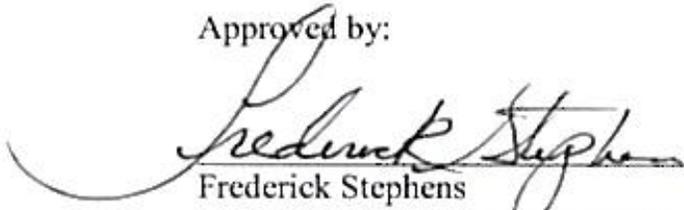


**United States Department of Commerce
Strategic Sustainability Performance Plan**

June 2011

Approved by:

A handwritten signature in cursive script that reads "Frederick Stephens". The signature is written in black ink and is positioned above the printed name.

Frederick Stephens
Deputy Assistant Secretary for Administration and
Senior Sustainability Officer

5/23/11
Date

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Section 1: Agency Policy and Strategy

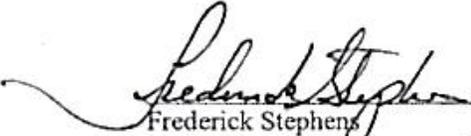
U.S. Department of Commerce Policy Statement Environmental and Energy Sustainability

The U.S. Department of Commerce (DOC) will maintain its long-held commitment to creating a sustainable environment and energy future through both its policies and actions. DOC adopts this policy to increase the nation's prosperity, promote energy security, protect the interests of taxpayers, and safeguard the health of the environment. To track our actions against our commitment, DOC will annually update and publish a Strategic Sustainability Performance Plan (SSPP) containing its agency priorities, performance targets and planned investments and projects for the next five years.

Over the next twelve months DOC will:

- Update and improve its greenhouse gas inventory;
- Develop an agency climate adaptation plan;
- Evaluate the feasibility of an Energy Savings Performance Contract across several government-owned facilities;
- Conduct sustainable building assessments on over 40 government-owned buildings;
- Encourage the development and execution of on-site renewable energy generation projects;
- Continue to right-size its vehicle fleet;
- Empower employees to approach energy-conservation challenges creatively--through energy working groups, employee "Green Teams," Lean Six Sigma continuous process improvement events, and sustained energy-awareness campaigns;
- Maintain and establish working relationships, as appropriate, with other federal agencies to augment limited resources and take advantage of expertise from across the Federal Government;
- Publish new energy and environmental policy and comprehensive program guidance to ensure a consistent approach at all 12 Commerce bureaus;
- Continue implementation of an automated system to track energy usage and overall building performance across DOC facilities; and
- Comply with all relevant environmental and energy statutes, regulations, and Executive Orders (EOs).

Additionally, because DOC views the requirements of EO 13514, *Federal Leadership in Environment, Energy, and Economic Performance*, and the pursuit of a robust sustainability policy, as laid out in our SSPP, as central to the agency's core values and mission, every employee within DOC is charged with encouraging and personally supporting sustainability within the Department.


Frederick Stephens
Deputy Assistant Secretary for Administration and
Senior Sustainability Officer

5/23/11
Date

II. Sustainability and the Agency Mission

DOC's mission is to create the conditions for economic growth and opportunity by promoting innovation, entrepreneurship, competitiveness, and environmental stewardship. Economic growth is supported by DOC through the following activities:

- Advanced technology,
- Sustainable development,
- Increased trade, and
- Information analysis.

Long-term economic growth depends on the natural resources that sustain such growth. DOC supports the economy and the environment by engaging in activities that support sustainable development and by implementing internal policies to promote environmental stewardship. Meeting the targets of EO 13514 and implementing the SSPP will help DOC to:

- Fulfill the agency's mission,
- Achieve the agency's vision for reducing its environmental impact and protecting natural and cultural resources, and
- Meet Federal mandates and goals.

To align business activities to the vision and strategy of the agency, DOC uses an internal "Balanced Scorecard" which captures many of the SSPP goals and tracks leading indicators of progress. The synergies between sustainability and the "Balanced Scorecard" make achieving the goals laid out in the SSPP an integral part of DOC's mission. Furthermore, DOC and its OUs have developed 5-year plans that capture all planned projects and activities against many of the SSPP goals. These 5-year plans will assist DOC to project and quantify anticipated progress toward SSPP goals. The effects of increased greenhouse gases, rising energy prices, and natural resource constraint all negatively affect economic growth in the United States. Promoting sustainable development and sound environmental practices are crucial to expanded economic growth and opportunity. DOC must inspire sustainable responsibility and lead by example. The strategies in this SSPP outline DOC's opportunity to act as a Federal leader in environment, energy, and economic performance.

There are several challenges to meeting all sustainability goals in the midst of competing priorities and limited funding. Other priorities may have different, but equally significant benefits to the Department and to the nation. However, DOC realizes that many sustainability goals are also life-cycle cost effective and wise investments. Therefore, DOC has made promoting environmental stewardship one of its three agency-wide strategic goals. As a strategic goal, DOC recognizes the effect its organizational activities have on sustainability. This aligns the targets in the SSPP with the operational initiatives of DOC's 12 OUs.

Commerce's 12 OUs include:

- Bureau of Industry and Security (BIS)
- Bureau of Economic Analysis (BEA)
- Bureau of the Census (Census Bureau)

- Economic Development Administration (EDA)
- Economics and Statistics Administration (ESA)
- International Trade Administration (ITA)
- Minority Business Development Agency (MBDA)
- National Institute of Standards and Technology (NIST)
- National Oceanic and Atmospheric Administration (NOAA)
- National Technical Information Service (NTIS)
- National Telecommunications and Information Administration (NTIA)
- U.S. Patent and Trademark Office (USPTO)

DOC and its 12 OUs recognize that the success of their mission is enhanced through the sustainability initiatives laid out in this plan.

Size and Scope of Operations	Number	Comment
Total # Employees	43000	
Total Acres Land Managed	15721	7,606 owned, 8,552 permitted, 1,267 leased
Total # Facilities Owned	482	
Total # Facilities Leased (GSA lease)	225	
Total # Facilities Leased (Non-GSA)	151	
Total Facility Gross Square Feet (GSF)	18848000	Summation of Gross and Rentable area. Includes space that is permitted from other Federal agencies but does not include space where OUs are co-located with partner state agencies and universities.
Operates in # of Locations throughout U.S.	3560	2592 complexes (sites) on which are located 3560 assets. Owned and leased sites, including equipment sites, antennas, and locations where space is permitted from other Federal agencies but does not include space where OUs are co-located with partner state agencies and universities. A complex is a data element that serves to identify where there are several land, building, or structure records at a site.
Operates in # of Locations outside of U.S.	127	Located in 78 countries. Department of State is responsible for acquisition and management of these locations
Total # Fleet Vehicles Owned	756	
Total # Fleet Vehicles Leased	1455	

Size and Scope of Operations	Number	Comment
Total # Exempted-Fleet Vehicles (Tactical, Emergency, etc.)	60	
Total Operating Budget FY 2010 (\$MIL)	13900	
Total # Contracts Awarded FY 2010	26871	
Total Amount Contracts Awarded FY 2010 (\$MIL)	3.94	
Total Amount Spent on Energy Consumption FY 2010 (\$MIL)	61.980	
Total BTU Consumed per GSF	212006	
Total Gallons of Water Consumed per GSF	33.581	
Total Scope 1&2 GHG Emissions (Comprehensive) FY 2008 Baseline MMTCO _{2e}	0.3619284	
Total Scope 1&2 GHG Emissions (Subject to Agency Scope 1&2 Reduction Target) FY 2008 Baseline MMTCO _{2e}	0.3619284	
Total Scope 3 GHG Emissions (Comprehensive) FY 2008 Baseline MMTCO _{2e}	0.1832843	
Total Scope 3 GHG Emissions (Subject to Agency Scope 3 Reduction Target) FY 2008 Baseline MMTCO _{2e}	0.1832843	

III. Greenhouse Gas Reduction Goals

DOC recognizes that increased greenhouse gas (GHG) concentrations in the atmosphere can stifle economic growth through adverse effects on the environment and through accelerated climate change, and DOC is committed to reducing GHG emissions produced by its own activities.

DOC has established a 21% reduction target for agency-wide Scope 1 and 2 GHG emissions in absolute terms by fiscal year (FY) 2020, relative to a FY 2008 baseline. This target was submitted to the Council on

Environmental Quality (CEQ) and the Office of Management and Budget (OMB) in accordance with EO 13514, section 2(a), Goals for Agencies.

DOC has established a 6% reduction target for agency-wide Scope 3 GHG emissions in absolute terms by FY 2020, relative to a FY 2008 baseline. This target has been submitted to the CEQ and OMB in accordance with EO 13514, Section 2(b), Goals for Agencies.

IV. Plan Implementation

The Senior Sustainability Officer (SSO) is responsible for leading the internal coordination and communication of this plan within DOC. The SSO also ensures communication between all appropriate offices within the agency including the Office of the General Counsel, Office of the Chief Information Officer, Office of Acquisition Management, Office of the Budget, Office of Financial Management, Office of Administrative Services, Office of Policy and Strategic Planning, each of the 12 OUs, and other offices as necessary. The SSO is supported by the SSPP Working Group, with representatives from each of the above offices as well as representatives from DOC's OUs. This working group ensures that procedures, timelines, and policies outlined in the SSPP integrate with other DOC plans, policies, and activities including the budget-planning process.

Coordination with and dissemination of information to the 12 OUs is crucial for successful implementation of the SSPP. Communication occurs via a variety of mechanisms. The SSPP Working Group has integrated SSPP information into existing communication pathways. The DOC website (www.Commerce.gov) serves as a one-stop shop for DOC related sustainability and energy information. The website directs field staff to current reporting requirements, existing DOC policy, and implementation guidelines. The website is also available to members of the public and non-governmental organizations.

The SSO provides leadership within DOC and the 12 OUs in carrying out the objectives of the SSPP and is ultimately responsible for reaching all SSPP goals.

	Scope 1 & 2 GHG Reduction	Scope 3 GHG Reduction	Develop and Maintain Agency Comprehensive GHG Inventory	High-Performance Sustainable Design/ Green Buildings	Regional and Local Planning	Water Use Efficiency and Management	Pollution Prevention and Waste Elimination	Sustainable Acquisition	Electronic Stewardship and Data Centers	Agency-Specific Innovation
GPRA Strategic Plan	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes
Agency Capital Plan	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A-11 300s	Yes	Yes	N/A	Yes	Yes	Yes	N/A	N/A	Yes	N/A
Annual GHG Inventory and Energy Data Report	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes	Yes
EISA Section 432 Facility Evaluations/ Project Reporting/ Benchmarking	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Budget	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Asset Management Plan / 3 Year Timeline	Yes	Yes	N/A	Yes	Yes	N/A	N/A	N/A	N/A	N/A
Circular A-11 Exhibit 53s	Yes	Yes	N/A	Yes	Yes	N/A	N/A	Yes	Yes	N/A
OMB Scorecards	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	Scope 1 & 2 GHG Reduction	Scope 3 GHG Reduction	Develop and Maintain Agency Comprehensive GHG Inventory	High-Performance Sustainable Design/ Green Buildings	Regional and Local Planning	Water Use Efficiency and Management	Pollution Prevention and Waste Elimination	Sustainable Acquisition	Electronic Stewardship and Data Centers	Agency-Specific Innovation
DOE's Annual Federal Fleet Report to Congress and the President	Yes	N/A	Yes	N/A	Yes	N/A	N/A	Yes	N/A	Yes
Data Center Consolidation Plan	Yes	Yes	Yes	Yes	N/A	N/A	Yes	Yes	Yes	Yes
Environmental Management System	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Instructions for Implementing Climate Change Adaptation Planning	Yes	Yes	N/A	Yes	Yes	N/A	N/A	N/A	N/A	Yes
Commerce Acquisition Manual	N/A	N/A	N/A	No	N/A	Yes	Yes	Yes	N/A	N/A

V. Evaluating Return on Investment

DOC recognizes that its real property acquisition, management, and disposal policies are out of date and has initiated their redevelopment. While the two OUs that control nearly all of the owned real property have established individual policies that require the development of sustainable new facilities and incremental incorporation of resource conserving systems, the Departmental-level real property policy needs to incorporate necessary changes. The incorporation of six topics into the business case analysis Requirements on Investment will be addressed in the policy revision that is being initiated in FY 2011.

The DOC's building inventory of 18.3 million square feet is 65% leased. Return of Investment analysis is not typically done as a requirement of the GSAR/GSAM acquisition regulation a leased space's maintenance and repair rate. Fifty-eight percent of our leased space is acquired through GSA. The average size of the GSA space is 49,000 square feet. The remainder is acquired through GSA delegations of authority for leasing and use permits from other Federal agencies. The average size of these facilities is 8,200 square feet. Incorporation of sustainability requirements in the solicitation in new or successive leases will be done as part of the acquisition process. To the extent sustainable features and facilities are available in the local commercial marketplace during any specific acquisition or the availability of sustainable facilities in the GSA inventory. DOC will seek to meet this measure. Several build-to-suit leased facilities in planning or construction are intended to meet the sustainability principles.

DOC's facilities that are owned account for 35% of the property inventory and have an average size of 13,900 square feet. These facilities are being reviewed to determine if any meet the sustainability requirements and to demonstrate progress by FY 2015. Meter installation projects are being planned. Improved data collection from DOC's financial management system is being developed. This will facilitate the collection of individual utility-type cost at a facility- or site-level.

a. Economic Life-Cycle Cost and Return on Investment

Life-cycle costs and ROI are understood in the context of monetary units over the life span of a project. Life-cycle costs often refer to the "cradle-to-grave" accounting that incorporates the sum of all phases of a project. DOC will consider total life cycle-cost when identifying and investing in sustainability projects and initiatives to lower costs, achieve sustainable design principles, reduce energy and water consumption, and reduce environmental impact.

The consideration of life-cycle costs for projects that fulfill the goals of EO 13514 includes:

- Using life-cycle cost analysis in making decisions about investments in energy and sustainability projects, and
- Utilizing the SSPP to develop a cohesive approach and maximize performance and success.

High-performance green building initiatives are well suited for economic life-cycle assessment because the economics of such capital projects often improve when operating and maintenance costs are included. In many cases, a life-cycle assessment might prove economically feasible but the high up-front costs keep a project from moving forward. DOC intends to utilize fixed-price, performance-based contracts (paid through savings) to fund such projects whenever practical. These financing mechanisms

enable DOC to realize cost savings over the life of a project. Fixed-price, performance-based contracting mechanisms that can be used include Power Purchase Agreements (PPAs), Energy Savings Performance Contracts (ESPCs), Enhanced-Use Leases (EUL), and Utility Energy Services Contracts (UESCs).

b. Social Costs and Benefits

Social costs and benefits are not typically expressed in monetary units. This presents a challenge when prioritizing projects or initiatives in the planning and budgeting process. In most cases the economic estimates are not available for prioritizing social benefits and costs. When this is the case, DOC will take both measurable and non-measurable factors into account during project evaluation. Per guidance provided in OMB C-4, consideration will be given to the qualitative information. When social benefits and costs are analyzed, a thorough rationale behind project prioritization must be provided. When considering the social costs and benefits of sustainability-related DOC projects and initiatives, DOC will strive to strengthen the vitality and livability of the communities in which DOC facilities are located.

c. Environmental Costs and Benefits

DOC will consider the environmental costs and benefits of key programs, initiatives, and efforts and will adhere to statutory requirements, EOs, and the Code of Federal Regulation (CFR) mandates, including the following:

- National Energy Conservation Policy Act (NECPA) of 1978, Public Law 95-619,
- Energy Policy Act of 1992 (EPA 1992), Public Law 102-486,
- Energy Policy Act of 2005 (EPA 2005), Public Law 109-058,
- Energy Independence and Security Act (EISA 2007), Public Law 110-140,
- EO 12375, *Motor Vehicles*, dated August 4, 1982,
- EO 13221, *Energy Efficiency Standby Power Devices*, dated July 31, 2001,
- EO 13423, *Strengthening Federal Environmental, Energy and Transportation Management*, dated January 26, 2007, and
- EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, dated October 5, 2009.

The consideration of environmental compliance and stewardship requirements into prioritization of key programs, initiatives, and efforts will be consistent with the DOC Energy and Environmental Management Manual (E&EMM), which states that Departmental offices and OUs must:

- Comply with laws, regulations, and EOs and cooperate with Federal, state, and local agencies to improve the quality of the environment,
- Plan, develop, and implement all programs and activities in a manner preventing or minimizing adverse impacts on environmental quality, and
- Coordinate with appropriate legal counsel regarding all reports of liability, permits, agreements, notices of violations, and enforcement actions.

Accounting for environmental cost and benefits incorporates both non-monetary and monetary factors in the planning and budgeting process. Similar to social costs and benefits, the environmental costs and benefits are often difficult to quantify; however, the goals and the objectives of the SSPP are

quantitatively defined. The SSPP advocates clear goals that relate to environmental factors, such as GHG reduction, decreased energy and water consumption, and environmental management. Although SSPP environmental goals are explicitly stated in quantifiable language, not all of the environmental costs and benefits of implementing these programmatic goals are quantifiable. When considering the environmental costs and benefits of certain projects and initiatives, DOC considers qualitative factors as well.

d. Mission-Specific Costs and Benefits

DOC creates the conditions for economic growth and opportunity by promoting innovation, entrepreneurship, competitiveness, and stewardship. Increased greenhouse gases, rising energy prices, and natural resource constraints all negatively affect economic growth in the United States. Promoting sustainable development and sound environmental practices is crucial to expanding economic growth and opportunity. DOC must inspire sustainable responsibility and lead by example. The strategies in this SSPP outline DOC's opportunity to act as a Federal leader in environment stewardship, energy efficiency, and economic performance. The nexus between DOC's mission and sustainability means that mission execution must be considered when prioritizing projects. Projects that offer strong environmental attributes but which might not be the most cost-effective option may be justifiable if they strengthen or promote DOC's mission.

e. Operations, Maintenance, and Deferred Investments

DOC will consider operations and maintenance (O&M) and deferred investments when analyzing programmatic return on investment. Operations and maintenance and deferred investments considerations are especially germane to the goals of EO 13514. Investments in real property and DOC facilities directly affect DOC's efforts towards improving nearly every effort listed in Section 2 of this document. Architectural, mechanical, and electrical investments are directly related to achieving the goals of the EO.

Decision making for O&M and deferred investments exists at the OU level. OUs have their own real property program goals and strategies to consider. Within the OUs, stewardship decisions are made pertaining to the property portfolio. DOC, however, must analyze which current O&M and deferred investments must be shifted to capture the greatest return on investment and compliment the goals of the SSPP/EO. This is considered for all real property that is owned. DOC will coordinate on cost-benefit decisions with the real property management offices of the OUs.

f. Climate Change Risk and Vulnerability

A policy to identify how DOC will incorporate climate change and vulnerability was signed on June 1, 2011 and establishes a planning process for addressing impact on mission, facilities, programs, and policies. This policy also informs changes needed in the real property policy and NEPA implementing instructions. DOC may have many assets that are vulnerable to climate change due to the mission of its OUs.

VI. Transparency

DOC is utilizing its website (www.Commerce.gov) to serve as a virtual hub for information related to energy and the SSPP. The website content is intended for DOC staff both at headquarters and in the field, and it will serve as a communication hub for information on Federal mandates, reporting requirements, and DOC policy relating to sustainability. News from the SSPP working group and SSO is disseminated through the site including success stories, progress, and challenges in implementing the SSPP. DOC's website also informs members of the public and non-governmental organizations. DIC's SSPP is available on its website.

Section 2: Performance Review & Annual Update

I. Summary of Accomplishments

While DOC has achieved significant accomplishments over the past year, progress has slowed in some categories. DOC developed a Greenhouse Gas (GHG) Inventory Management Plan (IMP) that was used as a template for other Federal agencies to follow (available on the FedCenter.gov website) and an initial comprehensive GHG inventory was established in FY 2010 (as well as an FY 2008 baseline). DOC exceeded its targets for reducing water intensity in its buildings and reducing petroleum use in its vehicle fleet. Also, five percent of DOC's total electricity use came from renewable energy in FY 2010 and DOC is continuing to expand the use of the EPA's Portfolio Manager database to track energy and water consumption across the Department. NOAA re-baselined its gross square footage to more accurately represent goal-subject facilities where utilities are directly paid. This reduced DOC's overall energy intensity to approximately 11 percent (dropping below the 15 percent requirement for FY 2010). Sustainable buildings remained red in "progress" with 3 percent of DOC's appropriate buildings meeting the guiding principles for high performance sustainable buildings (below the 5 percent requirement for FY 2010).

To assist the Department in evaluating progress, DOC OUs developed five-year (FY 2011 - FY 2015) project implementation plans. These plans detailed actions in a variety of areas including: energy reduction, water reduction, sustainable buildings, renewable energy, pollution prevention, and metering. DOC continues to evaluate these plans and will use them as a leading indicator to assist the OUs in identifying shortfalls in various requirements and drive Commerce back to "green" on all sustainability goals.

Also, NIST and NOAA offered supplemental information on the January OMB Scorecard to address the shortfall in sustainable buildings:

NIST recognizes the importance of achieving the sustainability and energy goals, and has been working aggressively to meet these challenges. Plans have been developed to complete a sustainability assessment of all facilities this year, and use the results to identify targeted improvements to achieve

the 15% target for FY 2015. In addition, a majority of the projects currently under construction with American Recovery and Reinvestment Act (ARRA) funding will meet the guiding principles. These projects will be completed in FY 2012. Finally, criteria were established to address the guiding principles for use in all our future design, construction and renovation. Specifically, NIST has committed to the following for FY 2011:

- One (1) sustainable building, the new Child Care Center, with approx. 23,000 gsf.
- Completion of a sustainability assessment of the Gaithersburg and Boulder facilities and identification of targeted buildings for sustainability improvements in FY 2012 and beyond.

NOAA recognizes the importance of achieving sustainable buildings goals and has committed to the following:

- NOAA will implement business case analyses to determine which major (construction or renovation) projects can meet HPSB requirements while meeting the operational needs and leveraging existing resources.
- NOAA will promote through awareness and monetary support (e.g., the Green Buildings Grant Program) the significance of including HPSB in planning projects, not only to meet the FY15 goal but also to shift the paradigm in planning to make HPSB an inherent part of NOAA culture.
- NOAA will conduct a review of its building inventory to identify opportunities to exclude certain assets, such as facilities that are planned for demolition.

In FY 2010, two facilities were completed and are only pending LEED certification: Pascagoula, MS (\$27M) and Aqua Cell, Galveston, TX (\$1.3M). We expect these will be considered “sustainable” on the FY 2011 scorecard. Over the next two years, the following sustainable facilities will be completed (with their associated cost): Water Resource Center, Tuscaloosa, AL(\$18 M); Disaster Response Center, Mobile, AL (\$11M); SW Fisheries Science Center, La Jolla, CA (\$78.043M); and Fairbanks, AK (17.164M).

In addition to its progress on the above SSPP targets, DOC completed planned actions from the January FY 2010 OMB Sustainability/Energy scorecard, including:

- Tied sustainability funding to formal Department budget process. Tracking to load FY10-12 budget data by June 3, 2011.
- Submitted final Sustainability Plan update.
- Developed 5 year action plan projecting planned projects and their benefits against sustainability goals.
- Continued work by DOC fleet managers to move vehicles to locations where alternative fuel is more readily available without incurring additional costs.
- NIST is on track to complete 28 sustainable buildings assessments by June 30, 2011 and assess their remaining 13 buildings by the end of FY11.
- DOC has updated its Sustainable Buildings Implementation Plan (SBIP).
- Office of Acquisition Management (OAM) implemented a quarterly auditing and sampling process for all EPEAT purchases.
- Office of the Chief Information Officer (OCIO) is implementing a monitoring/auditing system to track compliance with power management of desktop computers.
- Reviewed 50% of applicable FY11 Q2 contract actions indicating compliance with goal.

- Discussed green building goal with OMB/CEQ on Jan 10, 2011. DOC offered recommendations for OMB and CEQ to consider; decisions are pending.

DOC plans the following actions for the next six months:

- Submit second annual GHG inventory and sustainability data report.
- OCIO will issue a data call by July 30 to OU CIOs to have them attest to implementation of power management capabilities on desktop computers (with proof from their automated systems, if available). Data will be collected by 15 Oct.
- DOC Headquarters will convert HVAC pneumatic controls to electric.
- Evaluate the use of an MOU with DOJ to implement projects via a fixed-price, performance-based contract paid for through savings.
- Complete process improvement (Lean Six Sigma) project on annual energy and environmental report.
- Develop and publish a Departmental Administrative Order (DAO) to address energy and environmental policy.
- Develop, publish, and implement an Energy and Environmental Management Manual (EEMM).
- Establish a Department-wide, SES-level EMS and SSPP Executive Steering Committee.
- Improve OU 5 year project action plans against each sustainability goal.
- Office of Acquisition Management (OAM) will implement a mandatory blanket purchase agreement (BPA) requiring EPEAT for all computer purchases.
- USPTO experienced a delay in completing its EISA 432 evaluation due to a non-responsive contractor. A new contractor will be selected within the next six months to perform the required comprehensive evaluation.
- To fulfill EISA 432 requirements, NIST is in the process of implementing an ESPC project that will cover both the Gaithersburg and Boulder campuses.
- Following the completion of the USPTO and NIST evaluations, 100% of DOC's EISA covered facilities will have been audited. These audits are expected to be completed well within the 4 year timeframe.
- Design and begin implementation of a Department-wide FMIS system enabling DOC to better track/monitor vehicle/fuel use.

II. Goal Performance Review

GOAL 1: Scope 1 & 2 Greenhouse Gas Reduction

a. Goal Description

A 21% reduction target has been established for agency-wide Scope 1 and 2 greenhouse gas emissions in absolute terms by FY 2020, relative to a FY 2008 baseline. This target was submitted to CEQ and OMB in accordance with EO 13514, Section 2(a), Goals for Agencies.

b. Agency Lead for Goal

The SSO has primary responsibility for Scope 1 and 2 GHG emissions reduction target development, implementation, and oversight. The SSO is the Deputy Assistant Secretary for Administration. To meet

the requirements of EO 13514, the SSO ensures that all actions under this plan are accomplished. The Director for the Office of Administrative Services and the Associate Director for the Office of Sustainable Energy and Environmental Programs execute the actions on behalf of the SSO.

c. Implementation Methods

DOC will meet its Scope 1 and 2 GHG emissions reduction target through energy intensity reduction within the DOC building inventory, increased use of renewable and alternative energy, and reduced use of fossil fuels through fleet optimization. Implementing these actions will achieve an overall target of 21% GHG emissions reduction by 2020 relative to a FY 2008 baseline.

a. Buildings

Based on the Scope 1 and 2 portion of the Department's FY 2010 comprehensive greenhouse gas (GHG) inventory, electricity consumption in goal-subject facilities represents the most significant source of DOC's GHG emissions (approximately 72 percent). The Department has proposed a 21 percent Scope 1 and 2 GHG reduction for goal-subject emissions by FY 2020. DOC will meet its Scope 1 and 2 GHG reductions for buildings through the following initiatives:

1. *Reducing facility energy intensity*: DOC has committed to reducing energy intensity in goal-subject facilities by 30% by 2015, relative to an FY 2003 baseline, as required by EO 13423 and EISA 2007. DOC is slightly off course for meeting the FY 2015 target: as of FY 2010, the Department had reduced its energy intensity by 10.8 %. DOC will continue to work towards the 30% target for FY 2015. Complying with existing regulations alone will result in a 13.6% GHG reduction for goal-subject buildings by FY 2015, relative to an FY 2008 baseline. Between FY 2010 and FY 2015, DOC also will reduce energy consumption in goal-excluded facilities by 5%, relative to a FY 2008 baseline. Between FY 2015 and 2020, the Department will pursue an additional 3.5% energy intensity reduction in goal-subject facilities and an additional 1% reduction in goal-excluded facilities beyond FY 2015 levels. These reductions will be achieved through decreased electricity, fuel oil, natural gas, propane, and steam consumption.

DOC headquarters helps OUs meet their energy reduction targets by:

- Developing policy to clearly define requirements,
- Briefing organizational leadership on progress towards goals,
- Participating in interagency meetings and working groups, and
- Providing education to OUs about available options for meeting these goals and assisting them in selecting the most appropriate options for their circumstances.

The OUs meet these targets by:

- Developing and following action plans that identify facilities with the greatest energy use rates and evaluating options for achieving the goals at priority sites, and
- Implementing comprehensive projects at high-priority sites, such as those sites with high energy consumption and high utility rates.

2. *Renewable energy installation and use*: DOC has committed to meeting 5% of its electricity consumption with renewable resources from FY 2010 through FY 2012. Beginning in FY 2013, 7.5% of

the Department's electricity will come from renewable resources as required by EPC Act 2005. The Department will evaluate the potential for additional on-site renewable energy generation to assist in meeting the FY 2020 Scope 1 and 2 GHG reduction target.

In addition to evaluating and deploying on-site renewable energy projects, DOC will directly purchase renewable energy. When , renewable energy certificates (RECs) will be used to meet or exceed renewable energy goals. The proposed increase in on-site generation in conjunction with direct renewable energy purchase and REC purchases will increase the Department's renewable energy use, in turn, reducing dependence on fossil fuel-based electricity.

At least half of the renewable energy consumed by DOC in this and future fiscal years will come from new renewable sources and, to the extent feasible, DOC will utilize the renewable energy generated from projects on DOC property.

DOC headquarters will meet its renewable energy targets by:

- Educating OUs about available options to identify and fund projects, and assisting them in selecting the most appropriate options for their circumstances,
- Ensuring that DOC Energy Team members and other appropriate staff attend workshops on fixed-price, performance-based contracting (paid for through savings). Options include workshops on power purchase agreements (PPAs), energy savings performance contracts (ESPCs) and utility energy services contracts (UESCs), and
- Supporting a program aimed at installing photovoltaic technologies in public buildings, once the U.S. General Services Administration (GSA) establishes a photovoltaic commercialization program for the procurement and commercialization of photovoltaic systems in new and existing federal buildings.

The OUs will meet these targets by:

- Keeping the DOC Energy Program Manager apprised of the installation of on-site renewable energy projects and the purchase of renewable power or RECs,
- Tracking renewable energy consumption and reporting it to headquarters,
- Determining the feasibility of renewable technologies in all energy projects and bundling renewable energy measures with short-payback energy and water-efficiency measures as often as practical,
- Evaluating various means of financing these projects, including appropriated funds and fixed-price, performance-based contracting options paid for through savings, and
- Implementing comprehensive renewable energy projects at high-priority sites.

3. Reduce per capita energy consumption through space management policies:

DOC will utilize the following activities to reduce per capita energy consumption:

- Promote energy awareness (behavioral change) programs throughout the OUs,
- Publish policy to promote the removal of all desktop printers and second monitors, moving towards centralized printing,
- At DOC headquarters, space heater use must be approved by the facility manager,

- Increase awareness and support of DOC's telework program, and
- Require power management on all computers.

b. Fleet

DOC will meet its Scope 1 and 2 GHG reductions for fleets through the following initiatives:

1. Reduce petroleum use in fleet vehicles:

DOC has proposed a 22.3% reduction in GHG emissions from its fleet by FY 2020 (FY2005 baseline). Although fleet represents a smaller portion of GHG emissions as compared to facilities, it offers the agency's greatest opportunity for improvement: Since FY 2005, DOC has reduced its covered petroleum consumption by 19%. DOC proposes to continue this trend with significant reductions in diesel and gasoline use, combined with a conversion to more fuel-efficient vehicles and the increased use of alternative fuels.

2. Increase use of alternative fuels in fleet alternative fuel vehicles (AFVs) and Flex-Fuel Vehicles (FFVs):

All future AFV acquisitions will be placed in locations that currently have access to alternative fuel or hold the most promise for continued alternative fuel infrastructure development. DOC is currently investigating options for relocating AFV assets from sites without access to alternative fuel to sites with access to alternative fuel.

3. Optimize use of vehicles and right-size fleet:

The Department will reduce its overall inventory of fleet vehicles (2,169 domestic vehicles) by (1) eliminating low-use vehicles wherever possible and (2) implementing a car-sharing program at garage locations where it is feasible.

4. Increase use of low emission and high fuel economy vehicles:

The Department will increase use of low emission and high fuel economy vehicles by replacing eligible gasoline-powered vehicles with hybrid electric vehicles (HEVs) and electric vehicles (EVs) in locations that lack access to alternative fuels. The FY 2020 target proposes an increase in electric vehicle fleet conversion to account for approximately 8% of overall fuel use. The initial stages of this effort will explore opportunities to replace existing low-use vehicles in campus-type settings with low-speed electric vehicles (LSEV). The LSEVs do not count as a "vehicle" in a fleet inventory figures but their electricity usage can be counted towards alternative fuel use goals—each traditional vehicle replaced by an LSEV achieves a 100% reduction in petroleum use and 100% increase in alternative fuel use. DOC will explore options for implementing the use of plug-in hybrid electric vehicles (PHEV) and all-electric vehicles when they are commercially available. This scenario will necessitate DOC's investment in electric vehicle charging infrastructure at facilities where it is feasible. A solar charging station for plant vehicles is under construction at NIST's Gaithersburg campus as part of a solar array installation project. This project is scheduled to be completed by the 4th quarter of Fiscal Year 2012.

5. Replace conventional senior executive fleet with low-GHG emitting, highly-efficient vehicles:

The DOC fleet is replacing a commercially leased 2009 Chevrolet Impala used in the executive fleet with a GSA leased 2011 Chevrolet Impala. This vehicle is alternate fuel vehicle (E85). DOC plans to replace or change the Commerce Secretary vehicle in FY12 to an AFV.

6. Agencies operating shuttle buses should discuss efforts to streamline existing routes by consolidating ridership with other agencies. Identify specific challenges related to consolidation of and/or sharing of transportation services with other agencies:

DOC is preparing an employee survey to determine if a shuttle service is needed. GSA has conducted a route analysis for DOC. The analysis determined that if a shuttle service is needed, the best alternative would be to merge with the Smithsonian Institute. The Smithsonian route runs around the National Mall and the downtown area past the DOC headquarters building.

7. These initiatives fall under the umbrella goal of meeting all legal and EO requirements for federal fleets, as well as achieving a “green” status on the Sustainability/Energy Scorecard submitted bi-annually to OMB. DOC will utilize optimization tools to achieve the optimal mix of fleet vehicles to maximize reductions in GHG emissions while minimizing the cost of these initiatives and ensuring that mission needs are not compromised.

c. Other

The following efforts also will contribute to DOC’s Scope 1 and 2 emissions reductions:

- Environmental compliance audits. Audits conducted throughout DOC will include a review of refrigerant leak calculations to ensure that refrigeration equipment is being maintained in accordance with Clean Air Act regulations. Properly maintained equipment will result in a reduction in fugitive emissions,
- Reduction of process energy loads, non-covered fleet mobility fuel use, and other energy use currently not subject to energy reduction goals. Where possible, DOC also will reduce petroleum use and increase alternative fuel consumption in goal-excluded fleet vehicles using the fleet strategies outlined above,
- Utility Meter Installation. Electric meters are being installed throughout DOC facilities to ensure that energy is being tracked accurately. This allows high-intensity operations to be identified and evaluated for energy savings. A supplement to DOC’s current electric metering plan has also been developed. This supplement includes guidance on natural gas and steam metering,
- EISA Section 432 requirements to evaluate (audit and commission) designated facilities, assign energy managers, benchmark, and implement projects. Per Section 432, DOC will continue to perform energy and water audits at designated facilities once every four years and implement appropriate energy and water conservation measures identified as a result of these audits. Additionally, DOC will continue to recommend that OUs input energy consumption data for all of their facilities into the ENERGY STAR® Portfolio Manager. This enables DOC to benchmark and track energy use in its facilities. The ENERGY STAR® Portfolio Manager serves as a means to educate DOC employees about energy use and conservation within DOC facilities, and
- Behavioral and cultural change initiatives. DOC conducts energy awareness campaigns to help educate staff on conservation measures such as turning lights off when not in use and

purchasing energy-efficient equipment. These initiatives help to reduce Scope 2 GHG emissions at DOC facilities. Telecommuting is also encouraged, as appropriate. Telecommuting reduces both Scope 3 GHG emissions and energy consumption at DOC facilities. DOC encourages the following activities:

- Increasing the utilization of alternative work schedules to decrease energy consumption in DOC facilities,
- Increasing the utilization of videoconferencing as a substitute for business travel, when appropriate,
- Providing education and training promoting energy conservation and GHG emissions reductions in the workplace. These educational initiatives can take the form of signage (e.g., encouraging employees to turn their computers off before leaving the office) and mandatory and/or voluntary training, and
- Utilization of alternative energy sources, such as fuel cells.

Costs and Funding Sources

DOC will use several tools and strategies to execute its GHG reduction strategies. Funding sources for projects include direct appropriations (i.e., leveraged investment from existing budget authority that contributes to GHG reduction goals as a secondary benefit) and fixed-price, performance-based contracts paid for through savings in the form of ESPCs, UESCs, public benefit funds, ratepayer incentives, and retained savings from energy conservation projects.

A general guidance memorandum issued by CEQ in August 2007 recommends agencies invest an amount equivalent to 20% of their annual energy costs into energy efficiency enhancements. DOC’s primary funding mechanism for these efforts will continue to be fixed-price, performance-based contracts paid for through savings. Any additional amount not available via this type of contracting will be addressed through the Department’s normal budgeting process, as possible.

d. Positions

The environmental and energy program managers at the Department level and the environmental and energy managers at the OU level will assume collateral duties to support the development and implementation of the agency’s Scope 1 and Scope 2 greenhouse gas reduction efforts. At the facility level, managers also take on collateral duty. Currently no new hires will support this work.

e. Planning Table

The table below details DOC’s annual targets and milestones for energy reduction, renewable energy use, and petroleum reduction in fleets in support of its Scope 1 and 2 GHG reduction target.

SCOPE 1&2 GHG TARGET	Unit	FY10	FY11	FY12	FY13	FY14	FY15	..	FY20
Energy Intensity Reduction Goals (BTU/SF reduced from FY03 base)	%	15	18	21	24	27	30	.	33.5

SCOPE 1&2 GHG TARGET	Unit	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20
year)												
Planned Energy Intensity Reduction (BTU/SF reduced from FY03 base year)	%	10.8	14.0	16.3	16.6	16.3	16.9					16.9
Renewable Electricity Goals (Percent of electricity from renewable sources)	%	5	5	5	7.5	Hold	Hold					Hold
Planned Renewable Electricity Use (Percent of electricity from renewable sources)	%	5	5	5	7.5	7.5	7.5					7.5
Petroleum Use Reduction Targets (Percent reduction from FY05 base year)	%	10	12	14	16	18	20					30
Planned Petroleum Use Reduction (Percent reduction from FY05 base year)	%	19	21	23	25	27	29					41
Alternative Fuel Use in Fleet AFV Target (Percent increase from FY05 base year)	%	61	77	95	114	136	159					
Planned Alternative Fuel Use in Fleet AFV (Percent increase	%	3179	3507	3868	4265	4701	5181					8406

SCOPE 1&2 GHG TARGET	Unit	FY10	FY11	FY12	FY13	FY14	FY15	..	FY20
from FY05 base year)									
Senior Executive Fleet Replaced with Low-GHG, High Efficiency Vehicles (Percent replaced from FY08 base year)	%	0	0	10	30	80	90		100
Other as defined by agency								..	
Total Scope 1&2 GHG Emissions (Comprehensive)	MMT CO ₂ e	0.38803	0.38242	0.38097	0.36978	0.36857	0.36812		0.33297
Total Scope 1&2 GHG Emissions (Subject to Agency Scope 1&2 GHG Reduction Target)	MMT CO ₂ e	0.38803	0.38242	0.38097	0.36978	0.36857	0.36812		0.33297
Overall Agency Scope 1 & 2 Reduction (reduced from FY08 base year)	%	-7.2	-5.66	-5.3	-2.2	-2.1	-1.7		8

f. Agency Status

In FY 2010, DOC's energy intensity in goal-subject buildings resulted in an 11 percent reduction relative to the FY 2003 baseline. The lack of progress is attributable to a re-baselining of NOAA's gross square footage in goal-subject facilities where utilities are paid directly. While the increase in energy intensity was discouraging, using the revised data was essential for the Department to accurately plan for and track future energy reductions. DOC remains on track in renewable energy use and reduction in fleet petroleum use. DOC completed its initial comprehensive greenhouse gas inventory for Scope 1, 2, and 3 emissions in FY 2010 (also establishing an FY 2008 baseline). As part of the inventory, DOC developed a greenhouse gas inventory management plan that was offered as a template for other Federal Agencies to use (available on FedCenter.gov). DOC's greenhouse gas inventory results show a 7.2 percent increase in Scope 1 and 2 greenhouse gas emissions from FY 2008 to FY 2010. This increase in emissions indicates that DOC is currently off track to reach its 21 percent reduction goal by FY 2020. To address this, we are working with OUs to continue facility assessments with the intent of identifying potential energy reduction projects. DOC will seek to use available resources or fixed-price,

performance-based contracting (where projects are paid for through the energy savings they generate) to implement these projects.

g. Highlights

The sun is now a significant power source for the National Institute of Standards and Technology (NIST) radio station, WWVH, which broadcasts time of day, marine storm warnings, and other information to listeners worldwide from its base on the island of Kauai, Hawaii.

Photovoltaic arrays were built at WWVH during 2010 and connected to the local electrical grid in early 2011. The array provides much of the 100 kilowatts of daytime power used by the radio station and reduces the need for electricity produced by the local utility with diesel generators. The solar array is expected to save the radio station nearly \$60,000 per year. The station operates 24 hours a day and obtains power from the grid at night.

In addition to lowering electricity costs, the solar array will reduce pollution. Giving WWVH a renewable energy source—the sun is plentiful in Hawaii—significantly reduces the facility’s “carbon footprint” from diesel emissions such as soot, components of smog, and hydrocarbons.

WWVH provides time and frequency calibrations for marine radios and GPS status announcements for mariners as well as other users. WWVH has been located at the Barking Sands Naval Base on Kauai since 1971. The radio station originally began broadcasting in 1948 from the island of Maui in what was then the U.S. territory of Hawaii (Hawaii was granted statehood in 1959). The move to Kauai was prompted by an eroding shoreline at the original site.

The \$1.4 million solar construction project was funded by the American Recovery and Reinvestment Act (ARRA). A small business was the general contractor, with about 37 people employed on the six-month project. The system consists of eight separate arrays, with each module housing the equipment needed to convert the energy generated from the panels into usable power. The solar array is designed for a marine environment and to withstand 105 mile-per-hour winds. The project is part of an upgrade and expansion of WWVH infrastructure.

Challenges

Several variables impact DOC’s ability to meet its Scope 1 and 2 greenhouse gas emissions reduction targets. Program expansion (i.e. expanding a laboratory for research) leads to a direct increase in greenhouse gas emissions, regardless of how efficient the facility is (excluding net-zero energy facilities). DOC continues its efforts to seek contracting officers qualified to implement fixed-price, performance-based contracts for energy efficiency and renewable energy projects; training DOC staff to implement operational and behavioral energy conservation initiatives; and monitoring individual facility- and OU-level actions.

GOAL 2: Scope 3 Greenhouse Gas Reduction & Develop and Maintain Agency Comprehensive Greenhouse Gas Inventory

a. Goal Description

DOC established a 6% reduction target for agency-wide Scope 3 greenhouse gas emissions in absolute terms by fiscal year 2020 relative to a fiscal year 2008 baseline. This target was submitted to CEQ and OMB in accordance with EO 13514, Section 2(b), Goals for Agencies.

Beginning in FY 2010, DOC established and reported to CEQ and OMB a comprehensive inventory of its absolute Scope 1, 2, and 3 emissions.

b. Agency Lead for Goal

The DOC SSO has primary responsibility for Scope 3 GHG emissions reduction target development, implementation, and oversight. The SSO is the Deputy Assistant Secretary for Administration. The SSO ensures that all actions under this plan are accomplished to meet the requirements of EO 13514. The Director for the Office of Administrative Services and the Associate Director of the Office of Sustainable Energy and Environmental Programs execute the actions on behalf of the SSO. Specific roles and responsibilities are outlined in DOC's GHG IMP.

c. Implementation Methods

As noted above, DOC utilized methodologies recommended in final *Federal Greenhouse Gas Accounting and Reporting Guidance* for Federal agencies. This information is referenced in DOC's GHG IMP.

a. Federal Employee Travel

In this target, DOC considered emissions from:

- Business air travel,
- Business ground travel, and
- Federal employee commuting.

DOC is pursuing the following initiatives to reduce Scope 3 GHG emissions from employee travel:

- Increasing the utilization of teleworking,
- Increasing the utilization of alternative work schedules,
- Encouraging and facilitating ridesharing programs, and
- Providing bikers and walkers with access to on-site showers and lockers.

Procedures for collecting Federal employee travel information (business travel and commuting) are listed in the Department's GHG IMP. For Federal employee business air travel, GSA's Travel Management Information System (GSA Travel MIS) was used. This system calculates air travel emissions based on the Passenger Name Record (PNR)—the unique travel record created for each air trip. GSA

Travel MIS automatically uploads the PNR from DOC travel records. Air travel emissions increased approximately 17 percent from FY 2008 to FY 2010. This increase can be attributed to the 2010 decennial census. The Census Bureau significantly increased activities and doubled its emissions during that time.

Rental vehicles make up the majority of business ground travel. DOC also used the GSA Travel MIS to determine ground travel emissions when actual OU ground travel data was not available. Similar to business air travel, the 2010 decennial census contributed to an increase in ground travel emissions by approximately 5 percent.

DOC used the default employee commuting survey provided by the FedCenter.gov website to track employee commuting emissions. Information on the number of Federal employees within Commerce and its OUs was obtained from the Human Resource Office. The survey was distributed via an e-mail link to each OU, and OUs distributed it to their employees via broadcast e-mail. DOC achieved a response rate of approximately 18 percent. This was a significant achievement considering the size of the Department. As FY 2008 employee commuting data was not available, DOC used the FY 2010 results as its baseline. Employee commuting accounted for approximately 66 percent of DOC's overall Scope 3 emissions in FY2010.

b. Contracted Waste Disposal

- DOC considered in this target the emissions from contracted solid waste disposal and contracted wastewater treatment. In FY 2010 DOC decreased Scope 3 GHG emissions from contracted wastewater treatment by nearly 1% and decreased emissions from contracted solid waste disposal by approximately 3% relative to a FY2008 baseline.
- DOC anticipates that increased recycling over the coming years will reduce solid waste disposal, in turn further reducing Scope 3 GHG emissions from solid waste disposal by as much as 16%. Also, an expected increase in telework will reduce the number of on-site staff and therefore the total amount of wastewater treated, thus reducing emissions. DOC will also evaluate various water treatment methods and use the method producing the least amount of GHG emissions, when possible. DOC has projected a potential emissions reduction of 5 percent in contracted wastewater treatment by fiscal year 2020.

c. Transmission and Distribution Losses from Purchased Electricity

This target includes T&D losses from purchased electricity but does not apply to T&D losses from purchased steam and purchased chilled water.

Scope 3 GHG emissions associated with T&D losses from the purchase of electricity increased by approximately 10% between FY2010 and FY 2008. This is directly related to DOC's increased electricity use during that timeframe. As DOC continues to pursue a reduction in electricity use through the implementation of conservation, efficiency, and increased renewable energy projects T&D losses are expected to decrease accordingly. DOC has projected a potential T&D loss emissions reduction of 13 percent by fiscal year 2020.

The following additional Scope 3 categories were not included in the target submitted by DOC in FY 2010, but might be required in future years. DOC could elect to include any of the following emissions sources in its Scope 3 target:

- Emissions from leased buildings,
- Vendor and contractor emissions,
- Emissions from drinking water transmission and distribution,
- Emissions from contracted disposal of construction and demolition materials and debris,
- Emissions avoided through Federal buildings that meet the “Guiding Principles for Federal Leadership in High-Performance and Sustainable Buildings,” and
- Other emissions sources unique to DOC operations and facilities.

Overall, DOC’s Scope 3 emissions increased by 4.7% from FY 2008 to FY 2010. As noted above, a significant portion of this increase was due to increased business travel associated with the decennial Census.

d. Planned agency activity or policy implementation to improve data accuracy and overall data collection and analysis methods related to Scope 3 GHG emissions.

DOC is participating in a number of interagency work groups examining various categories of Scope 3 GHG emissions, including the accounting of emissions from leased facilities and emissions from vendors/contractors. The intent of these groups is to determine more efficient and accurate methods to account for Scope 3 GHG emissions. Internally, DOC is using a process improvement evaluation to examine how data is collected (including Scope 3 emissions) for its annual GHG reporting. This evaluation is expected to increase the efficiency of data collection and improve data quality.

e. Methods used to calculate DOC’s scope 3 GHG emissions

A variety of sources and tools are currently available and/or being developed to assist with collection of Scope 3 GHG emissions data. DOC will utilize those sources and tools which are noted in accordance with CEQ/OMB guidance. The FedCenter.gov default employee commuter survey was used for the FY 2010 GHG inventory. For FY 2011, DOC is evaluating the use of GSA’s Carbon Footprint Tool to conduct the Federal employee commuting survey. As noted above, DOC used GSA’s Travel MIS for business travel data collection and plans to do the same for FY 2011 (where actual OU data is not available). DOC has described its specific data collection methodology in its GHG inventory management plan (IMP).

f. Inventory Management Plan

DOC developed its GHG IMP following the initial submission of its SSPP and Scope 3 GHG reduction target. The GHG IMP helped DOC and its OUs establish consistent organizational boundaries and data collection throughout the Department. A Sustainability Plan Work Group has been established comprising representatives from headquarters and OUs. This work group will lead the annual GHG IMP update effort to improve upon the FY 2010 experience.

d. Positions

The environmental and energy program managers at the Department level, as well as the environmental and energy managers at the OU level, will assume collateral duty to support the development and implementation of the agency’s Scope 3 greenhouse gas reduction efforts. At the facility level, facility managers will also take on collateral duty. No new hires will support this work at this time.

e. Planning Table

SCOPE 3 GHG TARGET	Units	FY10	FY11	FY12	FY13	FY14	FY15	..	FY20
Total Scope 3 GHG Emissions (Comprehensive)	MMT CO ₂ e	0.19197	0.18878	0.18695	0.1851	0.18328	0.18145		0.17228
Total Scope 3 GHG Emissions (Subject to Agency Scope 3 GHG Reduction Target)	MMT CO ₂ e	0.19197	0.18878	0.18695	0.1851	0.18328	0.18145		0.17228
Overall Agency Scope 3 Reduction (reduced from FY08 base year)	%	-4.7	-3	-2	-1	0	1		6
Other, as defined by agency	%	n/a	n/a	n/a	n/a	n/a	n/a	...	n/a

f. Agency Status

In FY 2010, DOC developed its first agency-wide comprehensive inventory for Scope 1, Scope 2, and required Scope 3 (T&D losses, employee travel, and contracted waste disposal) emissions. From FY 2009 to FY 2010, DOC (headquarters and the National Institute of Technology’s Gaithersburg campus) participated in an interagency “road test” of the Public Sector Standard for GHG Accounting and Reporting to provide input into the development of the Federal GHG accounting and reporting guidance. DOC gained valuable internal GHG inventory development experience from this road test. This experience, in combination with the development of a GHG IMP, assisted DOC in successfully completing its inventory. DOC is currently conducting a process improvement evaluation of the annual GHG inventory to improve the efficiency of submission and accuracy of the collected data. Also, we are evaluating the use of the EPA’s Portfolio Manager and GSA’s Carbon Footprint Tool to further promote efficient and accurate data collection.

g. Highlights

DOC was one of the first Federal agencies to develop a robust and comprehensive GHG IMP. This plan was made available on the FedCenter.gov website for other Federal agencies to use as a template for their own plans:

<http://www.fedcenter.gov/programs/greenhouse/inventoryreporting/plan/index.cfm>

Challenges

Reducing Scope 3 GHG emissions is a relatively new initiative for DOC and presents several challenges. The Department's ability to meet its reduction targets will depend on several factors. These include collecting accurate and consistent Scope 3 emissions data across the Department; capturing employee commuting data; and determining GHG emissions associated with buildings operating under fully-serviced leases.

Fiscal year 2010 marked the first year in which DOC developed an agency-wide GHG inventory. Although many data sources (e.g., fleet and electricity consumption) were already well-managed and reported within the Department, compiling a comprehensive inventory required new data collection and management processes, particularly for Scope 1 fugitive emissions and Scope 3 emissions. DOC will continue to refine existing data collection efforts and will expand categories of Scope 3 data collection as directed by OMB and CEQ.

GOAL 3: High-Performance Sustainable Design / Green Buildings & Regional and Local Planning

a. Goal Description

DOC commits to meeting all the requirements under EO 13514 that pertain to high-performance sustainable design and green buildings. These include the following:

- Beginning in FY 2020, all new Federal buildings are to be designed to achieve zero-net energy by FY 2030.
- Comply with the, "Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings (Guiding Principles)," in all new construction, major renovation, repair and alteration of Federal buildings.
- Assess and demonstrate that at least 15% of the Department's existing owned buildings and buildings leased independently of GSA meet the Guiding Principles by FY 2015 (5,000 GSF threshold for existing buildings and building leases).
- Demonstrate annual progress toward 100% conformance with Guiding Principles for entire appropriate building inventory by 2015 and thereafter.
- Incorporate sustainable practices into agency policy and planning for new Federal facilities and leases, and into lease renewal strategies.
- Demonstrate use of cost-effective, innovative building and sustainable landscape strategies to minimize energy, water, and materials consumption.

- Operate and maintain, and conduct all minor repairs and alterations for existing building systems to reduce energy, water and materials consumption in a manner that achieves a net reduction in agency deferred maintenance costs.
- Optimize performance of the agency’s real property portfolio – dispose and consolidate excess and underutilized property, collocate field offices, consolidate across metropolitan and regional locations.
- Reduce need for new building and field office space by utilizing technologies to increase telework opportunities and expand delivery of services (over the internet or electronically).
- Conserve, rehabilitate, and reuse historic Federal properties, using current best practices and technology.
- Align agency space actions (new leases, new construction, and consolidation) with agency Scope 1&2 and Scope 3 GHG reduction targets.

The vision of DOC is to exercise responsible stewardship for the environment by using energy, water, and materials more efficiently in Department facilities and to create a healthful indoor working environment for Departmental personnel. To execute this vision and to meet Federal mandates, DOC has developed extensive policy around sustainable buildings, which is contained within the High-Performance and Sustainable Buildings Handbook.

In February 2006, DOC signed the “Federal Leadership in High-Performance and Sustainable Buildings Memorandum of Understanding” (MOU) to promote and encourage common strategies for planning, acquiring, siting, designing, building, operating, and maintaining high-performance and sustainable buildings. EO 13514 strengthens many requirements already addressed in previous mandates, including EO 13423, and establishes some new targets. DOC has updated its High-Performance and Sustainable Buildings Handbook to reflect the new EO and codify within the Department’s policy an implementation plan for meeting EO 13514 requirements.

b. Agency Lead for Goal

The DOC SSO has primary responsibility for implementing high-performance green building mandates. The Deputy Assistant Secretary for Administration serves as the SSO. To meet the requirements of EO 13514, the SSO ensures that all actions under this plan are accomplished.

The Associate Director of the Office of Real Property Programs (ORPP), in coordination with the Environmental Program Manager within the Office of Sustainable Energy and Environmental Programs (OSEEP), is the high-performance sustainable design/green buildings program lead for DOC and is responsible for developing and issuing policy and guidance for the Department’s 12 OUs. The OUs are responsible for ensuring that sustainable building practices as outlined by this goal are incorporated into all stages of a building’s life-cycle—planning, construction, management, and re-investment or disposition. OUs develop their own specific implementation plans in response to the Department’s policy, plans, and guidance.

Many individuals play key decision-making roles related to the implementation of DOC’s High-Performance and Sustainable Buildings Handbook. Roles and responsibilities are shared between the SSO, the heads of the OUs, and facility managers. Definitions of these roles and responsibilities are contained within the High-Performance and Sustainable Buildings Handbook.

c. Implementation Methods

1. Schedule

DOC has outlined a schedule in the planning table below for demonstrating annual progress toward 100% conformance with the Guiding Principles for its entire building inventory. Over the next decade, DOC will continue to train members of design teams to implement a process to ensure that all buildings designed in FY 2020 and beyond are net-zero energy.

2. Cost

In implementing the High-Performance and Sustainable Design/Green building goal, DOC will consider the life-cycle cost and build the business case for implementing the mandates contained within this goal on a project-by-project basis. The priority is to identify and prioritize projects and renovations that leverage funds through annually recurring existing budget items such as capital improvements or O&M budgets. ARRA funding was used to support some high-performance green building projects, including a NIST net-zero energy test building. Many of the mandates under this goal are cost-effective because the renovations save money over the lifetime of the facility. For projects that are identified as priorities, but which require significant capital investment, the capital for building projects can be requested through appropriations. Fixed-price, performance-based contracting in which projects are paid for through savings generated also will be explored. ESPCs and UESCs can be utilized to cover the capital cost of energy efficiency and renewable energy projects by using the energy savings expected from these investments to finance their initial costs.

A multi-million dollar renovation project is being conducted at DOC's headquarters at the Herbert C. Hoover Building (HCHB) in Washington, D.C. The renovation includes high-performance building measures in accordance with the LEED standard. Funding is being provided by GSA.

3. Goal-Specific

a. Beginning in FY 2020, all new Federal buildings will be designed to achieve zero-net energy by FY 2030.

- Over the next few years the Sustainable Building Handbook and other DOC policies and planning documents will be updated to reflect this objective and offer details on implementation.
- DOC will assess current policies and training to identify areas in the Department's sustainable building program that must be changed to meet this objective. Policies and training that do not address this objective will be amended and updated.
- DOC will provide training for integrated project team members on applying zero-net energy principals at the earliest stages of project planning.
- DOC will ensure that identification of key players in the real estate project approval process has been made and integrated project teams for capital asset acquisition are created at the earliest stages of project planning (i.e., pre-funding, conceptual design) for all capital asset projects involving new buildings. DOC will also ensure that the zero-net energy mandate is considered at that time.

b. Ensure that all new construction, major renovation, or repair and alteration of Federal buildings comply with the “Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings (Guiding Principles).”

- The High-Performance and Sustainable Buildings Handbook was recently updated to meet the new mandates of EO 13514 and has an extensive policy in place to meet this objective.
- DOC has incorporated sustainable practices into OU policy and planning for new Federal facilities and leases, and into lease renewal strategies. DOC is working to incorporate these into the Departmental real property policy revision now underway.
- All new build-to-suit leases and capital construction projects have incorporated sustainable practices.

c. Assess and demonstrate that at least 15% of agency’s existing buildings and building leases meet guiding principles by FY 2015 (5,000 GSF threshold for existing buildings and building leases).

- DOC will follow implementation strategies outlined in the High-Performance and Sustainable Buildings Handbook to meet this objective.
- DOC will task relevant OUs with revising their five-year sustainable buildings implementation plans to incorporate additional sustainable buildings assessments, greening of leases, and upgrades to existing buildings to meet this target.
- Each DOC OU must have at least 15% of its existing buildings meet guiding principles by 2015.
- DOC will integrate methods and practices necessary to achieve this goal into its real property portfolio management process, which is currently under development. Specific sustainable building goals will be identified or identifiable at a facility level.

d. Demonstrate annual progress toward 100% conformance with guiding principles for entire building inventory.

- The Department has incorporated sustainable practices into OU policy and planning for new Federal facilities and leases, and into lease renewal strategies, and is working to incorporate them into the Departmental policy revision now underway. Green clauses are already being incorporated into all lease acquisitions above the Department’s and GSA’s thresholds. All new build-to-suit leases and capital construction projects have incorporated sustainable practices.
- Due to the fact that all future new leases, new construction, and major renovations will incorporate the Guiding Principles to the extent practicable, it is anticipated that over the long term DOC will make steady progress towards 100% conformance with the Guiding Principles for its entire building inventory.

e. Incorporate sustainable practices into agency policy and planning for new Federal facilities and leases, and into lease renewal strategies.

- The Department has incorporated sustainable practices into OU policy and planning for new Federal facilities and leases, and into lease renewal strategies, and is working to incorporate them into the Departmental policy revision now underway. Clauses promoting environmental sustainability are already being incorporated into all lease acquisitions above the Department’s and GSA’s thresholds. All new build-to-suit leases and capital construction projects have incorporated sustainable practices.

- The Department intends to integrate methods and practices necessary to achieve the goals of this plan into its real property portfolio management process, now in development. Specific sustainable building goals, pollution prevention and waste reduction goals, water use reduction goals, will be identified or identifiable at a facility level. Sustainable acquisition goals will be included in the capital asset/real property review and approval process.

f. Demonstrate the use of cost-effective, innovative building and sustainable landscape strategies to minimize energy, water, and materials consumption.

- The Department intends to integrate methods and practices necessary to achieve the goals of this plan into its portfolio management process, now in development. Specific sustainable building, pollution prevention, waste reduction goals, and water use reduction goals, will be identified or identifiable at a facility level.
- Several of DOC's facilities now under construction (NOAA's La Jolla lab relocation, Pacific Regional Center, and Pacific Marine Operations Center, for example) are working toward LEED certification and are being used to demonstrate the use of cost-effective, innovative building and sustainable landscape strategies to minimize energy, water and materials consumption.

g. Operate, maintain, and conduct all minor repairs and alterations for existing building systems to reduce energy, water and materials consumption in a manner that achieves a net reduction in agency deferred maintenance costs.

- DOC and OU policies and procedures will be updated to reflect this objective.
- Due to the current budget climate mission-critical repairs are prioritized.
- This objective will be addressed through the DOC-wide Facilities Council, composed of SES-level representatives from the OUs.

h. Optimize performance of the agency's real property portfolio – dispose and consolidate excess and underutilized property, collocate field offices, consolidate across metropolitan and regional locations.

- As also directed under the Presidential Memorandum of 6/10/2010, the Department is annually planning for consolidation of multiple OU regional offices in four locations.
- DOC's Office of Real Property Programs seeks opportunities for consolidation or reuse before specifying new building projects.
- The Department is working to ensure that all excess and underutilized real properties are being examined and a pathway defined to reduce or eliminate these assets. The two largest OUs with owned assets are validating their mission need for all assets. The Department has implemented its Real Property Reduction and Innovation Plan to address consolidation, co-location, scrutiny of space requirement basis, reduction of requirements through telework, open office layouts, and workspace standards, and data center consolidation.

i. Reduce the need for new building and field office space by utilizing technologies to increase telework opportunities and expand delivery of services (over the internet or electronically).

- As directed under the Presidential Memorandum of 6/10/2010, the Department is working to reduce need for new building and field office space by annually planning for consolidation of

multiple OU regional offices in four locations. Telework is being included in the planning process.

- The Department has implemented its Real Property Reduction and Innovation Plan to address consolidation, co-location, scrutiny of space requirement basis, reduction of requirements through telework, open office layouts, and workspace standards, and data center consolidation.
- As described in DOC's data center consolidation plan, the Office of the Chief Information Officer is assessing opportunities for server virtualization and cloud computing across the Department to reduce the need for energy-intensive physical servers and data centers.

j. Conserve, rehabilitate, and reuse historic Federal properties, using current best practices and technology.

- DOC will ensure rehabilitation projects promote long-term viability of the buildings in accordance with historic preservation policies and guidelines.
- Section 5.4.13 of the Department's real property management manual requires DOC to utilize historic properties whenever practical and section 5.4.14 requires DOC, when leasing space, to first consider historic properties in historic districts.
- The Department has several projects planned and underway (e.g. NOAA Pacific Regional center highlighted in section (h)) to conserve, rehabilitate, and reuse historic Federal properties, using current best practices and technology.
- The multi-year, multi-million dollar renovation of DOC's historic headquarters building, the Herbert C. Hoover Building, in downtown D.C. is ensuring the use of current best practices and technology in pursuit of LEED gold certification.

k. Align agency space actions (new leases, new construction, consolidation) with agency Scope 1&2 and Scope 3 GHG reduction targets.

- The Department has incorporated sustainable practices into OU policy and planning for new Federal facilities and leases, as well as into lease renewal strategies and is working to incorporate them into the Departmental real property policy revision now underway. Green clauses are already being incorporated into all lease acquisitions above the Department's and GSA's thresholds. All new build to suit leases and capital construction projects have incorporated sustainable practices.
- Incentives for locations within walking distance to public transportation are included in all competitive lease actions.

d. Positions

The Associate Director of the Office of Real Property Programs (ORPP), in coordination with the Environmental Program Manager within OSEEP, at the Department level will assume collateral duty. At the OU level, appropriate staff members also will take on collateral duty.

f. Agency Status

Over the last 12 months DOC has incorporated the Guiding Principles into several of its real property planning documents and is continuing to make progress in updating these documents. DOC has also updated its Sustainable Buildings Implementation Plan (and renamed it a handbook) to incorporate the

goals of EO 13514. DOC has made significant progress in addressing sustainable buildings goals since re-baselining the sustainability of its existing building stock in late 2010. DOC projects a 1% increase in the percentage of its owned buildings qualifying as sustainable between FY 2010 and FY 2011. The two DOC OUs with obligations under the sustainable buildings mandate have each developed five-year projections of planned new builds and renovations indicating that with no change DOC will not meet the 15% target by 2015. These OUs are currently reviewing their building stock and options for incorporating additional projects to achieve the target by 2015. NIST is allocating several hundred thousand dollars of ARRA funding in FY 2011 and FY 2012 for conducting sustainable buildings assessments and has developed a plan for meeting the 15% mandate for its buildings by FY 2015. By 2012 DOC expects to have a plan in place for achieving the 15% target by 2015. NIST is also entering an ESPC in 2011 covering both of its campuses that will identify additional opportunities for energy savings, water savings, and compliance with the Guiding Principles. All planned new builds and major renovations slated for completion in 2011 and beyond will be designed to meet the Guiding Principles.

g. Highlights

NOAA's Pacific Regional Center currently under construction on historic Ford Island in Oahu, Hawaii, will consolidate nearly 600 NOAA employees and multiple NOAA operations currently scattered across the island of Oahu and accommodate expected future growth. When complete, the facility will encompass more than 300,000 square feet of lab and office space in two renovated World War II-era hangars and a third, new building that together will realize NOAA's goal of an integrated facility. Pier facilities will enable NOAA to fully consolidate ship operations as well as seawater operations, laboratory and office space.

The Pacific Regional Center enables NOAA to move out of buildings that are overcrowded or have outlived their useful lives. By bringing several programs together into one facility, NOAA expects to realize benefits in improved operations and mission performance, longer-term operational savings, and opportunities for greater program collaboration and synergy—both within NOAA and with external partners.

The Ford Island site provides NOAA no-cost Federal land for development, substantial cost savings due to major water and sewer infrastructure investments already being implemented by the Navy as part of its Ford Island Master Development project, and a workable balance between public accessibility and a secure facility. The NOAA development will also adapt World War II-era buildings for NOAA use. NOAA is working closely with the Navy's historic preservation advisory committee to ensure that this project complies fully with historic preservation and adaptive re-use guidelines. The entire complex will be redeveloped as an environmentally sustainable, state-of-the-art facility that will meet LEED "Gold" certification standards.

Challenges

Although DOC intends to meet all the goals laid out in this section, several challenges must be addressed. The challenges include the following:

- DOC is committed to provide training to all staff members involved in the design and operation of energy-efficient and net-zero energy buildings using existing resources. Free online training will be utilized when possible to mitigate this challenge.

- DOC Operating Units will allocate existing resources as appropriate to conduct sustainable buildings assessments and existing building upgrades to meet the Guiding Principles. Funding will be prioritized to emphasize the incorporation of sustainability into new facilities when lifecycle cost-effective.
- The Department plans to revise its out-of-date real property acquisition, management, and disposal policies. While the two OUs that control nearly all of the owned real property have established individual policies that require the development of sustainable new facilities and incremental incorporation of resource conserving systems, the Departmental-level real property policy needs to incorporate necessary changes. The incorporation of six topics into the business case analysis Requirements of Investment will be addressed in the policy revision that is being initiated in FY 2011.

Regional and Local Integrated Planning

a. Goal Description

Properly executed regional and local planning requires a considerable amount of stakeholder involvement in the planning process, more sustainable approaches to long-range growth, and life-cycle accounting of facilities. This often requires the involvement of other Federal agencies, state governments, non-governmental agencies, city planners, area occupants, experts, consultants, and the general public. DOC already works closely with these stakeholders as part of the National Environmental Policy Act (NEPA) process, but has yet to expand this participatory process to other Departmental policies. Additionally, some aspects of integrated planning already are addressed in the Department's High Performance and Sustainable Buildings Handbook's "Integrated Design Principles" (HPSBIP/IDP).

The goal of both the updated handbook and the new policy is to lead the effort to design, construct, maintain, and operate high-performance sustainable buildings in sustainable locations and to strengthen the vitality and livability of the communities where DOC facilities are located. The most effective method of accomplishing this is through an interactive process that incorporates and evaluates local and regional planning efforts.

DOC's regional and local planning goals include the following:

- Incorporate consultation with local and metropolitan planning organizations regarding the impact, or potential impact, of Federal actions on local transportation infrastructure and local development plans into existing policy and guidance.
- Align agency policies to increase effectiveness of local planning efforts regarding transportation, energy resources and the environment.
- Increase effectiveness of regional measures that enhance integrity of local ecosystems and watersheds.
- Update agency policy and guidance to ensure that all Environmental Impact Statements (EIS's) and Environmental Assessments (EA's) required under NEPA for proposed new or expanded Federal facilities, and as appropriate, identify and analyze impacts associated with energy (including alternative energy sources) and climate change.
- Integrate methods and practices necessary to achieve the goals of this plan into agency master planning documents i.e., high performance, sustainable building goals, pollution prevention and

waste reduction goals, water use reduction goals, sustainable acquisition goals, electronic stewardship and data center consolidation, etc.).

- Update agency policy and guidance to ensure coordination and (where appropriate) consultation with Federal, State, Tribal and local management authorities regarding impacts to local ecosystems, watersheds and environmental management associated with proposed
- New or expanded Federal facilities.
- Discuss agency participation in critical local and regional efforts and initiatives (i.e., EO on Chesapeake Bay Protection and Restoration, EO on Stewardship of the Ocean, Our Coasts, and the Great Lakes, etc.).

b. Agency Lead for Goal

The DOC SSO has primary responsibility for meeting regional and local planning goals and objectives. The SSO is the Deputy Assistant Secretary for Administration. The SSO ensures that all actions under this plan are accomplished to meet the requirements of EO 13514. The Associate Director, Office of Real Property Programs is the regional and local integrated planning program lead for DOC and is responsible for developing and issuing policy and guidance for the Department's OUs. NOAA has been delegated authority for NEPA within DOC and is responsible for overseeing completion of all requirements related to NEPA.

c. Implementation Methods

1. Schedule

EO 13514 does not mandate a specific timeline for the implementation of goals for regional and local planning. It is understood, however, that DOC will implement the goals and initiatives during the course of FY 2010 through FY 2020.

2. Cost

DOC will assess the cost-effectiveness of the planning measures, as well as account for the social and local economic benefits that regional and local planning provide. Anticipated planning costs include staff time for participation in regional transportation planning meetings. Anticipated regional and local planning costs also include real estate appraisal, development costs, and drafting comprehensive planning documents surrounding placement of facilities in rural, transit-oriented, or town-center development patterns.

Implementation of regional and local planning activities mirrors a pre-existing protocol utilized for integrated design principles. In this established process, major real property project proposals are reviewed and endorsed by the Department's Acquisition Review Board (ARB) as part of the budget process. Project proposals must identify cost-effective, energy-efficient, and environmentally sustainable techniques and practices to be used, where feasible.

3. Goal-Specific

a. Incorporate consultation with local and metropolitan planning organizations regarding the impact, or potential impact, of Federal actions on local transportation infrastructure and local development plans into existing policy and guidance.

- Integrate regional and local planning principles, as appropriate, into updated versions of the High Performance and Sustainable Buildings Implementation Handbook, the Strategic Implementation Plan for Energy Management, and the Energy and Environmental Management Manual.
- All competitive lease actions are coordinated with local governments before and after award. These actions also are in agreement with local zoning, land use planning and flood zone management regulations and plans. Incentives for locations within walking distance to public transportation are also included.

b. Align agency policies to increase effectiveness of local planning efforts regarding transportation, energy resources and the environment. Integrate regional and local planning principles, as appropriate, into the Strategic Implementation Plan for Energy Management, specifically emphasizing the need to increase the effectiveness of local energy planning in areas where DOC operates.

All competitive lease actions are coordinated with local governments before and after award. These actions also are in agreement with local zoning, land use planning and flood zone management regulations and plans.

c. Increase effectiveness of regional measures that enhance integrity of local ecosystems and watersheds.

All competitive lease actions are coordinated with local governments before and after award. These actions also are in agreement with local zoning, land use planning and flood zone management regulations and plans.

d. Update agency policy and guidance to ensure that all environmental impact statements and environmental assessments required under NEPA for proposed new or expanded Federal facilities, as appropriate, identify and analyze impacts associated with energy usage (including alternative energy sources) and climate change.

- DOC will provide energy efficiency and alternative energy training for staff members that create environmental assessments and environmental impact statements.
- DOC, beginning December 30, 2010, requires incorporating impacts from energy use and alternative energy in all environmental impact statements. These impacts must be aligned with the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq).
- A DOC policy and implementation plan regarding climate change adaptation is currently under development.

e. Integrate methods and practices necessary to achieve the goals of this plan into agency master planning documents i.e., high-performance, sustainable building goals, pollution prevention and waste

reduction goals, water use reduction goals, sustainable acquisition goals, electronic stewardship and data center consolidation, etc.).

- The Department intends to integrate methods and practices necessary to achieve the goals of this plan in its real property portfolio management process, now in development. Specific sustainable building goals, pollution prevention and waste reduction goals, and water consumption reduction goals, will be identified or identifiable at a facility level.
- Sustainable acquisition goals will be included in the capital asset/real property review and approval process.
- The Department has incorporated sustainable practices into OU policy and planning for new Federal facilities and leases, and into lease renewal strategies, and is working to incorporate them into the Departmental policy revision now underway.
- Clauses promoting environmental sustainability are already being incorporated into all lease acquisitions above the Department's and GSA's thresholds.
- All new build-to-suit leases and capital construction projects have incorporated sustainable practices.

f. Update agency policy and guidance to ensure coordination and, where appropriate, consultation with Federal, state, tribal, and local management authorities regarding impacts to local ecosystems, watersheds, and environmental management associated with proposed new or expanded Federal facilities.

- DOC will ensure that all staff members responsible for writing or approving NEPA documentation are aware of Federally mandated consultation requirements and compliance issues associated with each of the environmental laws and regulations.
- NEPA processes include coordination with local governments to determine environmental and social costs for siting decisions.

g. Discuss agency participation in critical local and regional efforts and initiatives (i.e., EO on Chesapeake Bay Protection and Restoration, EO on Stewardship of the Ocean, Our Coasts, and the Great Lakes, etc.).

- President Obama's EO on Chesapeake Bay Protection and Restoration designates several responsibilities for DOC and the Secretary of Commerce, including:
 - Participation in the Federal Leadership Committee on the Chesapeake Bay;
 - Co-lead with DOI the implementation of sections 202 d, f, and g of the EO;
 - Section 601 of the EO delegates the Secretary of Commerce responsibility for conducting research and scientific assessments to support development of the strategy to adapt to climate change impacts on the Chesapeake Bay watershed and to evaluate the effects of climate change on the Chesapeake Bay in future years;
 - Section 801 requires the Secretary of Commerce to organize and conduct monitoring, research, and scientific assessments to support decision-making for the Chesapeake Bay ecosystem and to develop a report addressing strengthening environmental monitoring of the Chesapeake Bay and its watershed;
 - Section 901 requires the Secretary of Commerce to identify and prioritize critical living resources of the Chesapeake Bay and its watershed, conduct collaborative research and habitat protection activities that address expected outcomes for these species, and develop a report addressing these topics; and

- Section 901 also requires the Secretaries of Commerce and Interior to coordinate agency activities related to living resources in estuarine waters to ensure maximum benefit to the Chesapeake Bay resources.
- Several DOC staff attended the 2010 workshops on Chesapeake Bay-focused EMS.
- DOC will address local and regional efforts for stormwater management in the Chesapeake Bay Watershed through implementation of the DOC Environmental Management System and the Energy and Environmental Management Manual in conformance with EO 13514 and EISA 438 requirements.
- The EO on Stewardship of the Oceans, Our Coasts, and the Great Lakes directs the Secretary of Commerce and the NOAA Administrator to sit on the newly formed National Ocean Council.
- The Gulf of the Farallones and Cordell Bank Advisory Councils established the Climate change Impacts Working Group including, local scientists from 16 agencies, organizations, and institutions called upon to assess and downscale global climate change information into a regional climate change survey for north-central California coast and ocean ecosystems. *"Climate Change Impacts: Gulf of the Farallones and Cordell Bank National Marine Sanctuaries"* is the result of this one-and-a-half-year collaborative effort that provides a synopsis of the best available knowledge on observed and projected physical and biological impacts from climate change in north-central California coastal waters. In addition, the working group made recommendations for five lines of future action for sanctuary management.

d. Positions

At the Departmental level, collateral duty is performed out of the Office of Sustainable, Energy, and Environmental Programs to meet these mandates. Appropriate staff members at each OU also perform collateral duties.

e. Planning Table

GOAL 3 Targets	Units	FY10	FY11	FY12	FY13	FY14	FY15	...	FY20
Owned Buildings	%	2	3.1	7.0	9.0	10.5	10.5	...	15
FRPP-Reported Leased Buildings	%	1.6	1.6	1.6	1.6	1.6	1.6	...	15
Total Buildings	%	3	3	6	7	9	10	...	15
Other (Buildings), as defined by agency	n/a	n/a	n/a	n/a	n/a	n/a	n/a	...	n/a
Other (Reg/Local Planning), as defined by agency	n/a	n/a	n/a	n/a	n/a	n/a	n/a	...	n/a

f. Agency Status

DOC has numerous plans, processes, and individual performance plans that address incorporating regional and local environmental and energy plans into the day-to-day decisions made by the OUs. DOC energy, environment, and NEPA managers all are required to serve on inter-agency working groups that address cross-cutting Federal issues, participate in webinars and training sessions, and perform expertise-specific outreach to the general public. Information obtained from these outreach sessions

then is shared throughout DOC. As an example, a representative from the International Trade Administration mentioned a working group he attended that was helping to promote greater use of fuel cells in Federal buildings. The DOC Energy Manager attended several meetings, and not only brought the information back to DOC OUs for evaluation, but also included fuel cells as a discussion topic at the weekly renovation meeting with GSA. Currently, GSA is evaluating the effectiveness of utilizing the fuel-cell technology in the HCHB renovation project. Similarly, the green roof being deployed as part of that same project was initiated by the DOC Energy Manager and was an outgrowth of a DOC Green Team suggestion. Additionally, many of the OUs already incorporate some degree of regional planning in their projects. NOAA, for instance, works closely with the Chesapeake Bay Foundation and NIST Gaithersburg is required to consult the National Capital Planning Commission on all building projects.

The NEPA process requires coordination with appropriate Federal, state, local, and tribal governments to ensure that any environmental, historic, and cultural resources issues are resolved prior to project implementation. As an example, the National Telecommunications and Information Administration (NTIA) recently obtained permission to utilize and modify the Federal Communication Commission (FCC) Tower Communication Notification System to notify federally recognized tribal governments of proposed NTIA projects that either encroach on tribal lands or could impact historic culturally sensitive areas. Local issues always have been a major part of the NEPA process and now, with the requirement to address energy concerns in the environmental assessments and environmental impact statements, NOAA's NEPA procedures are being updated to reflect those requirements. Additionally, DOC has formed working groups with representation from all 12 Commerce OUs, and with technical assistance from NOAA, to draft a Departmental-wide guidance document to identify how to address GHG emissions and climate change factors.

g. Highlights

NOAA's National Marine Sanctuary program has established the Blue Seas, Green Communities initiative, a partnership of sanctuary sites program-wide and their advisory councils to make sanctuary facilities more energy-efficient, and to initiate, facilitate or enhance local community projects that contribute to the greening of the community and protection of sanctuary resources. Through this program the Gulf of the Farallones National Marine Sanctuary established a Green Operations Working Group composed of representatives from the San Francisco Department of Environment, Golden Gate National Recreation Area (landlord), Presidio Trust (utilities provider), a green architectural firm (LEED expert), and several members from the Advisory Council to develop a green operations plan for the sanctuary's facilities. The green operations plan includes 130 strategies for reducing the sanctuary's carbon footprint and an annual greenhouse gas inventory.

Challenges

DOC intends to meet all the objectives listed in the Local and Regional Planning section of this SSPP; however, this requires overcoming some challenges.

- Increased regional and local planning will likely involve additional staff time to participate in regional transportation planning meetings, real estate appraisal, development cost, and comprehensive plan documents surrounding the placement of facilities in rural, transit-oriented, or town-center development patterns.

- Staff must be trained to implement local and regional planning initiatives. While some local and regional planning initiatives can be accomplished, others may be contingent on available resources.

GOAL 4: Water Use Efficiency and Management

a. Goal Description

Various EOs mandate policies for reducing potable water consumption in Federal facilities, including EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, and EO 13514, *Federal Leadership in Environmental, Energy and Economic Performance*. EO 13423 requires the use of life-cycle cost-effective measures to achieve a 2-percent annual reduction in water consumption through the end of FY 2015 or 16 percent reduction by the end of FY 2015.

EO 13514 strengthens existing water mandates and issues some new targets that require an update to DOC policy. EO 13514 requires a 2% annual reduction in water consumption with a 26% improvement in water efficiency by 2020 relative to a 2007 baseline. Objectives for water management include:

- Reduce potable water-use intensity by at least 26% by FY 2020,
Reduce industrial, landscaping, and agricultural water use by at least 20% by FY 2020,
Identify and implement water reuse strategies, and
Achieve objectives established by Environmental Protection Agency (EPA) in *Stormwater Guidance for Federal facilities*.

b. Agency Lead for Goal

The DOC SSO has primary responsibility for implementation and oversight of the water-management program. In conjunction with the SSO, the Director for the Office of Administrative Services and the Associate Director of OSEEP execute the actions on behalf of the SSO.

The Energy and Environmental Management Manual includes the list of responsibilities for the heads of Departmental offices and OUs that are responsible for the overall policy implementation in their respective organizations and for taking action to implement all identified no-cost and low-cost energy and water conservation measures, and all energy and water conservation measures. . . .” This group will implement DOC policy to ensure the EO 13514 targets are met.

c. Implementation Methods

1. Schedule

The detailed performance goals found in EO 13514 are similar to the schedule set in existing DOC water-efficiency and management timelines. The difference between EO 13514 and EO 13423 is that the annual reduction is extended another 5 years from the previous EO timeline. The rates of reduction

remain 2% annually and pre-existing DOC policies and schedules will be updated to reflect the new schedule outlined by EO 13514.

2. Cost

Existing DOC policy addresses cost issues surrounding water efficiency and management. Through guidance provided in the Energy and Environmental Management Manual, DOC has committed to the following:

- Taking action to identify and implement all no-cost and low-cost energy- and water-conservation measures, and all energy- and water-conservation measures having payback periods of less than 10 years as determined through use of life-cycle cost assessment methodology,
- Utilizing life-cycle cost assessment methodology in all procurement decisions involving the acquisition of energy-efficient goods and services including decisions relating to water-efficiency retrofits, and
- Participating to the maximum extent possible in all demand-side (customer) management programs and services, including utility rebates offered by water utilities.
- Fixed-price, performance-based contracts where water-efficiency projects are paid for through savings generated will be used to the greatest extent possible when appropriated funding is not available for water efficiency projects.

3. Goal-Specific

a. Reduce potable water-use intensity by at least 26% by 2020.

- The DOC Energy Workgroup, composed of at least one staff member from DOC OUs, will discuss water issues on an as-needed basis.
- The DOC Energy Workgroup will create an implementation plan for meeting this mandate.
- DOC will analyze water usage and audits to establish a retrofit schedule for water conservation. At a minimum, waste-conservation measures will include:
 - Installing advanced metering,
 - Installing low-flow shower heads, waterless urinals, and low-flush toilets, and
 - Implementing rainwater harvesting and installing porous pavement where feasible.
- Auditing priority facilities (priority facilities will be determined by the Energy Working Group) on a 4-year, rotational schedule to allow for improvements to be incorporated regularly.
- Promoting the use of EPA's ENERGY STAR® Portfolio Manager to input water usage data.

b. Reduce non-potable water use (industrial, landscaping, agricultural) by at least 20% by 2020.

- The Energy Workgroup will determine where to incorporate industrial, landscaping, and agricultural water consumption areas into audits, as appropriate, to the various facilities.
- Compile and analyze the results of the water audits to establish areas of possible improvement and consider measures such as the following:
 - Cooling tower management,
 - Water-efficient landscaping,
 - Gray-water system integration,

- On-site wastewater treatment systems,
- Porous pavement,
- Alternatives to water-intensive technologies/processes,
- Improved boiler and steam systems, and
- Improvements to single-pass cooling equipment.

c. Identify and implement water-reuse strategies.

- Identify water reuse strategies whenever DOC does water renovations or rebuilds.
- Determine where to implement water reuse strategies, as appropriate to the various facilities. These measures could include the following:
 - Using processes or systems which allow for water recycling or reuse within laboratories,
 - Utilizing harvested rainwater or runoff, and
 - Introducing gray-water designed in non-potable water systems.

d. Achieve objectives established by EPA in Stormwater Guidance for Federal Facilities.

Integrate storm-water management practices into large-scale renovation projects and all new construction. This could include vegetated roofing, porous pavement, underground storage solutions that reduce polluted-site water runoff, or focused recharge points on groundwater levels. This objective will align with the Guiding Principles.

e. Incorporate appropriate reduction strategies for non-potable water use into agency policy and planning.

As DOC re-writes (by the end of FY 2011) its Energy and Environmental Management Manual, reduction strategies for non-potable water use will be outlined.

d. Positions

At the Department level, collateral duty will be performed out of OSEEP to meet these mandates. Appropriate staff members at each OU also will perform collateral duty.

e. Planning Table

Water Use Efficiency & MGMT	Units	FY10	FY11	FY12	FY13	FY14	FY15	...	FY20
Potable Water Reduction Targets (gal/SF reduced from FY07 base year)	%	6	8	10	12	14	16	...	26
Planned Potable Water Reduction (gal/SF reduced from FY07 base year)	%	20.3	24.8	27	27	27	27	...	27
Industrial, Landscaping, and Agricultural Water Reduction Targets (gal reduced from FY10 base year)	%	Base	2	4	6	8	10	...	20
Planned Industrial, Landscaping, and	%	Base	2	4	6	8	10	...	20

Water Use Efficiency & MGMT	Units	FY10	FY11	FY12	FY13	FY14	FY15	...	FY20
Agricultural Water Reduction (gal reduced from FY10 base year)									
Other, as defined by agency		n/a	n/a	n/a	n/a	n/a	n/a	...	n/a

f. Agency Status

At 20.3% water intensity reduction in FY 2010, DOC is well on its way to meet the FY 2020 target of 26% reduction in water intensity (FY 2007 baseline). DOC and its OUs will continue to identify water savings project and to promote water conservation awareness.

As required by the EISA 2007, DOC evaluates its energy and water usage at facilities covering approximately 75% of its energy consumption once every 4 years. This provides DOC with continuous opportunities to implement water-conservation measures.

The DOC Energy and Environmental Management Manual will be updated to reflect water use and efficiency management requirements put forth in EO 13514.

g. Highlights

Challenges

The DOC intends to implement the objectives laid out in this SSPP; however, challenges must be overcome to do so. For example, DOC has the intention of auditing all priority facilities for water efficiency, however this undertaking requires collateral duty from DOC employees and also has a financial cost—both of which might be restricted.

GOAL 5: Pollution Prevention and Waste Reduction

a. Goal Description

Existing DOC policy which incorporates pollution prevention can be found in the Energy and Environmental Management Manual, which integrates Federal mandates such as the Emergency Planning and Community Right-to-Know Act of 1986, the Pollution Prevention Act of 1990, the National Oil and Hazardous Substances Pollution Contingency Plan, EPA regulations on oil pollution prevention, occupational safety and health standards, safety and health regulations for construction, Federal Insecticide, Fungicide, and Rodenticide Act, the Clean Air Act, and the Clean Water Act. DOC currently reports in accordance with the requirements of the Emergency Planning and Community Right-to-Know Act of 1986 and will continue to do so.

In addition to the above-listed requirements, EO 13514 includes some new goals as well as further reduction targets. In response to EO 13514 and earlier policy, DOC strives to:

- Increase source reduction of pollutants and waste,

- Divert at least 50% of non-hazardous solid waste by FY 2015, excluding construction and demolition (C&D) debris,
- Divert at least 50% of C&D materials and debris by FY 2015,
- Reduce printing paper use,
- Increase use of uncoated paper that contains at least 30% postconsumer fiber,
- Reduce and minimize the acquisition, use, and disposal of hazardous chemicals and materials,
- Increase diversion of compostable and organic materials from the waste stream,
- Implement integrated pest management and landscape management practices to reduce and eliminate the use of toxic and hazardous chemicals and materials,
- Increase agency use of acceptable alternative chemicals and processes,
- Decrease agency use of chemicals to assist agency in achieving FY 2020 GHG reduction targets (see sections II.1 and II.2, above), and
- Report in accordance with sections 301–313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 (42 U.S.C. § 11001 et seq.).

b. Agency Lead for Goal

The DOC SSO has primary responsibility for oversight and implementation of the DOC pollution prevention program. The SSO is the Deputy Assistant Secretary for Administration. The SSO ensures that all actions under this plan are accomplished to meet the requirements of EO 13514. In conjunction with the SSO, the DOC Environmental Manager is responsible for developing and managing a DOC pollution-prevention system and hazardous materials and chemicals programs.

c. Implementation Methods

1. Schedule

EO 13514 establishes an abbreviated timeline for two of the goals mentioned in the pollution prevention sub-goals.

- Divert at least 50% non-hazardous solid waste by FY 2015, excluding construction and demolition debris.
- Divert at least 50% C&D materials and debris by FY 2015.

Through its newly established EMS, DOC will set schedules for attaining remaining EO 13514 pollution prevention goals.

2. Cost

Source reduction, pollution prevention, and issues relating to the handling of hazardous waste all carry different levels of cost-benefit relationships. Although the procurement of less harmful chemicals might not be the least-expensive option, these purchases can be justified through added benefits including environmental benefits, increased human health and safety, and reduced disposal costs. As hazardous material regulations continue to become more stringent, DOC has the opportunity to position itself ahead of the curve. Greater levels of initial investment in alternative chemicals and practices will yield a safer work environment while providing greater economic benefit.

3. Goal-specific

a. Increase source reduction of pollutants and waste

- Strive to reduce source use of toxic chemicals and eliminate priority chemicals as identified in the EPA priority list.
- Purchase recycled, recyclable, reusable, and environmentally preferable materials as is feasible (see Green Procurement Program in the Commerce Acquisition Manual).

b. Divert at least 50% of non-hazardous solid waste by FY 2015, excluding construction and demolition debris

- The DOC Energy and Environmental Management Manual explains responsibilities and requirements regarding non-hazardous solid waste.
- DOC will monitor the quantity of solid-waste disposed and will report that quantity annually.

c. Discuss agency strategies to reduce municipal solid waste sent to landfills and how implementation will assist the agency in achieving FY 2020 GHG reduction targets [See Goals 1 and 2 above]

- Departmental offices and OUs are responsible for diverting solid waste away from landfill disposal and meeting the goals established in EO 13423.
- Departmental offices and OUs will seek to establish waste contracts which recycle materials currently sent to landfill and introduce reuse programs as is possible.
- When possible, liaise with regional waste facilities to identify opportunities for improving waste and recycling programs.
- When possible and cost effective, offer domestic recycling opportunities to employees.
- Reducing solid waste sent to landfill is one strategy DOC will use to reduce its scope 3 GHG emissions associated with contracted waste disposal.

d. Divert at least 50% of C&D materials and debris by FY 2015 and discuss methods used to track progress

- DOC will strive to require all contractors and subcontractors to recycle construction and demolition waste in accordance with LEED certification criteria.
- DOC will track progress in accordance with LEED certification criteria.
- DOC will specify the reuse of suitable materials within construction projects that require initial demolition on construction sites.

e. Reduce printing paper use

- As described in Goal 7 below, the Department of Commerce's Office of the Chief Information officer is undertaking a comprehensive strategy for centrally setting all networked printers to default to duplex printing. This should significantly reduce printing paper use across the department.
- The Office of the Secretary is developing a printer paper use reduction and double-sided printing policy. The draft policy is currently undergoing internal review.

- The DOC Energy and Environmental Management Manual explains responsibilities and requirements for reducing printer paper use.

f. Increase use of uncoated paper that contains at least 30% postconsumer fiber

- The Green Procurement chapter of the Commerce Acquisition Manual requires Department personnel to specify 30% postconsumer recycled-content paper in all acquisitions.
- Compliance is verified through the Department’s annual contract auditing process managed by the Office of Acquisition Management.

g. Reduce and minimize the acquisition, use, and disposal of hazardous chemicals and materials

- The DOC Energy and Environmental Management Manual explains responsibilities and requirements for minimizing hazardous chemicals and materials.
- If environmentally preferable substitutions are feasible, then substitute these for toxic/hazardous materials.
- Monitor all hazardous and electronic waste materials to determine whether they are properly disposed of in accordance with Federal regulation.
- The DOC Energy and Environmental Management Manual is currently being updated to reflect this new target.
- Through its department-wide EMS DOC will evaluate the chemicals used at its facilities and create an implementation plan to help achieve GHG reduction targets.

h. Increase diversion of compostable and organic materials from the waste stream

The Department strives wherever possible to incorporate composting as part of waste disposal contracts at facilities that generate significant quantities of compostable or organic wastes, such as at facilities that operate cafeterias under Departmental control. Whenever appropriate, the Department requires waste disposal contractors to divert compostable or organic waste to off-site composting facilities.

i. Implement integrated pest management and landscape management practices to reduce and eliminate the use of toxic and hazardous chemicals and materials

- The Department is currently updating and expanding its Energy and Environmental Management Manual to provide staff with guidance for meeting this objective.
- DOC will use its EMS to assess current pest-management practices and determine best practices for pest-management implementation plans.

j. Increase agency use of acceptable alternative chemicals and processes

The DOC Energy and Environmental Management Manual explains responsibilities and requirements for increasing agency use of acceptable alternative chemicals and processes. As mentioned above, the manual is undergoing revision to update, expand, and clarify the guidance.

k. Report in accordance with Sections (301-313) of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986

The Department is revising its Energy and Environmental Management Manual. Part of the revision is a detailed chapter on pollution prevention which promulgates Departmental policy and requirements for pollution prevention, waste minimization, and toxics chemical reduction. The manual also contains a chapter with detailed policy and instruction EPCRA reporting requirements for all applicable facilities.

d. Positions

At the Department level, collateral duty is performed out of OSEEP to meet these mandates. Appropriate staff members at each OU also perform collateral duty.

e. Planning Table

Pollution Prevention & Waste Reduction	Units	FY10	FY11	FY12	FY13	FY14	FY15	...	FY20
Non-Hazardous Solid Waste Diversion Targets (Non-C&D)	%	45	46	49	50	51	55	...	55
C&D Material & Debris Diversion Targets	%	40	40	40	40	40	40	...	40
If agency uses on-site or off-site waste-to-energy, estimated total weight of materials managed through waste-to-energy	Tons	1010	1005	1000	995	990	985	...	
Number of sites or facilities with on-site composting programs	#	0	0	0	0	0	0	...	0
Number of sites or facilities recycling through off-site composting programs	#	0	0	0	0	0	0	...	0
If agency has on-site or off-site composting programs, estimated total weight of materials diverted to composting	Tons or pounds	0	0	0	0	0	0	...	0
% of agency-operated offices/sites with a recycling program	%	80	80	80	80	80	80	...	80
If agency offices located in multi-tenant buildings, % of those buildings with a recycling program	%	20	20	20	20	20	20	...	20
% of agency-operated residential housing with recycling programs	%	n/a	n/a	n/a	n/a	n/a	n/a	...	n/a
Other, as defined by agency		n/a	n/a	n/a	n/a	n/a	n/a	...	n/a

f. Agency Status

The Department established a Department-level Environmental Management System (EMS) in December 2010. Pollution prevention, which is a core tenet of the Department's environmental policy, is managed via the EMS and at the Departmental level. The EMS enables the Department to determine significant environmental aspects and to manage those significant aspects by setting annual objectives and targets. The Department relies on its OUs for programmatic execution.

The Energy and Environmental Management Manual currently assigns roles and responsibilities for reducing the use of hazardous chemicals, increasing use of alternative chemicals, and reducing non-hazardous solid waste. DOC reports the quantity of non-hazardous waste it generates annually. DOC also currently tracks electronic waste to ensure proper disposal. The DOC Green Procurement Plan in the Commerce Acquisition Manual details procurement measures for increasing the agency use of acceptable alternative chemicals and processes. At the HCHB and throughout DOC facilities, environmentally friendly, toxin-free cleaning chemicals are being used. DOC also currently offers some domestic recycling opportunities to its employees. At the HCHB, for example, unwanted cell phones, personal digital assistants (PDAs), and their accessories are collected and donated to local charities.

g. Highlights

- NOAA's National Centers for Coastal Ocean Science won a 2011 Department Energy and Environmental Stewardship Award for undertaking a comprehensive review and overhaul of their use of toxic chemicals. The review and subsequent procedural changes resulted in a 38% reduction in the purchase, use, and disposal of toxic chemicals across NCCO's five research centers.
- NIST is undertaking an initiative to phase out mercury thermometers across all 786 hectares of its research laboratories and other facilities. As of March 1, 2011, NIST has also ceased to provide calibration services for mercury thermometers.
- The Office of Administrative Services has begun systematically paying recycling "assist visits" to OUs to assess their recycling program and help identify opportunities for expansion.
- The Herbert C. Hoover Building (DOC headquarters building) Green Team won a 2011 Department Energy and Environmental Stewardship Award for initiating a toner cartridge recycling and reuse program within the building. The program has achieved greater than expected ROI and is estimated to save over \$60,000 per year and divert many tons of toner cartridges from landfill. HCHB intends to expand the program to a web-based format that directly connects offices with excess cartridges to offices needing cartridges.

Challenges

DOC intends to meet all the pollution-prevention objectives laid out in this SSPP; however, several barriers must be overcome to do so, including the following:

- Establishing a Department-wide system to monitor all waste materials to determine whether they are properly disposed of in accordance with Federal regulation will be difficult due to the decentralized structure of the Commerce Department. Time and money are needed to implement such a system, and

- DOC supports the implementation of integrated pest management, but a full evaluation of our existing pest management practices is still being planned (potentially in late FY 2012 or FY 2013 in conjunction with environmental compliance audit activities).

GOAL 6: Sustainable Acquisition

a. Goal Description

It is DOC policy to promote and implement Federal green procurement practices to conserve resources, provide sound stewardship, and reduce negative impact on the environment. Green products and services are acquired to the maximum extent practicable consistent with the requirements of the Federal Acquisition Regulation (FAR) and EO 13514, which set the standard for sustainable acquisition. DOC will strive to meet EO 13514 objectives, including the following.

- Ensure that 95% of new contract actions—including task and delivery orders under new contracts and existing contracts—require the supply or use of products and services that are energy efficient (ENERGY STAR[®] or FEMP-designed), water efficient, biobased, environmentally preferable (excluding EPEAT[®]-registered products), non-ozone depleting, contain recycled content, or are non-toxic or less-toxic alternatives.
- Update agency affirmative procurement plans (green purchasing plans and environmentally preferable purchasing plans), policies, and programs to ensure that all federally mandated designated products and services are included in all relevant acquisitions.

b. Agency Lead for Goal

The DOC SSO has primary responsibility for overseeing the implementation of DOC policy that meets sustainable acquisition objectives. The SSO is the Deputy Assistant Secretary for Administration. The SSO will strive to ensure that all actions under this plan are accomplished to meet the requirements of EO 13514. The Senior Procurement Executive is responsible for providing senior acquisition leadership for implementing the Department's green procurement program (GPP)—included in DOC's Commerce Acquisition Manual (CAM) at 1323.70—and for promoting compliance with EO 13514. This executive also works with the SSO and the OAS staff to review and analyze green procurement indicators and report on progress toward meeting EO 13514 goals. A discussion of roles and responsibilities of OU staff is contained in the CAM's GPP.

c. Implementation Methods

1. Schedule

The EO 13514 mandate that requires 95% of new contracts to meet green procurement requirements became effective in FY 2011. The implementing Federal Acquisition Regulations (FAR)—titled Sustainable Acquisition—is expected to be issued in late FY 2011. Within a week of issuance, DOC will send to the acquisition community a summary of the new FAR sustainable acquisition requirements.

Within 6 months of issuance, DOC will revise the CAM GPP to incorporate FAR revisions on sustainable acquisition; it will be broadly disseminated and posted to the Office of Acquisition Management (OAM) Web site and OSEEP's Web site.

2. Cost

DOC, to the maximum extent possible, specifies and acquires sustainable products and services which meet performance requirements and offer the best value. Acquisition strategy considers environmental factors such as sustainable design, life-cycle cost analysis, product or packaging take back (return to manufacturer for recycling or remanufacturing purposes), and maximization of energy and resource recovery.

Often, products that are energy efficient (ENERGY STAR[®] or FEMP designated), water-efficient, biobased, environmentally preferable, and non-ozone depleting are competitively priced with conventional products and services. However, in some cases, the costs for sustainable products and services may be higher than what is currently spent or have greater up-front costs (but increased savings overall). In such cases DOC will analyze options and possible funding mechanisms.

3. Goal-specific

a. Ensure that 95% of new contracts—including task and delivery orders under new contracts and existing contracts—require the supply or use of products and services that are energy efficient (ENERGY STAR[®] or FEMP-designated), water efficient, biobased, environmentally preferable (excluding EPEAT[®]-registered products), non-ozone depleting, contain recycled content, or are non-toxic or less-toxic alternatives.

DOC will revise the *Commerce Acquisition Manual's* Green Procurement Program (GPP) to meet or exceed the 95% contract action targets established in EO 13514 and implemented in the FAR rule on sustainable acquisition. Upon modification of the Federal Procurement Data System (FPDS) to provide agencies the capability to identify, measure, and track awards and exceptions for sustainable acquisitions, DOC will use the system as a tool to measure achievement against the 95% goal.

b. Update agency affirmative procurement plans (green purchasing plans and environmentally preferable purchasing plans), policies, and programs to ensure that all federally mandated designated products and services are included in all relevant acquisitions.

- DOC will revise the *Commerce Acquisition Manual's* Green Procurement Program to reflect pertinent FAR revisions incorporating the mandates of EO 13514.
- DOC OAM will work collaboratively with OAS, the OCIO, Environmental Designees, and the OUs to communicate revised green procurement program requirements, policies, and training opportunities, through various distribution venues such as e-mail, internal documents, conferences and workshops, notices of training opportunities, and postings to appropriate DOC Web sites.

d. Positions

At the headquarters level, OAM's Acquisition Workforce and Policy Division has assigned sustainable acquisition responsibility to a procurement analyst as a collateral duty. At the OU level, acquisition office staff members have assumed these responsibilities as collateral duties.

e. Planning Table

DOC has implemented policy (The Green Procurement Program, CAM 1323-70, and Procurement Memorandum 2011-04) that meets or exceeds the goals for acquiring sustainable products and services and which incorporates a sampling and review process that demonstrates green procurement compliance.

Sustainable Acquisition	Units	FY10	FY11	FY12	FY13	FY14	FY15	...	FY20
New Contract Actions Meeting Sustainable Acquisition Requirements	%	0	95	95	95	95	95	...	95
Energy Efficient Products (Energy Star, FEMP-designated, and low standby power devices)	%	0	95	95	95	95	95	...	95
Water Efficient Products	%	0	95	95	95	95	95	...	95
Biobased Products	%	0	95	95	95	95	95	...	95
Recycled Content Products	%	0	95	95	95	95	95	...	95
Environmentally Preferable Products/Services (excluding EPEAT - EPEAT in included in Goal 7)	%	0	95	95	95	95	95	...	95
SNAP/non-ozone depleting substances	%	0	95	95	95	95	95	...	95
Other, as defined by agency								...	

SUSTAINABLE ACQUISITION CONTRACT REVIEW	1st QTR FY 11	2nd QTR FY 11	3rd QTR FY 11 (planned)	4th QTR FY 11 (planned)
Total # Agency Contracts	38	4882	4882	4882
Total # Contracts Eligible for Review	38	75	75	75
Total Contracts Eligible Contract Reviewed (i.e., 5% or more eligible based on previous OMB guidance)	19	50	5% or more	5% or more
# of Compliant Contracts	16	50	TBD	TBD
Total % of Compliant Contracts	84.21	100	TBD	TBD

Discuss how contracts identified in the table above were selected for review.

Contracts identified in the above table were selected as follows: Beginning with Q2 of FY 2011, the total number of agency contracts was obtained from the Federal Procurement Data System (FPDS) Report of Total Contract Actions for the given quarter. Contracts eligible for review were determined in accordance with Procurement Memorandum 2011-04, which requires OU Procurement Officials to identify and report all eligible (aka “applicable”) contract actions –that is, actions subject to the environment preference programs included in CAM 1323-70, which includes Energy Efficient Products (Energy Star, FEMP-designated, and low standby power devices), Water Efficient Products, Biobased Products, Recycled Content Products, Environmentally Preferable Products/Services (Excluding EPEAT-registered, which is in Goal 7), and SNAP/Non-ozone depleting substances, and for reviewing a sample of 5% or more of eligible contract actions for compliance. The percentage of compliant contracts is determined by dividing the number of eligible contract actions reviewed and determined compliant into the number of eligible contract actions reviewed.

f. Agency Status

DOC’s acquisition policy (CAM, 1323.70, Green Procurement Program) is comprehensive and covers all the green preference categories included in the planning table. Upon issuance of the pending FAR sustainable acquisition rule, DOC will update the GPP to address EO 13514 requirements and the latest Federal guidance.

DOC has issued Procurement Memorandum 2011-04, implementing the GPP and addressing requirements under EO 13514 and OMB/CEQ scorecard reporting. The PM establishes requirements for quarterly reporting and review of a contract sample consisting of at least 5% or more eligible actions to demonstrate compliance with the 95% goal and noting corrective action taken. The PM also mandates sustainable acquisition training for contracting officers, purchasing agents and assistants, contracting officer representatives, and purchase cardholders.

DOC Acquisition’s current system does not currently collect or maintain the data required to report the number and percentage of EPEAT products purchased (e.g., of PCs, laptops, displays) versus the number and percentage of non-EPEAT-registered monitors, PCs, laptops purchased. DOC will monitor EPEAT-registered purchases per PM 2011-04 and include their review under the Sustainability element under its Acquisition Management Review process.

g. Highlights

1. Through the actions of Senior Leadership, the Department is specifying and purchasing more sustainable products and services by the mandated use of the Federal Strategic Sourcing Initiative for Office Supplies and establishment of a mandatory contract vehicle(s) to provide EPEAT-registered computer products across the Department.
2. DOC modified its Forecasting and Advanced Acquisition System (FAAPS) to address Sustainable Acquisition and has made use of FAAPS mandatory.
3. DOC issued Procurement Memorandum 2011-04, implementing the GPP and addressing requirements under EO 13514. Requirements include quarterly reporting and review of a sample

consisting of at least 5% or more eligible actions to demonstrate compliance with the 95% goal, and noting corrective action taken. The PM also mandates sustainable acquisition training for contracting officers, purchasing agents and assistants, contracting officer representatives, and purchase cardholders.

4. DOC has provided sustainable acquisition training for its contracting officers, purchasing agents and assistants, contracting officer representatives, and purchase cardholders.

5. DOC is adding Sustainable Acquisition to its Acquisition Management Review (AMR) process.

6. DOC included Green Procurement as part of an internal control review conducted by an outside contractor on the Department's purchase card program.

7. DOC has added "Sustainability" as a regular feature to its annual Acquisition Conference. The FY 2011 conference held in May included the topic and was conducted in an environmentally sustainably manner (near Metro, with minimal paper handouts (these will be e-mailed), using recycled material and providing for recycling of program and nametags on site). Over 360 DOC employees attended the conference.

8. DOC participated in the December GSA & Ability One Greening Summit "Slam" which aims to promote the joint goals of increasing employment opportunities for severely disabled individuals and increasing the use of sustainable products and services.

Challenges

Although DOC's goal is to meet the 95% acquisition target for each green category and it does have in place both policy and a sampling and review process that supports these initiatives, the biggest problem we face by far is collecting and tracking green acquisition data. The Federal Procurement Data System (FPDS), to which all agencies must report their contract actions, has not yet been modified to allow reporting of the reportable green product/service categories. Nor has the Federal product and service code system been modified to identify sustainable product categories. Until FPDS and the PSCs are revised to identify and collect green data, collection will remain largely manual resource-intensive process. Environmental requirements are diverse, ever-growing, and not easily understood. Notwithstanding the training provided so far this year, understanding of green procurement and sustainable acquisition requirements is generally low and better government-wide training is sorely needed. Key roles in the sustainable acquisition process are fulfilled as collateral duties. We await the FAR rule on Sustainable Acquisition so we can update the CAM to incorporate Federal policy and applicable guidance on sustainable acquisition.

GOAL 7: Electronic Stewardship and Data Centers

a. Goal Description

It is DOC policy to promote an electronic stewardship program that reduces the environmental impact of DOC electronic equipment that is purchased, used, and excessed. This will be achieved through continuous improvements to the acquisition, design, specifications, materials choices, distribution, and

use of new electronic equipment, and through the reuse, demanufacturing, and recycling of surplus electronic equipment.

b. Agency Lead for Goal

The DOC SSO has primary responsibility for oversight and implementation of the DOC electronic stewardship and data center program. The SSO is the Deputy Assistant Secretary for Administration. To meet the requirements of EO 13514, the SSO ensures that all actions under this plan are accomplished. The Office of the Chief Information Officer (electronic stewardship and data centers), Office of Acquisitions Management (purchase and tracking of electronic equipment), and the Office of Administrative Services (disposition of electronic equipment and environmental stewardship guidance) work jointly to execute the actions on behalf of the SSO.

c. Implementation Methods

1. Schedule

DOC is committed to achieving electronic stewardship mandates laid out in EO 13423 and strengthened by EO 13514 by 2012. DOC will revise its policies to reflect EO 13514 mandates regarding data centers by FY 2012.

2. Cost

Establishing and implementing policy and guidance to ensure use of power management, duplex printing, and other energy-efficient or environmentally preferred options and features on all eligible agency electronic products will either cost nothing, save money, or require small capital investments that will yield short payback periods. DOC will implement data center and server best practices using existing resources.

3. Goal-Specific:

a. Ensure acquisition of EPEAT registered, ENERGY STAR qualified, and FEMP designated electronic office products when procuring electronics in eligible product categories.

The Commerce Acquisition Manual requires acquisition of EPEAT registered, ENERGY STAR qualified, and FEMP designated electronic office products when procuring electronics in eligible product categories. Commerce checks a sample of 5% or more of eligible sustainable contract actions (which includes these categories) to verify that the policy is being followed. (See Goal 6 for further information on process).

b. Establish and implement policy and guidance to ensure use of power management, duplex printing, and other energy efficient or environmentally preferred options and features on all eligible agency electronic products.

As part of the preparation of Commerce's Green IT Plan of June 2010, the Office of the Chief Information Officer (CIO) issued a data call that provided guidance and collected information on use of power management, duplex printing, and other energy efficient or environmentally preferred options in

Commerce's OUs. Green IT mandates were presented by the Office of Administrative Services (OAS) at two CIO Council meetings in July 2010 and October 2010 and a discussion of progress was held at a CIO Executive Board meeting in January 2011. Commerce's CIOs are well aware of their responsibilities to ensure electronic stewardship.

On April 12, 2011, the Office of the Chief Information Officer issued a policy requiring duplex printing by default on printers capable of duplex printing in the Office of the Secretary. This policy serves as a model for other OUs within Commerce.

Further the Office of Administrative Services (OAS) is developing a manual that will serve as a central source for sustainability policy and guidance. A chapter will be devoted to electronic stewardship.

c. Update agency policy to reflect environmentally sound practices for disposition of all agency excess or surplus electronic products.

Commerce's existing practices for the disposition of all agency excess and surplus electronic products are environmentally sound. Commerce currently disposes of 100% of electronic products using sound disposition practices. The electronic stewardship section of DOC's Energy and Environmental Management Manual currently requires that the end-of-life practices meet this objective. Commerce has a process for disposing of electronic products that prioritizes reuse opportunities within Commerce, followed by donation to other Federal agencies through GSAXcess, donation to the Computers for Learning program, and by recycling electronics through a private recycler. A chapter in the forthcoming OAS manual will address sound practices for disposal of electronic products.

Also, the Personal Property Management Manual encourages all property officials to extend the useful life of electronic personal property to 4 years. DOC complies with GSA procedures for transfer, donation, sale, and recycling of electronic equipment. DOC will strive to use national standards, best management practices, or national certification programs for recyclers.

d. Discuss how the agency will increase the quantity of electronic assets disposed through sound disposition practices. Include in the discussion how your agency is using or plans to use programs such as disposal through GSA Xcess, recycling through Unicor, donation through GSA's Computer for Learning (CFL) or other non-profit organizations, and/or recycling through a private recycler certified under the Responsible Recyclers (R2) guidance or equivalent certification.

DOC currently disposes of 100% of electronic products using sound disposition practices. DOC has a process for disposing of electronic products that prioritizes reuse opportunities within DOC, followed by transfer and reuse to other Federal agencies through GSAXcess, donation to education institutions or nonprofit organizations for educational and research activities through the Stevenson-Wydler Technology Innovation Act, and by recycling electronic equipment through a GSA-approved recycling contractor including UNICOR. DOC will investigate other opportunities to dispose of electronics responsibly by working with other agencies, other non-profit organizations and State Agencies for Surplus Property.

e. Discuss how the agency will require IT planning/Life Cycle Management to replace and or waive equipment that does not meet "Green" compliance requirements.

The CIO's data call of April 2011 for Strategic IT Plans asks OU CIOs to identify their strategies for electronic stewardship. Also, the list of CIO responsibilities made available on Commerce's Web site charges CIOs with meeting electronic stewardship goals.

f. Update agency policy to ensure implementation of best management practices for energy efficient management of servers and Federal data centers, including how the agency will meet data center reduction goals included in the Federal Data Center Consolidation Initiative.

Commerce's Federal Data Center Consolidation Initiative Plan outlines best management practices and goals for the energy efficient management of servers and data centers. Annual updates to the plan will continue to elaborate on these practices and goals.

d. Positions

At the Departmental level, collateral duty will be performed by staff members from those offices noted in section b. Appropriate staff at each OU will also perform collateral duty.

e. Planning Table

ELECTRONIC STEWARDHIP & DATA CENTERS	Units	FY10	FY11	FY12	FY13	FY14	FY15
% of electronic product acquisition covered by current Energy Star specifications that must be energy-star qualified	%	0	95	95	95	95	95
% of covered electronic product acquisitions that are EPEAT- registered	%	0	95	95	95	95	95
% of covered electronic product acquisitions that are FEMP- designated	%	0	95	95	95	95	95
% of agency, eligible PC, Laptops, and Monitors with power management actively implemented and in use	%	46	100	100	100	100	100
% of agency, eligible electronic printing products with duplexing features in use	%	20	40	60	80	95	95
% of electronic assets covered by sound disposition practices	%	100	100	100	100	100	100
% of agency data centers independently metered, advanced metered, or sub-metered to determine monthly (or more frequently) Power Utilization Effectiveness (PUE)	%	50	50	55	55	60	60
Reduction in the number of agency data centers	#	41	31	28	25	25	25
% of agency data centers operating with an average CPU utilization greater than 65%	%	12	12	12	12	12	12

ELECTRONIC STEWARDHIP & DATA CENTERS	Units	FY10	FY11	FY12	FY13	FY14	FY15
Maximum annual weighted average Power Utilization Effectiveness (PUE) for agency.	#	2.2	2.1	1.9	1.8	1.8	1.7

f. Agency Status

DOC currently tracks its electronic assets through the Sunflower Systems property management system. This tracking allows DOC to monitor the life of its electronic assets and ensure that 100% of its computers either are donated or recycled by certified third-party recyclers. In FY 2010, DOC’s Office of the Chief Information Officer (OCIO) pushed EZ GPO software to the computers of the Herbert C. Hoover Building. This automatically enabled power-saving features on 100% of eligible ENERGY STAR® computers in this building. Similarly, other OUs have made considerable progress in enabling ENERGY STAR® power management features. DOC will continue to strive for excellence in electronic stewardship, with the goal of enabling power management capabilities on all desktop computers in FY 2011.

Also, in FY 2010, DOC developed a data center consolidation plan, approved by the Office of Management and Budget, intended to increase computing efficiency and reduce power consumption throughout the Department. Selected metrics are reported in the table below.

GOAL 8: Agency Innovation & Government-Wide Support

The mission of DOC is to create the conditions for economic growth and opportunity by promoting innovation, entrepreneurship, competitiveness, and stewardship. DOC considers environmental stewardship and sustainable development as crucial to its ability to carry out its mission. For this reason, DOC is a leader in agency innovation—putting forth projects that go beyond Federal mandates.

AGENCY INNOVATION & Government-Wide Support	Units	FY10	FY11	FY12	FY13	FY14	FY15	...	FY20
Programs, Projects, Initiatives that support Gov-wide efforts	Programs	23	23	23	23	23	23		23
Other, as defined by agency									

Described below is a sampling of innovative sustainability projects planned or underway throughout DOC:

- 1) NOAA - Climate Change Adaptation
 - a. NOAA is a co-chair of the Federal Interagency Climate Change Adaptation Task Force, charged by EO 13514 with developing recommendations for Federal agency actions in support of a national climate change adaptation strategy. The Task Force’s work has been guided by a strategic vision of a resilient,

healthy, and prosperous Nation in the face of a changing climate. To achieve this vision, the Task Force identified a set of guiding principles that public and private decision-makers should consider in designing and implementing adaptation strategies. The Task Force will continue to meet over the next year as an interagency forum for discussing the Federal Government's adaptation approach and to support and monitor the implementation of recommended actions in the Progress Report. It will prepare another report in October 2011 that documents progress toward implementing its recommendations and provides additional recommendations for refining the Federal approach to adaptation, as appropriate.

b. NOAA's Fiscal Year (FY) 2012 Budget Request includes a reorganization that brings together its existing widely dispersed climate capabilities under a single line office management structure, the Climate Service. The principal goal of this reorganization is to more efficiently and effectively respond to the rapidly increasing demand for easily accessible and timely scientific data and information about climate that helps people make informed decisions in their lives, businesses, and communities. NOAA provides this to citizens as *climate services*. The Climate Service will allow NOAA to provide a reliable and authoritative source for climate data, information, and decision support services and to more effectively coordinate with other agencies and partners.

c. In response to (a) emerging needs for improved decision-making capabilities across all sectors of society facing impacts from climate variability and change, and (b) the importance of leveraging climate data and services to support research and public education, NOAA has embarked upon an ambitious program to develop a NOAA Climate Services Portal (NCS Portal) to become the "go-to" website for NOAA's climate (as opposed to shorter-term weather) data, products, and services for all users.

At this time, the NCS Portal prototype only scratches the surface of the many climate datasets, products, and services available across NOAA. This effort will gradually transition from a prototype to an operational status over the next year. NOAA's plan is to actively gather user feedback through focus groups, usability studies, and informal communications. Over the next several years, NOAA will expand the NCS Portal's scope and functionality in a user-driven manner to greatly enhance the accessibility and usefulness of its climate resources. As this effort continues to expand in future years, partners from outside of NOAA will become involved in this effort. The NCS Portal will be a central component of NOAA's commitment to enhancing the access to and extensibility of climate data and services, timely articles and information, education resources, and tools for engagement and decision-making.

2) NOAA is playing several critical roles in leading the development of marine renewable energy technologies:

- In response to resurging interest in renewable energy production, NOAA has launched a website containing legal and licensing information for industries interested in developing Ocean Thermal Energy Conversion (OTEC) capability in the United States. OTEC produces renewable energy by using temperature differences between deep cold water and warm surface water to power a turbine. The electricity generated from an off-shore facility is sent to land by power cable. The new website contains information on OTEC technology and potential environmental impacts and on NOAA's licensing authority under the *Ocean Thermal Energy Conversion Act of 1980*. It also contains information on workshops with Federal, state, academic, non-government and private sector interests to explore the technological and environmental issues of commercial-scale OTEC systems. To access the website, visit:
<http://coastalmanagement.noaa.gov/programs/otec.html>.

- NOAA plays an important role in the siting and environmentally-sound operation of renewable ocean energy projects such as offshore wind farms. Through consultation activities, NOAA provides science-based information, conservation recommendations, and project alternative recommendations to ensure the long-term sustainability of living marine resources and associated habitats.
- NOAA is partnering with the Department of Energy and the Bureau of Ocean Energy Management, Regulation and Enforcement on eight joint research awards totaling nearly \$5 million to support the responsible siting and permitting of offshore wind energy facilities and ocean energy generated from waves, tides, currents and thermal gradients. The research will address key information gaps on potential environmental effects of renewable ocean energy that currently limit the development and deployment of these technologies. The research will help to reduce the environmental risks and regulatory uncertainties associated with offshore renewable energy deployment. This collaborative, interagency effort will help lay the foundation for a clean, renewable offshore energy industry that will diversify our nation's energy mix, enhance our energy security, create American manufacturing jobs, and reduce carbon emissions. Additionally, the research from these projects will help support the activities of the National Ocean Council established by President Obama on July 19, 2010 .

3) Managing water supplies is a mission shared by many Federal, state, and local agencies and stakeholder groups. Understanding how climate change, variability and trends will affect future water demand and supply, and identifying adaptation strategies is a shared priority across these entities. Many of these same needs are also shared by the land and wildlife management agencies. To address these needs Reclamation, USACE, NOAA and USGS formed the Federal Climate Change and Water Working Group (CAWWG) in 2008 to help the water management community adapt practices as climate changes. Many of the needs and capabilities associated with water management are common to other Federal resource management, regulatory, or science agencies. The CAWWG actively attempt to identify linkages and pursue collaboration in areas of common interest.

4) Since its establishment in 1901, the National Institute of Standards and Technology (NIST)'s mission has been to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life. As the Federal agency responsible for setting national standards, NIST is leading the way in innovative research into energy efficiency, electronic stewardship, and renewable energy.

NIST's Engineering Laboratory maintains several Sustainable Manufacturing Programs. Each will ultimately contribute to the refinement of product sustainability metrics and standardization of claims by manufacturers, assisting Federal agencies and private organizations in decision-making for green purchasing.

- a. The Information Models for Sustainable Manufacturing research program aims to define formal models to supply the representation needs for sustainable manufacturing, including reuse, recycle (disassembly) and remanufacturing. The current lack of formal models (syntactically and semantically consistent representations) of product life cycle information makes it difficult to standardize and validate support systems for product life cycle management.

- b. The Model-Based Engineering for Sustainable Manufacturing research program's objective is to understand the effect of design and manufacturing decisions on sustainability by identifying the variables that contribute to the characterization of sustainability for designed objects (products and manufacturing processes). The definition of sustainability metrics is fundamental for gaining an understanding and identification of the parameters that define sustainable manufacturing. A consequence of developing these metrics could be the characterization of quality measures from different aspects of sustainability, such as material or energy flow.
- c. The STEP Evolution and Extensions for Sustainable Manufacturing program's objective is to help U. S. manufacturers quickly incorporate sustainability technologies by partnering with industry to develop and validate standards for seamless information exchange between engineering, production, and manufacturing business functions.
- d. The Scheme for Computing Carbon Weight (footprint) of Manufactured Products is leading the development of measurements and standards that facilitate the assessment of efficient fabrication, disassembly and recycling of manufactured goods. The principal vehicle for reaching this objective is the development of a systems approach to sustainable engineering systems, characterized by multiple interlinked pathways of interaction at various levels. These levels span economic, ecological and societal issues. As part of this objective, the project will develop a methodology for incorporating information about carbon footprint into product characterizations.
- e. The Standards and Testbeds for Sustainable Manufacturing Program is developing testbeds to validate information standards and methods through testing in different sustainable manufacturing contexts. This includes:
 - Developing a methodology for testbeds based on prior experiences at NIST and develop a reference testbed architecture;
 - Testing information standards that support carbon output reporting and carbon credit trading;
 - Testing information standards that support recycling, reuse, or disposal of manufactured products; and
 - Validating and testing information models for sustainable design and manufacturing.
- f. The Survey and Analysis of Relevant Standards for Sustainable Manufacturing project is defining the standards landscape in the area of sustainable manufacturing, including standards for carbon footprint determination, disassembly, remanufacturing, recycling, energy resource management and hazardous and toxic materials management. The project will look for mechanisms for systematically evaluating, comparing, selecting and/or harmonizing product standards of overlapping scope so as to identify a set of complementary and interoperable standards.
- g. The Sustainable and Lifecycle Information-based Manufacturing Program is helping the U.S. prepare for a future where manufacturing has a zero net impact on the environment. To achieve this goal United States industry will require key resources and methods that will enable it to measure sustainability along several dimensions allowing accurate assessment

of status and progress. These resources and methods require a science-based identification of dimensions, associated measurements and classification and characterization of information relevant to sustainable products, processes, and services. Such traceable information is critical to product designers and manufacturing engineers so that they can incorporate sustainability in their efforts and comply with international regulations. To create this information infrastructure the program will: analyze standards requirements and best practices for sustainable manufacturing; create lifecycle information models for interoperability among systems and tools that support sustainable manufacturing; and validate and test information models for sustainable design and manufacturing.

5) NIST's Barbara Lippiatt was honored at the 2010 GreenGov Awards for developing the BEES (Building for Environmental and Economic Sustainability) Online web application. BEES implements a rational, systematic technique for selecting environmentally-preferred, cost-effective building products. The technique is based on consensus standards and designed to be practical, flexible, and transparent. The decision support software--aimed at designers, builders, and product manufacturers--includes actual environmental and economic performance data for over 230 building products across a range of functional applications. BEES measures the environmental performance of building products using the environmental life-cycle assessment approach specified in International Organization for Standardization (ISO) 14040 standards. All stages in the life of a product are analyzed: raw material acquisition, manufacture, transportation, installation, use, and waste management. Economic performance is measured using the ASTM International standard life-cycle cost method (E917), which covers the costs of initial investment, replacement, operation, maintenance and repair, and disposal. Environmental and economic performance are combined into an overall performance measure using the ASTM standard for Multiattribute Decision Analysis (E1765). For the entire BEES analysis, building products are defined and classified based on the ASTM standard classification for building elements known as UNIFORMAT II (E1557).

6) NIST is playing a key role in the growth of the Smart Grid—bringing together manufacturers, consumers, energy providers, and regulators to develop "Interoperable standards." In other words, NIST is responsible for making sure the many pieces of "the world's largest and most complex machine" are able to work together.

The proposed U.S. Smart Grid will replace the antiquated current U.S. electrical grid. The Department of Energy describes the U.S. Smart Grid as a 21st century U.S. electric system connecting everyone to abundant, affordable, clean, efficient, and reliable electric power any time, anywhere. These advancements will be achieved by modernizing the electric grid with information-age technologies, such as microprocessors, communications, advanced computing, and information technologies. The Smart Grid will dramatically increase the efficiency of electricity usage and rely heavily on carbon-free renewable energy.

As outlined in the "The Energy Independence and Security Act of 2007" (Public Law 110-140, often referred to as "EISA"), NIST has been given "primary responsibility to coordinate development of a framework that includes protocols and model standards for information management to achieve interoperability of smart grid devices and systems."

Interoperability—the ability of diverse systems and their components to work together—is vitally important to the performance of the Smart Grid at every level. It enables integration, effective cooperation, and two-way communication among the many interconnected elements of the electric

power grid. To achieve effective interoperability, we must build a unifying framework of interfaces, protocols, and the other consensus standards.

These standards facilitate useful interactions so that, for example, "smart" appliances and "smart meters" will tell consumers how much power they are using and at what cost, providing them with more control over their power consumption and energy bills. These standards will also encourage the development of the infrastructure that will enable widespread use of plug-in electric vehicles (PEVs). Furthermore, widely adopted standards will help utilities to mix and manage varying supplies of solar, wind, and other renewable energy sources and to better respond to changing demand.

NIST has convened the Smart Grid Interoperability Panel (SGIP) and Smart Grid Advisory Committee to address these challenges. NIST's National Coordinator for Smart Grid Interoperability Office provides visible leadership at the national level and focuses accountability for managing NIST Smart Grid resources. Throughout 2009 and 2010, NIST's Smart Grid program has been vigorously implementing this three-phase plan to develop a roadmap, engage the community of stakeholders, and establish testing programs. Current developments include standards relating to plug-in electric vehicles, publication and release of 2.0 interoperability framework, and publication of the framework for testing and certification.

7) A showcase project for DOC will be NIST's net zero test building. Resembling a typical suburban Maryland single-family home, the ARRA-funded Net-Zero Energy Residential Test Facility will be designed to produce as much energy as it consumes over the course of a year and will serve as a testbed for new home-scale energy technologies. The 2,700-square-foot (251-square-meter), two-story structure will use energy-saving appliances and design, as well as solar panels, to minimize the amount of energy it pulls from the grid and to generate at least an equal amount of energy. During a yearlong demonstration of the house's capabilities, appliances, lights, and kitchen and bathroom fixtures will be computer controlled to simulate a family of four living in the fully furnished home. The groundbreaking ceremony was held on March 25, 2011.

8) The Federal CIO has asked NIST to lead Federal efforts on standards for data portability, cloud interoperability and security. The goal is to help the Federal government reap the benefits of cloud computing.

In this role NIST's cloud computing research team is preparing the most comprehensive guide to cloud computing to date. *NIST Cloud Computing Synopsis and Recommendations* (Special Publication 800-146) explains cloud computing technology in plain terms and provides practical information for information technology decision makers interested in moving into the cloud. The new guide reviews the NIST definition of cloud computing, provides an overview of cloud environments with detailed discussions of each and then provides a section on each of the main cloud environments—Software-as-a-Service, Platform-as-a-Service and Infrastructure-as-a-Service. Each of these sections looks at the environment's scope, its capabilities, benefits, and known issues and concerns. The publication also provides information on how organizations should consider the relative opportunities and risks of cloud computing. A section on Open Issues covers computing performance, reliability, economics, compliance and data and applications security. The final section discusses general recommendations. Appendices cover typical costs of cloud computing, roles and responsibilities, acronyms, terminology and resources for further investigation. The draft is currently out for comment.

9) The Economic Development Administration (EDA)'s mission is to advance the economic revitalization of communities and regions suffering from economic distress by making grant-based investments to attract private capital investment and create quality, long-term jobs. EDA investments are focused on locally developed, regionally based economic development initiatives that achieve a high return on taxpayer investment and directly contribute to economic growth. Since green sectors are some of the fastest growing areas of the economy, environmentally-sustainable economic development investments are a key component in helping to build vibrant, regional innovation ecosystems that support job creation. EDA acknowledges and promotes this concept through a targeted grant program (i.e., the Global Climate Change Mitigation Incentive Fund) and a funding priority that encourages environmentally-sustainable economic development in its other investment programs. This two-pronged approach helps to cultivate innovations that can fuel "green growth" in communities suffering from economic distress. Through investments in emerging regional clusters related to energy, cutting-edge environmental technologies, sustainable manufacturing processes, and green building practices, EDA is well-positioned to foster job creation by limiting the Nation's dependence on fossil fuels, enhancing energy efficiency, curbing greenhouse gas emissions, and protecting natural systems.

10) The International Trade Administration (ITA)'s mission is to strengthen the competitiveness of U.S. industry and promote trade and investment. ITA maintains an Office of Energy and Environmental Industries (OEEI) whose primary mission is to help analyze and improve the global trade and economic competitiveness of U.S. energy and environmental technologies firms. OEEI maintains websites on environmental industries and on the energy industries team. The environmental industries team is the principal resource and key contact point within the DOC for American environmental technology companies. Their goal is to boost U.S. competitiveness and facilitate U.S. exports of environmental goods and services by providing support and guidance to U.S. environmental industries exporters.

In late 2010 ITA's Energy Industries team announced the establishment of the Renewable Energy and Energy Efficiency Advisory Committee (REEEAC). REEEAC is a private sector committee that advises the Secretary of Commerce and agencies of the Trade Promotion Coordinating Committee (TPCC) on Federal trade policies and programs concerning the environmental technologies industry.

11) The Census Bureau tracks a variety of "green" data throughout the country.

According to the American Community Survey (5-year estimates):

- 0.5% of Americans bike to and from work. More men bike to work than women (0.7% vs. 0.3%).
- 10.5% of U.S. residents carpool to work. Men are more likely to carpool than women (11% vs. 10%).
- 5% of U.S. residents take public transportation to work. Women are more likely to take public transportation (5.4% vs. 4.6%).
- About 36,000 households in the United States rely on solar energy to heat their homes.

In 2009, according to data from the American Community Survey, the New York-Northern New Jersey-Long Island metropolitan area led in the nation in the percentage of workers who used public transportation at 30.5%, followed by the San Francisco-Oakland-Fremont metro area, at 14.6%.

12) The National Technical Information Service (NTIS)'s Federal Energy Data Management program helps Federal agencies collect, monitor and baseline your building's energy consumption required by the

Energy Policy Act of 2005. Using a web-based energy monitoring solution hosted in a secure Federal environment, NTIS gives its Federal clients access to the tools to easily monitor their building's energy consumption via a command and control center that enables viewing of real-time energy usage.

Section 3: Agency Self Evaluation

Agency Self Evaluation	Answer
Does your Sustainability Plan incorporate and align sustainability goals, GHG targets and overarching objectives for sustainability with the Agency Strategic Plan?	Yes
Does it provide annual targets, strategies and approaches for achieving the 2015 and 2020 goals?	Yes
Is the Sustainability Plan consistent with the FY2012 President's Budget?	Yes
Does the Sustainability Plan integrate all statutory and Executive Order requirements into a single implementation framework for advancing sustainability goals along with existing mission and management goals, making the best use of existing and available resources?	Yes
Does your plan include methods for obtaining data needed to measure progress, evaluate results, and improve performance?	Yes

Other Key Questions

Did your agency meet by 12/30/10 due date and/or is it now able to demonstrate comprehensive implementation of the EO 13423 Electronic Stewardship goals?

– Acquire at least 95% EPEAT-registered electronics.

- DOC has implemented policy that meets or exceeds all goals and incorporates a review process to demonstrate green procurement compliance for sustainable categories including EPEAT, Energy Star and FEMP-designated products. DOC will use the process in PM 2011-04 because its Acquisition system does not currently collect or maintain the data required to report the number and % of EPEAT products purchased (e.g., number and % of EPEAT monitors, PCs, laptops purchased) versus number and % of non-EPEAT monitors, PCs, laptops purchased monitored purchased. In addition, DOC will include review of EPEAT, Energy Star and FEMP purchases under a Sustainability element under its Acquisition Management Review process.

– Enable energy star or power management features on 100% of eligible PCs. Yes

– Extends the life and/or uses sound disposition practices for its excess or surplus electronics (If these goals have not been met and demonstrated, then agency should describe its plan and milestones to demonstrate full compliance.) Yes.

Is your agency tracking and monitoring all of its contract awards for inclusion of requirements for mandatory Federally-designated green products in 95% of relevant acquisitions? Yes.

(If it is finding non-compliance issues, then it should identify corrective actions the agency is taking this year to demonstrate compliance with the 95% sustainable acquisition goal by the end of FY2012.)

Has your agency completed energy evaluations on at least 75% of its facilities? Yes (in progress through an ESPC project at NIST)

(If agency has not met this goal, then it should describe plans for catching up on this requirement in the next 6 months.)

Will your agency meet the deadline of October 1, 2012 (EPACT'05 Sec 103) for metering of energy use? (Agency should provide current status of buildings metered and plans for meeting the deadline). DOC is on track to meet metering of energy use with the exception of NOAA (72 of 389 appropriate buildings metered, 18.5%). As part of NOAA's Energy Stewardship Program, all facility new construction and renovation/remodeling projects will include, where technically and economically feasible, requirements to install electric metering systems, if systems do not yet exist.

If your agency reports in the FRPP, will it be able to report by December 2011 that at least 7% of its inventory meets the High Performance Sustainable Guiding Principles?(If no, agency needs to provide schedule and plan for actions to be taken in the next six months.) No. NIST and NOAA account for over 99 percent of DOC's sustainable buildings inventory. Within the next six months, NIST will have re-evaluated its entire inventory to determine which facilities are most appropriate to renovate to meet the guiding principles.