. (2) Promote the GreenBuy Program because it is closely aligned with EPA's Interim Recommendations. (3) Work with partners to develop training programs on the standards and labels.
Use Category Management Initiatives and government-wide acquisition vehicles that already include sustainable acquisition criteria.	Yes	DOE will work with its sites to consolidate acquisitions and contract actions under the Category Management Initiative.	DOE will need to determine a strategy for the sites managed by contractors to be able to utilize the same government-wide vehicles as the Federal acquisition professionals.
Ensure contractors submit timely annual reports of their BioPreferred and biobased purchases.	No	DOE expanded contractor reporting to include additional contract requirements. DOE issued Guidance for Contracting Officers per revisions to DOE's Acquisition Guide.	

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Reduce copier and printing paper use and acquiring uncoated printing and writing paper containing at least 30 percent postconsumer recycled content or higher.	No	Since 2010, DOE has met this requirement. DOE encourages sites to exceed the 30 percent requirement by striving for 50 or 100 percent through the voluntary GreenBuy Program.	
Identify and implement corrective actions to address barriers to increasing sustainable acquisitions.	No	DOE will continue to build on quarterly sustainable acquisition contract reviews to increase procurement of sustainable goods and services.	
Improve quality of data and tracking of sustainable acquisition through the Federal Procurement Data System (FPDS).	Yes	DOE will provide FPDS training to sites ensuring higher quality data.	DOE will work with its acquisition professionals to ensure the proper coding and categorization particularly with BioPreferred purchases.
Incorporate compliance with contract sustainability requirements into procedures for monitoring contractor past performance and report on contractor compliance in performance reviews.	No	DOE conducts quarterly and annual contract audits to ensure sustainability contract compliance requirements are met.	
Review and update agency specifications to include and encourage products that meet sustainable acquisition criteria.	No	DOE will continue providing support, information, and resources to the sites by the SAWG.	
Identify opportunities to reduce supply chain emissions and incorporate criteria or contractor requirements into procurements.	Yes	DOE will work with selected contracts that are due for renewal in FY 2017.	DOE selected six contracts due for renewal and will incorporate criteria addressing GHG emissions into the procurements.

Goal 7: Pollution Prevention & Waste Reduction

Pollution Prevention & Waste Reduction Goal

E.O. 13693 section 3(j) requires that Federal agencies advance waste prevention and pollution prevention and to annually divert at least 50% of non-hazardous construction and demolition debris. Section 3(j)(ii) further 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.

Reporting on progress toward the waste diversion goal will begin with annual data for FY 2016.

Pollution Prevention & Waste Reduction Strategies

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Report in accordance with the requirements of sections 301 through 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C 11001-11023).	Yes	DOE sites continue to independently report under EPCRA. DOE tracks reporting under section 313 against EPA's Toxic Release Inventory (TRI) web-based reporting program (TRI-MEweb). Reporting is to local and state emergency planning authorities under Sections 304, 311, and 312. The Department conducts a bimonthly EPCRA Focus Group teleconference to share information on EPCRA, including chemical inventory, threshold determinations, and tracking/reporting methods.	(1) Continue site level reporting under EPCRA. (2) Continue site level reporting of TRI chemicals, accidental chemical releases, and hazardous chemical storage. (3) Share lessons learned and best practices for EPCRA compliance and reporting programs at DOE sites during bi-monthly EPCRA Focus Group teleconferences.
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.	Yes	DOE sites use chemical management systems to provide supply-chain efficiency, establish tighter control of purchases, and identify greener alternatives. DOE promotes the use of alternative and less toxic materials.	(1) Track acquisition and use of hazardous materials at the site-level. (2) Promote end-of-life disposition.

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Eliminate, reduce, or recover refrigerants and other fugitive emissions.	Yes	SF_6 is used for a variety of purposes at DOE sites and comprises nearly 80 percent of all DOE fugitive GHG emissions. In 2015, 13 of DOE's largest SF_6 consuming sites maintained SF_6 capture programs. DOE tracks usage at the site-level and strives to reduce use and limit accidental releases, where possible. DOE will continue to share best practices during the Fugitive Emissions Workgroup to improve fugitive emissions management. DOE is collaborating with EPA and CEQ to support the phase-down of HFC use in the Federal sector.	(1) Study existing programs and implemented measures—including SF_6 reclaimers—and share lessons learned among applicable DOE sites. (2) Promote fugitive emissions management best practices through established DOE Fugitive Emissions Workgroup. (3) Identify alternatives to displace refrigerants and other high global warming potential substances.
Reduce waste generation through elimination, source reduction, and recycling.	Yes	In FY 2015, DOE diverted 55.0 percent of municipal solid waste from landfills. DOE implements additional waste management initiatives including composting, net-zero waste, and expanded recycling programs resulting in an increase in diverted municipal solid waste.	(1) Continue to increase waste diversion rate. (2) Share lessons learned and best practices from successful and innovative recycling programs and net-zero waste programs at DOE sites. (3) Assess existing strategies and begin planning to achieve E.O. 13693 net-zero waste goal.
Implement integrated pest management and improved landscape management practices to reduce and eliminate the use of toxic and hazardous chemicals and materials.	No	DOE sites employ pest management programs and include the use of pest management professionals and/or 3rd party vendors who have integrated pest management practices. They also implement appropriate landscape management practices.	DOE uses pest and landscape management practices to support pollinator and migratory bird protection objectives.

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Develop or revise Agency Chemicals Inventory Plans and identify and deploy chemical elimination, substitution, and/or management opportunities.	No	DOE sites use chemical management systems to track chemical use, identify alternatives, minimize acquisition, and track chemical elimination through ongoing field verifications.	
Inventory current HFC use and purchases.	No	DOE's annual sustainability reporting process tracks HFC purchases and use at the site level.	
Require high-level waiver or contract approval for any agency use of HFCs.	No	This is not currently a priority.	
Ensure HFC management training and recycling equipment are available.	No	DOE provides HFC awareness, training, and resources through its Fugitive Emissions Working Group.	

Goal 8: Energy Performance Contracts

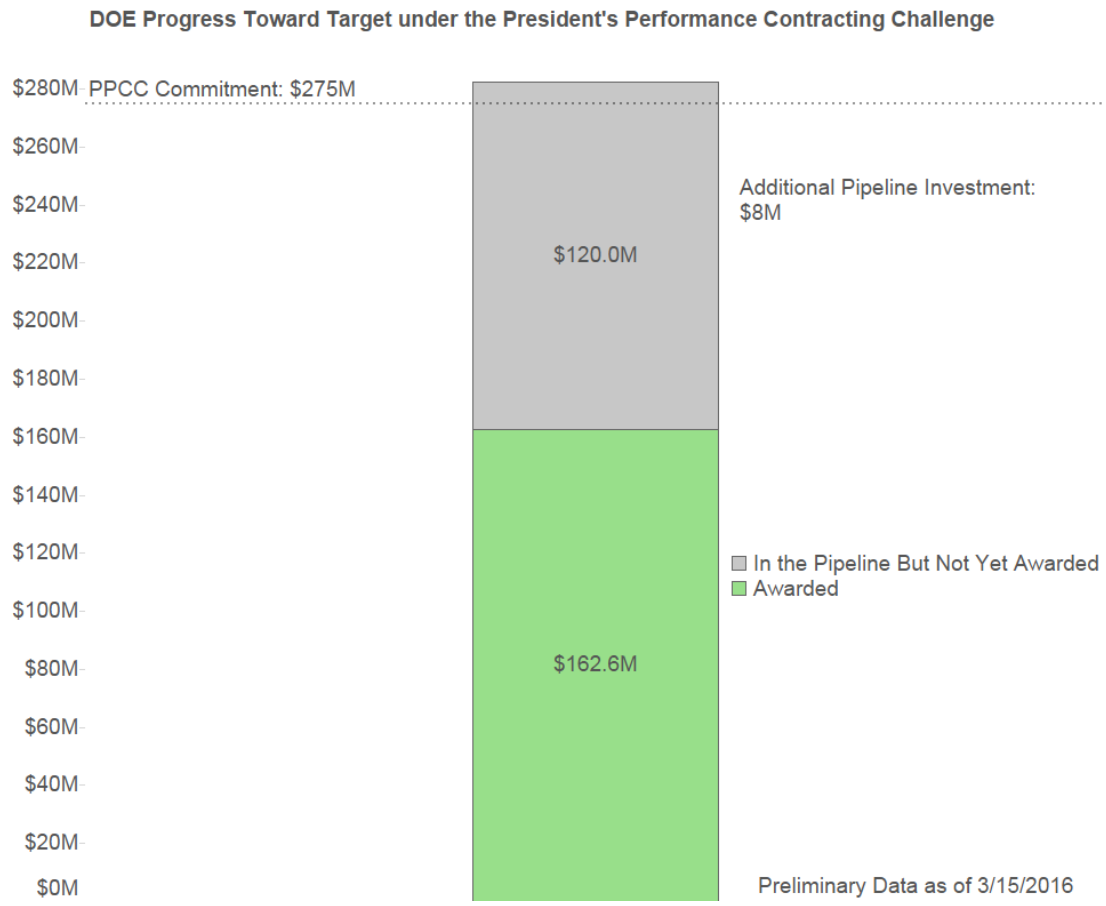
Performance Contracting Goal

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. DOE's commitment under the President's Performance Contracting Challenge is $275 million in contracts awarded by the end of calendar year 2016. DOE's targets for the next two fiscal years are:

FY 2017: $ 125 million
FY 2018: $ 125 million

During calendar years 2012 and 2013, DOE committed $100 million in project awards to contribute to the government-wide goal for the first phase of the President's Performance Contracting Challenge. For 2014, 2015, and 2016, DOE committed an additional $175 million. Despite previous annual commitments under the PPCC, DOE committed $125 million in FY 2017 and FY 2018.

Chart: Progress Toward Target under the President's Performance Contracting Challenge



Performance Contracting Strategies

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
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.	Yes	DOE has used ESPCs since 1999, and searches for opportunities to implement ESPCs and UESCs. Performance contracting is a top priority for DOE in meeting its sustainability goals.	DOE commits to a target of $125 million in project investment value in ESPC and UESC awards for FY2017.
Fulfill existing agency target/ commitments towards the PPCC by the end of Calendar Year (CY) 2016.	No	DOE achieved its Phase 1 commitment of $100 million and is in the process of fulfilling the Phase 2 commitment.	DOE will award one ENABLE project in CY 2016 and one ESPC project in the second quarter of CY 2017 to meet the $175 million Phase 2 PPCC commitment.
Evaluate 25 percent of agency's most energy intensive buildings for opportunities to use ESPCs/UESCs to achieve goals.	Yes	DOE guidance on EISA Section 432 directs sites to prioritize covered facility selection by energy-intensity. All covered facilities are evaluated on a four-year cycle.	Facility evaluations will be conducted in accordance with the EISA Section 432 audit cycle and will be reported in EISA Section 432 CTS.
Prioritize top ten portfolio wide projects which will provide greatest energy savings potential.	Yes	DOE has several data sources for the identification of potential projects, including CTS and internal resources.	By the end of FY 2016, DOE will prioritize the projects using the results of the internal renewable energy scoping study and EISA Section 432/CTS reporting process.
Identify and commit to include onsite renewable energy projects in a percentage of energy performance contracts.	No	DOE will pursue onsite renewable energy projects where economically feasible.	
Submit proposals for technical or financial assistance to FEMP and/or use FEMP resources to improve performance contracting program.	Yes	DOE programs have secured FEMP's assistance to accelerate the current PPCC pipeline.	(1) Identify projects to build its project pipeline and fulfill upcoming commitments. (2) Submit proposals to FEMP for assistance.
Work with FEMP/U.S. Army Corps of Engineers (USACE) to cut cycle time of performance contracting process, targeting a minimum 25 percent reduction.	No	DOE is working with FEMP/USACE; however, reducing cycle time is not the highest priority.	
Ensure agency legal and procurement staff are trained by the FEMP ESPC/UESC course curriculum.	No	DOE will continue to disseminate information about FEMP ESPC/UESC training.	

Goal 9: Electronics Stewardship & Data Centers

Electronics Stewardship Goals

E.O. 13693 Section 3(l) requires that agencies promote electronics stewardship, including procurement preference for environmentally sustainable electronic products; 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 employing environmentally sound practices with respect to the agency's disposition of all agency excess or surplus electronic products.

Agency Progress in Meeting Electronics Stewardship Goals

Procurement Goal:
At least 95% of monitors, PCs, and laptops acquired meet environmentally sustainable electronics criteria (EPEAT registered).

FY 2015 Progress: 94 percent

Power Management Goal:
100% of computers, laptops, and monitors has power management features enabled.

FY 2015 Progress: 93 percent of equipment has power management enabled.
16 percent of equipment has been exempted.

End-of-Life Goal:
100% of electronics disposed using environmentally sound methods, including GSA Xcess, Computers for Learning, Unicor, U.S. Postal Service Blue Earth Recycling Program, or Certified Recycler (R2 or E-Stewards).

FY 2015 Progress: 100 percent *(including use of non-certified recyclers)*

Data Center Efficiency Goal

E.O. 13693 Section 3(a) states that agencies must improve data center efficiency at agency facilities, and 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.

Electronics Stewardship Strategies

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Use government-wide strategic sourcing vehicles to ensure procurement of equipment that meets sustainable electronics criteria.	No	DOE is successfully procuring sustainable electronics, but will review use of government-wide strategic sourcing vehicles.	
Enable and maintain power management on all eligible electronics; measure and report compliance.	Yes	Continue to provide sites with targeted technical assistance to fully enable power management.	By October 2017, 100 percent of DOE sites will fully enable power management on non-exempt computers and monitors.
Implement automatic duplexing and other print management features on all eligible agency computers and imaging equipment; measure and report compliance.	Yes	DOE will specify the Program Offices and sites to develop Print Management Plans, consistent with DOE Guide 436.1-1, *Federal Sustainable Print Management* and track the sites progress in developing plans.	(1) Identify Program Offices and sites by October 2016. (2) Provide training session(s) by January 2017. (3) 50 percent of specified Program Offices and sites will issue Print Management Plans by October 2017.
Ensure environmentally sound disposition of all agency excess and surplus electronics, consistent with Federal policies on disposal of electronic assets, and measure and report compliance.	Yes	Identify four sites currently using non-certified recyclers and transition them to certified recyclers.	(1) Identify local certified recyclers by October 2016. (2) 100 percent of DOE sites using non-certified recyclers will transition to certified recyclers by October 2017.
Improve tracking and reporting systems for electronics stewardship requirements through the lifecycle: acquisition and procurement, operations and maintenance, and end-of-life management.	No	DOE modernized its tracking and reporting system, and tracks metrics across the electronics lifecycle. DOE revises the data collection process annually.	

Data Center Efficiency Strategies

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Develop, issue and implement policies, procedures and guidance for data center energy optimization, efficiency, and performance.	Yes	DOE will develop an annual Data Center Consolidation and Optimization Strategic Plan that addresses all required elements. The plan will include strategic actions, policies, and procedures to help achieve OMB target goals.	Initial Plan will be developed within 60 days of OMB publication of the DCOI Guidance document.
Install and monitor advanced energy meters in all data centers (by FY 2018) and actively manage energy and power usage effectiveness.	Yes	DOE will include strategies for meeting EO and Data Center Optimization Initiative (DCOI) goals in the Data Center Strategic Plan. Data Centers will be evaluated for cost effective installation of energy meters. If not feasible, these data centers will be strong candidates for consolidation and closure.	100% of all enduring data centers will have Advanced Energy Metering installed by 2018
Minimize total cost of ownership in data center and cloud computing operations.	No	DOE will work to minimize total cost of ownership, however this is not a top strategy for FY 2017.	
Identify, consolidate and migrate obsolete, underutilized and inefficient data centers to more efficient data centers or cloud providers; close unneeded data centers.	Yes	All DOE data centers will be evaluated against DCOI and EO goals and targets. Data centers that cannot meet these goals will be strong candidates for consolidation to cloud services or highly efficient data centers. Data centers scoring in the lower quartile of DCOI performance metrics will be evaluated for service cloud migration, consolidation, and closure.	This process will be documented and tracked in the annual Data Center Plan.

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Improve data center temperature and air-flow management to capture energy savings.	Yes	Enduring data centers that will be evaluated for energy optimization opportunities that result in lower operational PUEs. Where cost effective, infrastructure improvement projects will be implemented.	The energy and associated cost savings from these projects will be documented and tracked in the annual Data Center Plan.
Assign certified Data Center Energy Practitioner(s) to manage core data center(s).	No	DOE will continue to utilize Data Center Energy Practitioners, however this is not a top strategy for FY 2017.	

Goal 10: Climate Change Resilience

E.O. 13653, *Preparing the United States for the Impacts of Climate Change*, outlines Federal agency responsibilities in the areas of supporting climate resilient investment; managing lands and waters for climate preparedness and resilience; providing information, data and tools for climate change preparedness and resilience; and planning. E.O. 13693 Section 3(h)(viii) states that as part of building efficiency, performance, and management, agencies should incorporate climate-resilient design and management elements into the operation, repair, and renovation of existing agency buildings and the design of new agency buildings. In addition, Section 13(a) requires agencies to identify and address projected impacts of climate change on **mission critical** water, energy, communication, and transportation demands and consider those climate impacts in operational preparedness planning for major agency facilities and operations. Section 13(b) requires agencies to calculate the potential cost and risk to mission associated with agency operations that do not take into account such information and consider that cost in agency decision-making.

Climate Change Resilience Strategies

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Strengthen agency *external* mission, programs, policies and operations (including grants, loans, technical assistance, etc.) to incentivize planning for, and addressing the impacts of, climate change.	Yes	DOE will focus on strengthening integration of climate change resilience and preparedness into its domestic and international technical assistance programs, as well as energy technology research, development and demonstration and deployment program planning and implementation.	Continue efforts to support climate resilience through various DOE domestic and international programs including: DOE's science and energy technology RDD&D programs; international bi-lateral and multi-lateral agreements, and public-private partnerships.

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Update and strengthen agency *internal* mission, programs, policies, and operations to align with the *Guiding Principles*, including facility acquisition, planning, design, training, and asset management processes, to incentivize planning for and addressing the impacts of climate change.	Yes	DOE plans to update technical standards to include climate change. DOE is updating agency emergency response procedures and protocols to prepare for the potential effects of climate change, including extreme weather events. In December 2015, SPO released a vulnerability assessment guide which provides strategies for DOE sites.	(1) Revise and implement technical design standards (e.g., DOE-STD-1020-2012) and develop a DOE Handbook. (2) Review and update emergency response plans for climate change per updated DOE orders, guides and technical standards. (3) DOE will disseminate the vulnerability guide and complete additional site vulnerability assessments by FY 2017. (4) DOE will update the 2014 Climate Adaptation Plan in FY 2017.
Update emergency response, health, and safety procedures and protocols to account for projected climate change, including extreme weather events.	Yes	DOE continues to update emergency response procedures and protocols to prepare for potential climate change impacts. Several DOE sites have completed climate change vulnerability assessments and/or resilience plans with additional assessments planned for FY 2016 and FY 2017.	(1) Identify and update emergency response plans in accordance with updated DOE policy documents. (2) DOE will continue to update emergency response procedures and protocols. (3) Disseminate best practices/lessons learned from assessments via the Climate Adaptation Collaborative and Climate Adaptation Working Group (CAWG).
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.	Yes	DOE is collaborating with other Federal agencies to advance climate change understanding as follows: wildfire management (U.S. Forest Service); stormwater modeling (U.S. Geological Survey); and climate science (U.S. Department of Homeland Security, EPA, National Aeronautics and Space Administration).	(1) Continue efforts including maintaining the DOE CAWG and reporting on program and site level climate change adaptation. (2) DOE will host a training event at its Hanford site and will include local/regional stakeholders.

Strategy	Priority for FY 2017	Strategy Narrative	Targets and Metrics
Ensure vulnerable populations potentially impacted by climate change are engaged in agency processes to identify measures addressing relevant climate change impacts.	Yes	DOE's Office of Indian Energy is taking action to inform tribal stakeholders of possible climate change impacts at DOE facilities.	Training programs are being developed to expedite this process.
Identify interagency climate tools and platforms used in updating agency programs and policies to encourage or require planning for, and addressing the impacts of, climate change.	No	In December 2015, DOE internally released a climate resilience process guide, with resources, tools, and best practices.	