United States Department of Commerce

Strategic Sustainability Performance Plan

June 2012

Approved by:

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Deputy Assistant Secretary for Administration and
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JUN 22 2012
Date

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POLICY STATEMENT

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

Over the next twelve months DOC will:

- Update its greenhouse gas inventory;
- Add six sustainable buildings to its real property portfolio;
- Publish a new 32 chapter Energy and Environmental Management Manual;
- Enter into an MOU with the Department of Justice and release a solicitation for a performance-based contract to acquire alternatively financed energy projects and increase the direct purchase of renewable energy at approximately 10 Commerce facilities;
- Ensure five percent, at a minimum, of our electricity comes from renewable energy;
- Continue to right-size our vehicle fleet;
- Empower employees to approach energy-conservation challenges creatively--through energy working groups, employee "Green Teams," and energy-awareness campaigns;
- Maintain collaborative relationships with other Federal agencies to augment limited resources and take advantage of expertise across the Federal Government;
- Continue implementation of the Environmental Protection Agency's ENERGY STAR® Portfolio Manager to track energy usage and overall building performance across DOC facilities; and
- Comply with all relevant environmental and energy statues, 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 our agency's core values and mission, every employee within DOC is charged with personally supporting sustainability within the Department.

Frederick Stephens
Deputy Assistant Secretary for Administration
Senior Sustainability Officer

EXECUTIVE SUMMARY

The U.S. Department of Commerce's (Department) mission is to create the conditions for economic growth and opportunity by promoting innovation, entrepreneurship, competitiveness, and environmental stewardship. In 2010, the Department established an Executive Steering Committee to focus attention on Strategic Sustainability Performance Plan (SSPP) goals. Further, to align business activities to the vision and strategy of the agency, the Department uses a combination of internal tools including a Balanced Scorecard and a Sustainability Dashboard, which are used by senior leadership to track leading indicators of progress toward strategic goals. The strong synergies between sustainability and other strategic goals, such as the reduction of desktop printers, the reduction and consolidation of facilities and infrastructure, and the replacement of fleet vehicles with alternatively fueled vehicles, make achieving the SSPP goals an integral part of Department's mission.

Operating Units within the Department have developed five-year plans that capture all planned projects and activities against many of the SSPP goals. Coupled with the internal performance metric based tracking tools, these five-year plans allow the Department to project anticipated progress toward SSPP goals. A second leadership body within the Department, the Facilities Management Council, has established and oversees quarterly progress toward several goals and can focus attention on potential corrective actions when necessary.

Through fiscal year 2011, the Department continued to strive to meet the goals of Executive Order (EO) 13514, Federal Leadership in Environment, Energy, and Economic Performance. A "green" was achieved on five of the seven metrics of sustainability and energy performance in the January 2012 OMB Sustainability/Energy Scorecard. Specifically, the metrics are as follows:

Scope 1&2 Greenhouse Gas (GHG) Emissions: Scope 1 GHG emissions originate from onsite sources such as natural gas combustion in boilers, and Scope 2 emissions are indirect emissions associated with consumption of purchased electricity. The Department achieved a 5.4 percent reduction in these emissions from 2010 to 2011 and will continue to strive to achieve the overall revised reduction goal of 21 percent by 2020.

Scope 3 Greenhouse Gas Emissions: Scope 3 emissions are largely made up of employee commuting emissions. As the Department grows, reducing these emissions becomes more difficult, but the Department has encouraged employees to use strategies such as telework, alternative work schedules, mass transit, and carpools. The result in 2011 was a reduction of more than 5 percent compared to 2010. While the Department is currently above the 2008 baseline, it will continue to strive to achieve the overall revised reduction goal of 6 percent by 2020.

Energy Intensity: Energy intensity measures the Department's total energy use per square foot of facility space. The Department has already reduced energy intensity by 18.5 percent from 2003, surpassing the 2011 goal, and is on track to exceed the 30 percent reduction goal by 2015.

Renewable Energy Usage: The Department has largely employed a strategy of using Renewable Energy Credits (RECs) to purchase renewable energy and meet this goal, while striving to increase on-site renewable projects and direct purchase renewable energy. As a result, 6.3 percent of the Department's electricity was provided by renewable sources in 2011, surpassing the 5 percent target.

Potable Water Intensity: Similar to energy intensity, this goal tracks the Department's ability to reduce the amount of potable water use per square foot of facility space. Through innovative measures such as installing low-flow water fixtures and upgrading of HVAC cooling tower equipment, the Department has already achieved a 26.8 percent reduction in water intensity compared to 2007, surpassing the 2020 target for this goal and setting the pace for all Federal agencies.

Fleet Petroleum Use: The Department has aggressively "smart-sized" its vehicle fleet in recent years, and older inefficient vehicles have been largely replaced with fuel-efficient models. This has resulted in a 16.2 percent reduction in fleet petroleum use from 2005 to 2011, putting the Department on track to meet the 20 percent reduction target by 2015.

Green Buildings: The Department is making significant strides toward meeting this goal. In 2011, 4.4 percent of Department buildings met the Five Guiding Principles of "green buildings." This is a dramatic difference from 2008, when less than 1 percent of Department facilities were "green." The Department projects further progress in the coming years.

A number of innovative initiatives are being implemented across the Department and its Operating Units Commerce's over the course of the next year to continue efforts in meeting sustainability goals. This includes:

- Improved facility utility tracking through continued implementation of the EPA's Portfolio Manager;
- Implementation of a performance-based, alternatively-financed energy services agreement to evaluate facilities, implement energy efficiency projects, and increase the direct purchase of renewable energy;
- Evaluation of the GSA Carbon Footprint Tool to track Department-wide GHG Scope 1, 2, and 3 emissions
- Investigation of the feasibility of an employee bicycle share program.
- Implementation of a fleet management information system to better track petroleum and alternative fuel use;
- Participation in a plug-in hybrid electric vehicle pilot program run by the General Services Administration;
- Addition of six sustainable buildings to the real property portfolio; and,
- Publication of a 32 chapter Energy and Environmental Management Manual.

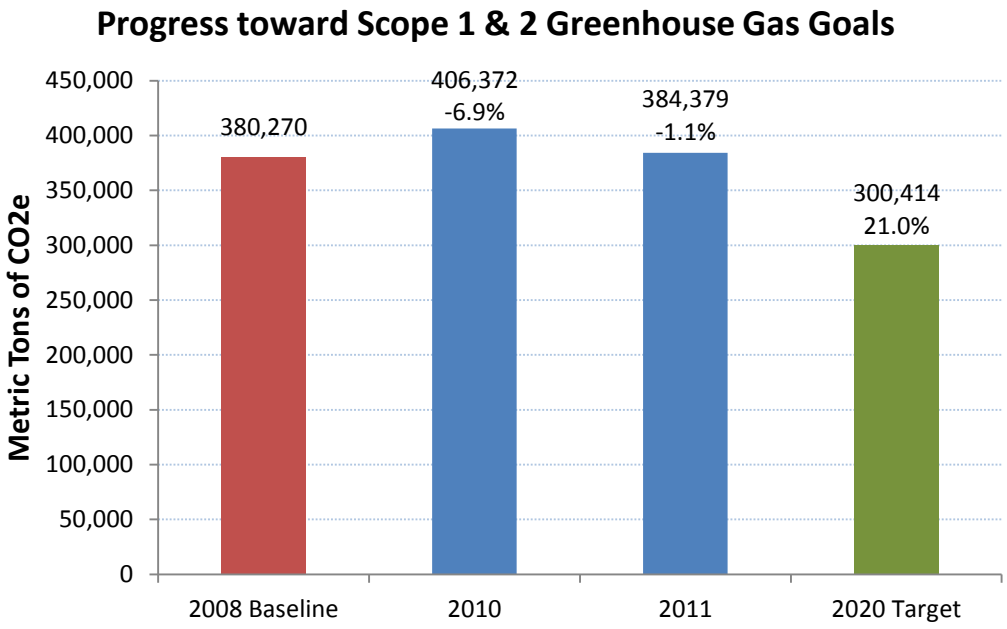
The Department will continue to be a leader on sustainability and efficiency within the Federal community.

TABLE 1: SIZE AND SCOPE OF AGENCY OPERATIONS

Agency Size and Scope	FY 2011
Total Number of Employees as Reported in the President's Budget	47,273
Total Acres of Land Managed	19,500
Total Number of Facilities Owned	524
Total Number of Facilities Leased (GSA and Non-GSA lease)	444
Total Facility Gross Square Feet (GSF)	16,171,845
Operates in Number of Locations Throughout U.S.	3,556
Operates in Number of Locations Outside of U.S.	127
Total Number of Fleet Vehicles Owned	669
Total Number of Fleet Vehicles Leased	1,491

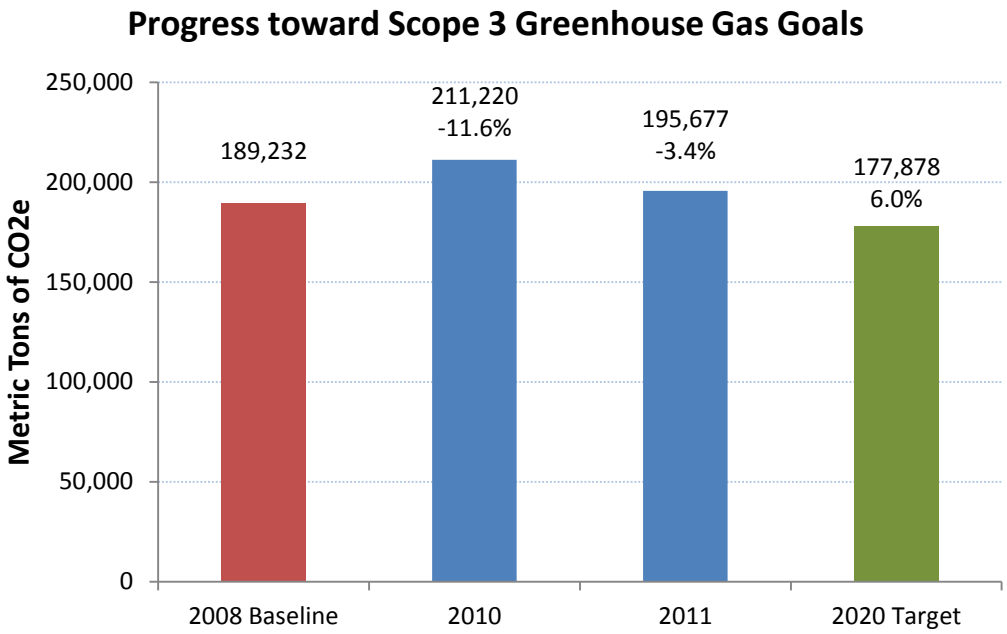
GOAL 1: GREENHOUSE GAS REDUCTION AND MAINTENANCE OF AGENCY COMPREHENSIVE GREENHOUSE GAS INVENTORY

Agency-Specific Performance Metrics for Scope 1 & 2 GHG Emissions Reduction:



Note: E.O. 13514 requires each agency to establish a scope 1 & 2 GHG reduction target for FY2020. The target for this agency is 21% compared to FY2008. The red bar represents the agency's FY2008 baseline. The green bar represents the FY2020 target reduction. The blue bars show actual status in relationship to the target. The percentage on each bar shows the reduction or increase from the FY2008 baseline. A negative percentage reflects an increase in scope 1 & 2 greenhouse gas emissions.

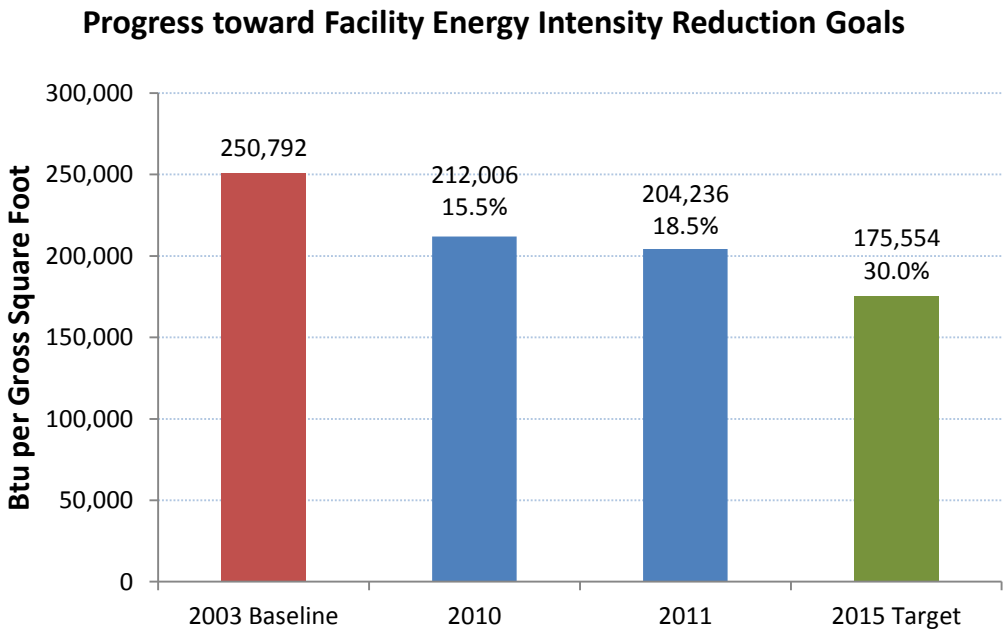
Agency-Specific Performance Metrics for Scope 3 GHG Emissions Reduction:



Note: E.O. 13514 requires each agency to establish a scope 3 GHG reduction target for FY2020. The FY2020 target for this agency is 6% compared to the FY2008 baseline. The red bar represents the agency's FY2008 baseline. The green bar represents the FY2020 target reduction. The blue bars show actual status in relationship to the target. The percentage on each bar shows the reduction or increase from the FY2008 baseline. A negative percentage reflects an increase in scope 3 greenhouse gas emissions.

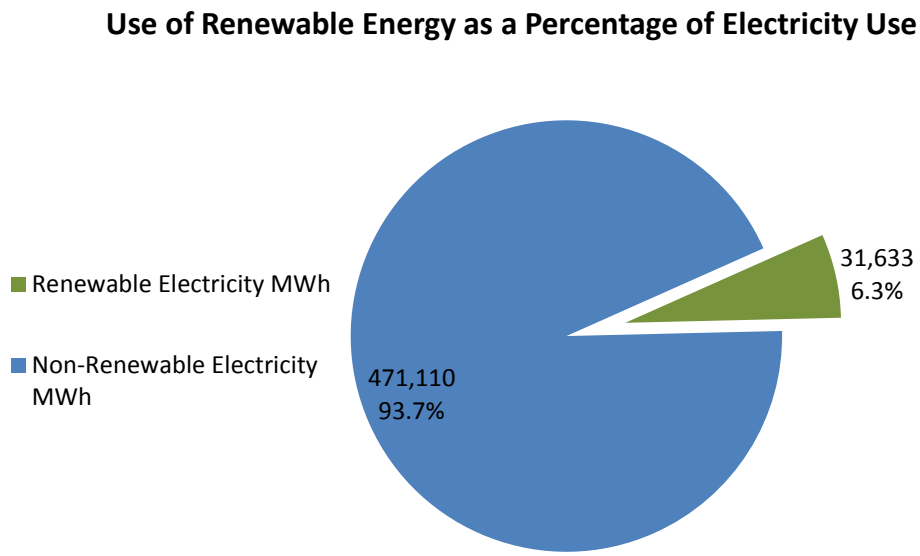
GOAL 2: BUILDINGS

Agency-Specific Performance Metrics for Facility Energy Intensity Reduction:



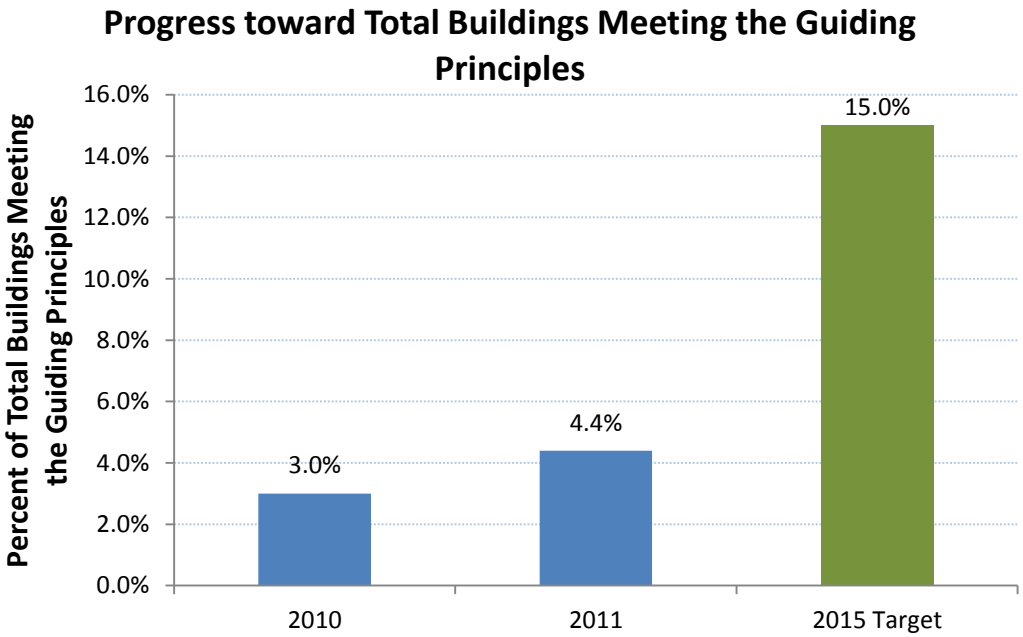
Note: EISA requires agencies to reduce energy intensity by 18% for FY2011, compared to an FY2003 baseline; a 30% reduction is required by FY2015. The red bar represents the agency's FY2003 baseline. The green bar represents the FY2015 target reduction. The blue bars show actual status in relationship to the target. The percentage on each bar shows the reduction or increase from the FY2003 baseline.

Agency-Specific Performance Metrics for Renewable Energy:



Note: EPAct requires agencies to increase the use of renewable energy as a percentage of electricity use to 5% by FY2010-2012 and 7.5% by FY2013 and beyond.

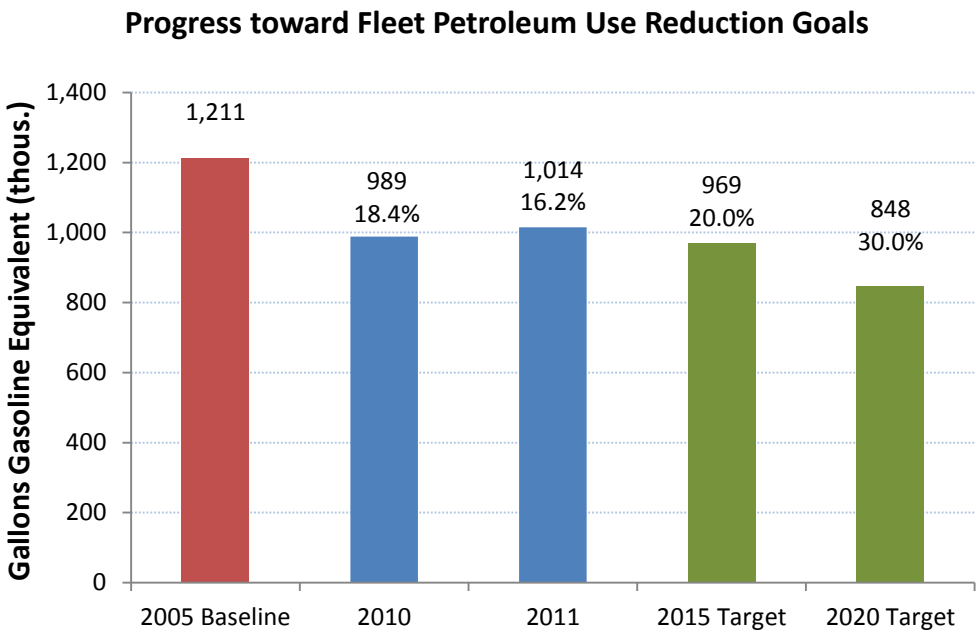
Agency-Specific Performance Metrics for Total Buildings Meeting the Guiding Principles:



Note: E.O. 13514 requires that by FY2011 agencies have 7% of new, existing, and leased buildings >5,000 square feet meet the Guiding Principles; the requirement increases to 15% by FY2015. The green bar represents the FY2015 target. The blue bars show actual progress toward the target.

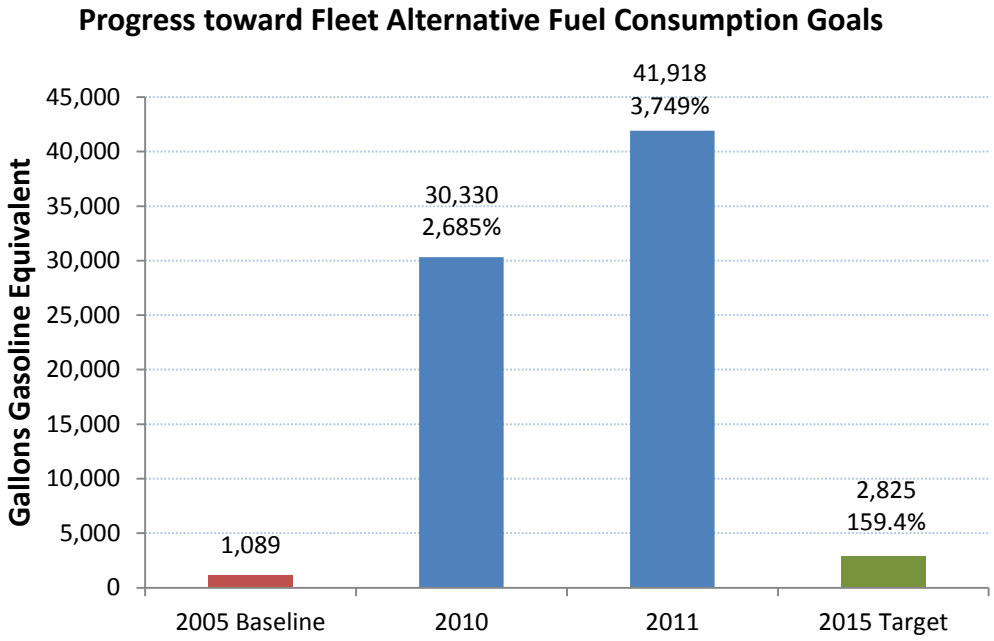
GOAL 3: FLEET MANAGEMENT

Agency-Specific Performance Metrics for Fleet Petroleum Reduction:



Note: E.O. 13514 and EISA require that by FY2011 agencies reduce fleet petroleum use by 12%, compared to an FY2005 baseline. A 20% reduction is required by FY2015 and a 30% reduction is required by FY2020. The red bar represents the agency's FY2005 baseline. The green bars represent the FY2015 and FY2020 target reductions. The blue bars show actual status in relationship to the target. The percentage on each bar shows the reduction or increase from the FY2005 baseline.

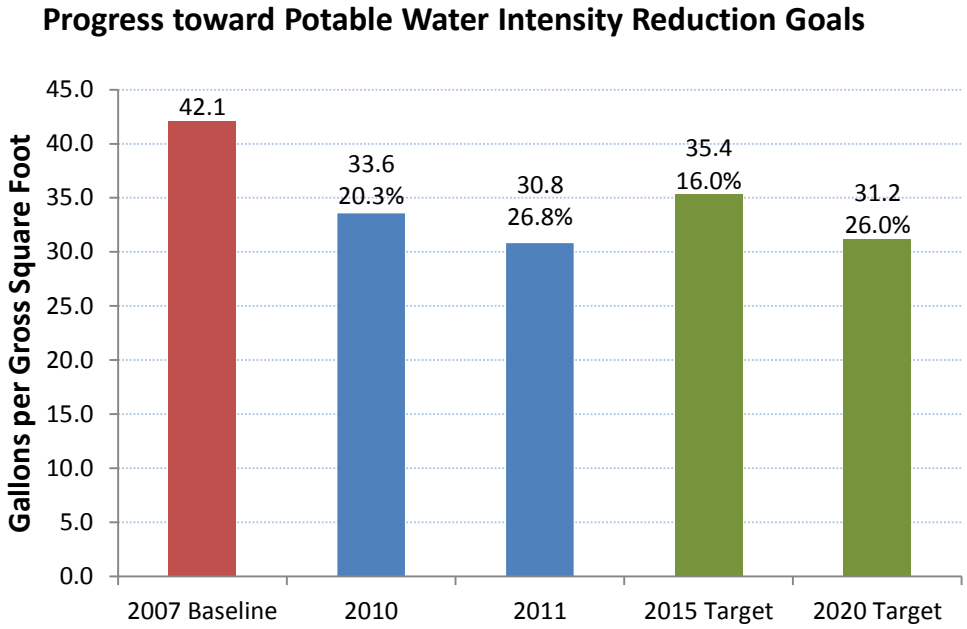
Agency-Specific Performance Metrics for Fleet Alternative Fuel Use:



Note: E.O. 13423 requires that agencies increase total non-petroleum-based fuel consumption by 10% annually compared to an FY2005 baseline. Consequently, by FY2011 agencies must increase alternative fuel use by 77%, compared to an FY2005 baseline. By FY2015, agencies must increase alternative fuel use by 159.4%. The red bar represents the agency's FY2005 baseline. The green bar represents the FY2015 target. The blue bars show actual status in relationship to the target. The percentage on each bar shows the reduction or increase from the FY2005 baseline.

GOAL 4: WATER USE EFFICIENCY AND MANAGEMENT

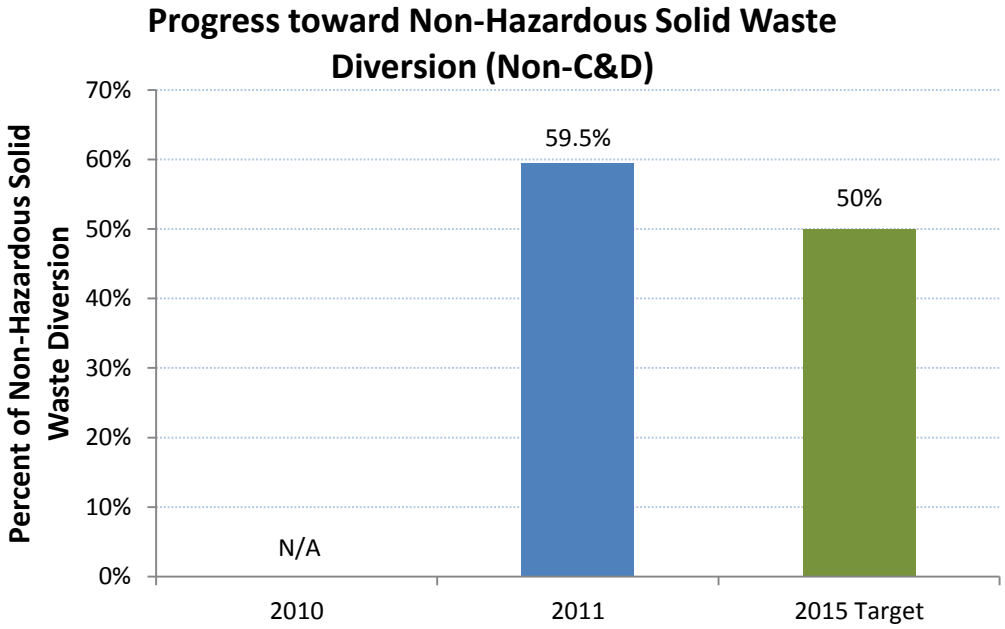
Agency-Specific Performance Metrics for Potable Water Intensity Reduction:



Note: E.O. 13514 requires agencies to reduce potable water intensity by 2% annually through FY2020, compared to an FY2007 baseline. Consequently, by FY2011 agencies are required to reduce potable water intensity by 8%, compared to an FY2007 baseline. A 16% reduction is required by FY 2015 and a 26% reduction is required by FY2020. The red bar represents the agency's FY2007 baseline. The green bars represent the FY2015 and FY2020 target reductions. The blue bars show actual status in relationship to the target. The percentage on each bar shows the reduction or increase from the FY2007 baseline.

GOAL 5: POLLUTION PREVENTION AND WASTE REDUCTION

Agency-Specific Performance Metrics for Non-Hazardous Solid Waste Diversion (Non-C&D):



Note: E.O. 13514 requires that by FY2015 agencies annually divert at least 50% of non-hazardous solid waste from disposal. The green bar represents the FY2015 target. The blue bars show actual progress toward the target.

GOAL 7: ELECTRONIC STEWARDSHIP AND DATA CENTERS

EPEAT	POWER MANAGEMENT	END-OF-LIFE	COMMENTS
			EPEAT Compliance unknown. 81% Power Management Compliant.

EPEAT:

	95% or more Monitors and PCs/Laptops purchased in FY2011 was EPEAT Compliant Agency-wide
	85-94% or more Monitors and PCs/Laptops purchased in FY2011 was EPEAT Compliant Agency-wide
	84% or less Monitors and PCs/Laptops purchased in FY2011 was EPEAT Compliant Agency-wide

Power Management:

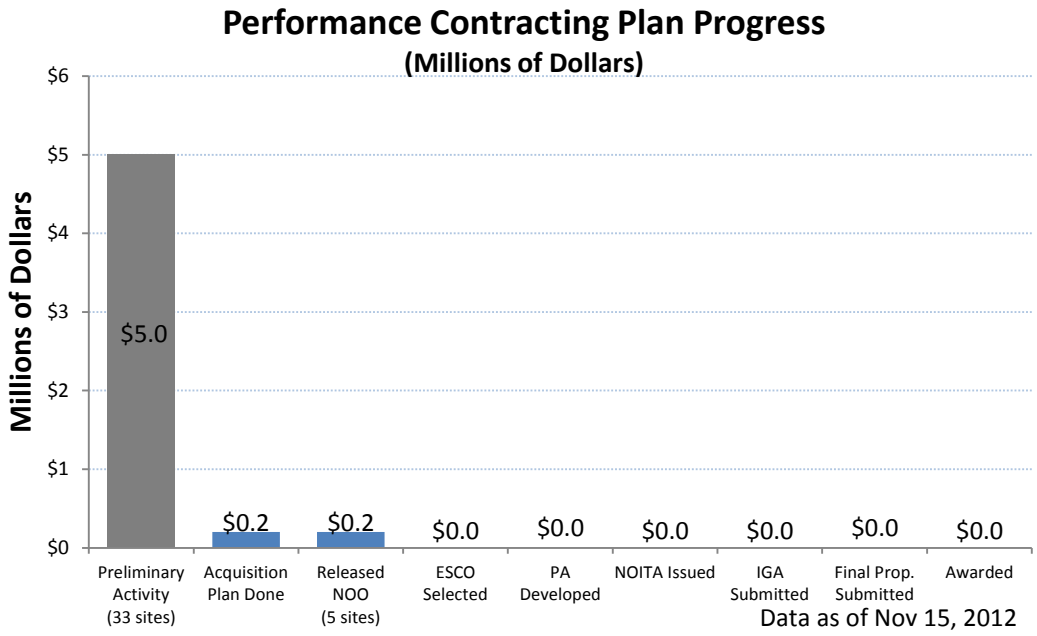
	100% Power Management Enabled Computers, Laptops and Monitors Agency-wide
	90-99% Power Management Enabled Computers, Laptops and Monitors Agency-wide
	89% or less Power Management Enabled Computers, Laptops and Monitors Agency-wide

End-of-Life:

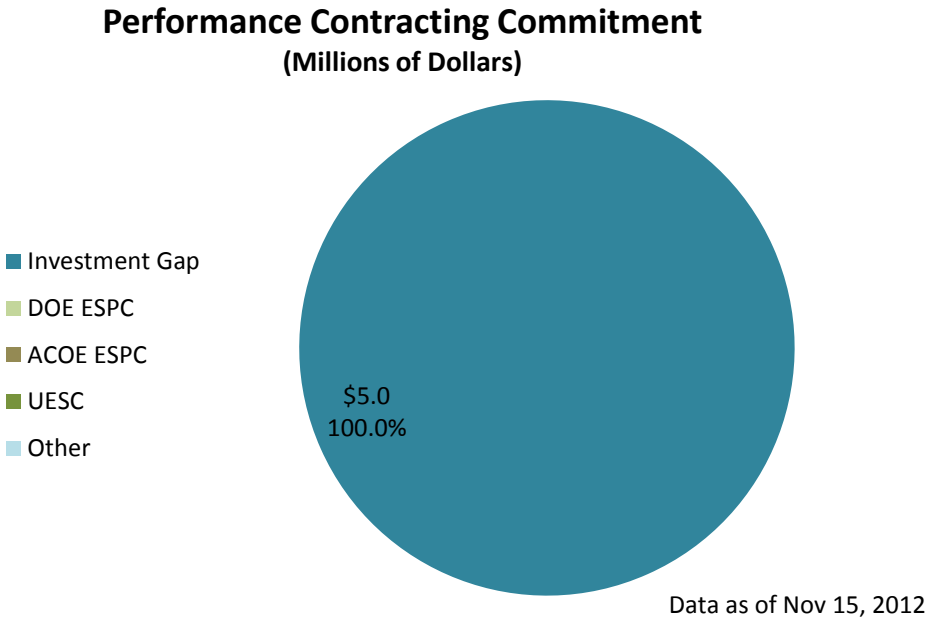
	100% of Electronics at end-of-life disposed through GSA Xcess, CFL, Unicor or Certified Recycler (R2, E-Stewards)
	100% of Electronics at end-of-life disposed through GSA Xcess, CFL, Unicor or non-Certified Recycler
	Less than 100% of Electronics at end-of-life disposed through GSA Xcess, CFL, Unicor or non-Certified Recycler

PRESIDENT'S PERFORMANCE CONTRACTING COMMITMENT

Agency-Specific President's Performance Contracting Commitment Metrics:



Agency-Specific President's Performance Contracting Commitment Metrics:



Appendix 1: Climate Change Adaptation Plan

Department of Commerce Climate Change Adaptation Strategy and FY 2013 Action Plan

June 2012

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I. Background

On October 5, 2009, President Obama signed Executive Order (EO) 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, to establish an integrated strategy for sustainability in the Federal Government. The EO calls on Federal agencies to develop and implement Strategic Sustainability Performance Plans (Sustainability Plans). As part of their Sustainability Planning processes, agencies are to "evaluate agency climate change risks and vulnerabilities to manage both the short- and long-term effects of climate change on the agency's mission and operations" (EO 13514 Section 8(i)).

Executive Order 13514 also charged the Interagency Climate Change Adaptation Task Force (Task Force) with developing recommendations for how Federal policies and programs can better prepare the United States to respond to the impacts of climate change. One of the key recommendations in the Task Force's October 2010 *Progress Report* to the President was for Federal agencies to develop and implement coordinated climate adaptation plans to ensure that Federal resources are invested wisely and that services and operations remain effective in a changing climate.[1]

The Council on Environmental Quality (CEQ) issued implementing instructions for Federal agency adaptation planning on March 4, 2011, based on recommendations from the Task Force.[2] The instructions inform agencies how to comply with Section 8(i) of EO 13514 and include several key agency actions: (1) develop an adaptation policy; (2) conduct a high-level assessment of their vulnerability to climate change; and (3) develop and submit an agency climate change adaptation plan as part of their June 2012 Sustainability Plan. CEQ issued additional guidance for developing agency adaptation plans February 29, 2012.[3]

To respond to EO 13514, the Task Force's October 2010 recommendations, and CEQ's implementing instructions, the Department of Commerce (Department) issued a Departmental Administrative Order (DAO) 216-18, "Addressing Climate Change Impacts at the Department of Commerce in Operations and Programs" on August 31, 2011.[4] The Department also undertook a high-level analysis of its vulnerabilities to climate change. The key findings from that analysis are summarized in Section IV.

As required by the DAO and CEQ's implementing instructions, this five-year climate change adaptation strategy and one-year adaptation action plan analyzes the Department's vulnerability to climate change and outlines the Department's approach for addressing key vulnerabilities over the next five years. The strategy also includes specific priority actions that the Department will undertake in FY 2013 to minimize risks and increase its resilience in a changing climate which will help the United States better prepare for and respond to the impacts of climate change.

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[1] Interagency Climate Change Adaptation Task Force. *Progress Report of the Interagency Climate Change Adaptation Task Force: Recommended Actions in Support of a National Climate Change Adaptation Strategy,* October 5, 2010.
http://www.whitehouse.gov/sites/default/files/microsites/ceq/Interagency-Climate-Change-Adaptation-Progress-Report.pdf

[2] CEQ. *Federal Agency Climate Change Adaptation Planning: Implementing Instructions*, March 4, 2011.
http://www.whitehouse.gov/sites/default/files/microsites/ceq/adaptation_final_implementing_instructions_3_3.pdf

[3] Preparing Federal Agency Climate Change Adaptation Plans In Accordance with Executive Order 13514, February 29, 2012

[4] Department of Commerce Climate Change Adaptation Planning (DAO 216-18), August 31, 2011.
http://www.osec.doc.gov/opog/dmp/daos/dao216_18.html

II. Why is Adaptation Planning Important for the Department of Commerce?

Across the United States and the globe, we are already experiencing, and will continue to experience, the impacts of climate change. Climate change impacts include extreme heat and precipitation events, more frequent and intense wildfires, reduced snowpack, increasing ocean temperatures, loss of sea ice, increasing ocean acidification, and rising sea levels, among others.[5,6] Climate variability and climate change will affect a range of Departmental services, operations, programs, and assets and impacts the Department's ability to achieve its mission and operational goals in the areas of economic growth, science and information, environmental stewardship, and organizational excellence. A changing climate will also result in financial, operational, social, and environmental risks and opportunities across diverse industries and sectors at local, regional, national, and international levels, impacting the Department's partners and the customers it serves.

Some of the Department's infrastructure and facilities may be directly affected by climate change. For example, higher temperatures will increase cooling loads on building HVAC systems. More severe and frequent precipitation and storms, as well as sea level rise will increase potential risks of flooding, inundation and storm damage to buildings, ships, and other infrastructure. By accounting for the effects of a changing climate through a more comprehensive, forward-looking approach to infrastructure and facilities planning, the Department can reduce, and in some cases avoid, impacts to property. This planning could translate to future cost-savings by avoiding costly damages. In addition, smart facilities planning, including not locating buildings in high-risk areas for flooding, sea level rise, or wildfires, will reduce potential impacts on the health and safety of the Department's employees.

With regard to the Department's clients and stakeholders, climate change will provide additional challenges and opportunities as the Department attempts to advance U.S. competitiveness in the global market place, promote job creation, foster stewardship of natural resources, provide science-based information and services to support stakeholder adaptation efforts, and enhance economic growth and standards of living for all Americans. Impacts to U.S. businesses and workers will vary based on location and sector. For example, rising seas and more extreme weather events disrupt transportation and energy infrastructure, including ports, roads, airports, electricity, and oil and gas production. A 2008 multi-agency report on transportation infrastructure in the Gulf of Mexico region noted that by 2100, sea levels in the region could rise by two to four feet (for a mid-range emissions projection), inundating a vast portion of the region's major roads and other critical transportation infrastructure.[7] Damage to this critical commerce infrastructure could increase the cost and time needed to transport and deliver goods, making economic sustainability and growth more challenging.

The negative impacts of climate change on domestic and overseas markets could increase demand for U.S. exports of goods and services that address climate change impacts, while potentially diminishing the competitiveness of U.S. businesses and workers in the global economy in other sectors. Impacts could also affect both the domestic supply chain and the supply of imports to the United States, which the Nation needs to fuel current economic activity, as well as economic growth. Rising sea levels and increased storm activity could greatly disrupt, or even close, some of the Nation's seaports and airports.

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[5] Thomas R. Karl, Jerry M. Melillo, and Thomas C. Peterson, (eds.). 2009. *Global Climate Change Impacts in the United States*. Cambridge University Press. *See also* National Research Council. 2011. *America's Climate Choices*. The National Academies Press. Washington, DC.

[6] Doney, S.C., M. Ruckelshaus, J.E. Duffy, J.P. Barry, F. Chan, C.A. English, H.M. Galindo, J.M. Grebmeier, A.B. Hollowed, N. Knowlton, J. Polovina, N.N. Rabalais, W.J. Sydeman, and L.D. Talley. 2012. Climate change impacts on marine ecosystems. Annual Review of Marine Science 4: 11-37

[7] CCSP, 2008: *Impacts of Climate Change and Variability on Transportation Systems and Infrastructure: Gulf Coast Study, Phase I.* A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research [Savonis, M. J., V.R. Burkett, and J.R. Potter (eds.)]. Department of Transportation, Washington, DC.

Not all effects of climate change on our Nation's economy and commerce are negative. Climate change may also present important opportunities for the Department. For example, concerns about the effects of climate change may increase consumer demand for sustainable products, adoption of more sustainable and environmentally-friendly business practices, and increased demand for clean energy. Climate change may increase the demand for sustainable, green products and services that can assist businesses and communities adapt to a changing climate. The Department can help turn this demand for clean energy and sustainable products and production pathways into a competitive advantage for U.S. manufacturers.

Climate change could also reduce the Department's ability to foster and sustain healthy and resilient coastal and ocean ecosystems and the communities and economies that depend on them, another key aspect of its mission. Climate-related changes on coasts and oceans include increasing ocean temperatures, changes in ocean circulation, changes in ocean productivity, loss of sea ice, rising sea levels, and increasing ocean acidification.[8] In addition, climate change impacts often exacerbate existing ecosystem stressors, such as overfishing, pollution, or habitat destruction.[9] These impacts threaten the National Oceanic and Atmospheric Administration's (NOAA) ability to manage the Nation's coastal and ocean resources and sustain the many important ecosystem services, jobs, and economic activity that these resources provide the Nation. Healthy coral reefs, wetlands, mangroves, and other coastal habitats provide ecosystem services such as flood attenuation and buffering against storms and waves, playing a critical role in reducing costly storm and flood damage and protecting lives and property.[10] These valuable ecosystem services generate millions of jobs and billions of dollars in economic activity each year.[11]

Low-lying coastal communities and infrastructure are vulnerable to the impacts of sea level rise and storm surge, including flooding, coastal erosion, and saltwater intrusion, among other impacts. Climate change will impact natural resources such as water, timber, seafood, and agricultural products, as well as the supply chains, economies, and communities that depend on these resources. For example, ocean acidification threatens shellfish industries. The Pacific Northwest contains coastal bays that are among the Nation's largest shellfish producers. Acidification impacts on hatchery and natural seed recruitment have resulted in approximately a 20 percent decline in West Coast oyster production over the past five years.[12] NOAA provides critical information and services on acidification and climate impacts that can be used to inform and support adaptive management practices by sectors such as the West Coast oyster industry.

With a substantial portion of the U.S. gross domestic product directly influenced by weather and climate, managing weather- and climate-related risks and opportunities requires access to reliable, authoritative, and timely environmental information and services, as well as the capacity to apply this information in decision-making. The demand for climate information and services is increasing as

[8] National Research Council. 2011. *America's Climate Choices*. The National Academies Press. Washington, DC. Doney, S.C., M. Ruckelshaus, J.E. Duffy, J.P. Barry, F. Chan, C.A. English, H.M. Galindo, J.M. Grebmeier, A.B. Hollowed, N. Knowlton, J. Polovina, N.N. Rabalais, W.J. Sydeman, and L.D. Talley. 2012. Climate change impacts on marine ecosystems. Annual Review of Marine Science 4: 11-37.
[9] Thomas R. Karl, Jerry M. Melillo, and Thomas C. Peterson, (eds.). 2009. *Global Climate Change Impacts in the United States*. Cambridge University Press.
[10] Thomas R. Karl, Jerry M. Melillo, and Thomas C. Peterson, (eds.). 2009. *Global Climate Change Impacts in the United States*. Cambridge University Press.
[11] National Ocean Economics Program. 2009. *Ocean and Coastal Economies*. www.oceaneconomics.org/Market/
[12] Bill Dewey. 2011. "Potential Impact of Ocean Acidification on West Coast Shellfish Aquaculture." American Fisheries Society presentation, Seattle, WA.

individuals from diverse sectors (e.g., agriculture, water resource management, transportation) work to enhance resilience to climate variability and change. The Department, through its scientific and economic bureaus, is uniquely situated to develop and deliver these services to inform and support preparedness efforts and decision-making by the private sector; local, regional, tribal, and state governments; Federal agencies; and resource managers. For example, NOAA issues weather, water, and climate forecasts and warnings that provide accurate and timely information to local communities, reducing the loss of life, property damage, and disruptions to businesses and everyday life. In addition, NOAA develops information and tools to enhance understanding and awareness of potential impacts in the coastal region, where low-lying communities and infrastructure are particularly vulnerable to the impacts of sea level rise and storm surge. The Nation will rely even more on NOAA, and the Department, to provide climate information and services to prepare for extreme events, climate variability, and climate change.

The Department must prepare for potential climate risks and opportunities to execute its missions and maintain important services effectively and sustainably in the face of climate variability and change. This will require integration of climate change adaptation planning and actions into Departmental operations, policies, and programs, as well as adjustments in relevant practices and processes. Adaptation is responsible risk management. It is good business practice for the Department to identify, manage, and plan for risks, including those related to climate change, in order to achieve its strategic goals, minimize future costs, avoid disruption, and continue providing the critical products and services on which our Nation's citizens depend.

III. Departmental Administrative Order on Climate Change Adaptation

On August 31, 2011, the Secretary of Commerce signed a Departmental Administrative Order (DAO) 216-18, "Addressing Climate Change Impacts at the Department of Commerce in Operations and Programs."[13] The DAO states "[i]t is the policy of the Department to undertake comprehensive climate change adaptation planning in order to ensure that the Department fulfills its mission and maintains its programs and operations in a changing climate." The DAO requires its bureaus to "consider current and projected climate change impacts when undertaking planning, setting priorities for scientific research and investigations, and making decisions regarding the Department's resources, programs, policies, and operations." In addition, the DAO noted that the Department shall apply the guiding principles and planning framework for climate change adaptation found in the 2010 Interagency Climate Change Adaptation Task Force Report.[14]

The DAO also established a Climate Change Coordinating Committee to develop a Climate Adaptation Plan by June 2012. The Department's Coordinating Committee, co-chaired by the Office Policy and Strategic Planning and the Office of the Chief Financial Officer and Assistance Secretary for Administration, includes representatives from the Office of the Secretary and the Department's bureaus, as appropriate. The Coordinating Committee first convened in April 2011 and meets monthly (or more frequently as needed) to coordinate implementation of the DAO, including overseeing the development of a high-level climate change vulnerability assessment (Section IV), identifying FY 2012 adaptation

[13] *See* http://www.osec.doc.gov/opog/dmp/daos/dao216_18.html.
[14] Interagency Climate Change Adaptation Task Force. *Progress Report of the Interagency Climate Change Adaptation Task Force: Recommended Actions in Support of a National Climate Change Adaptation Strategy,* October 5, 2010. http://www.whitehouse.gov/sites/default/files/microsites/ceq/Interagency-Climate-Change-Adaptation-Progress-Report.pdf

actions (Section VI), and developing this climate change adaptation strategy and FY 2013 action plan (Section VII).

The Coordinating Committee is also ensuring that the Department's adaptation work is aligned with other important Departmental policies, plans, and strategies, as appropriate, such as its Sustainability Plan, Environmental Justice Strategy, and the National Disaster Recovery Framework.

IV. Key Findings from High-Level Climate Change Vulnerability Assessment

A. Background on High-Level Climate Change Vulnerability Assessment

As directed by the DAO, the Coordinating Committee worked with the Department's twelve bureaus to conduct a high-level assessment of the Department's vulnerability to climate change during Summer 2011. The assessment helped the Department understand how it may be impacted by climate change, as well as which impacts may cause the greatest challenges to the Department's ability to achieve its mission and operational goals. While the initial high-level assessment did not focus on specific project-, site-, or program-level vulnerabilities, it has helped the Department identify areas where more detailed analyses may be needed to understand how a particular program, project, or site may be affected by climate change, and what adaptive actions would be most appropriate.

B. Process Used to Develop Preliminary Analysis

To inform the development of the high-level assessment, the Coordinating Committee consulted several primary reports on climate change and its impacts on the United States, such as *Global Climate Change Impacts in the United States* released by the U.S. Global Change Research Program in 2009 and Appendix F of the Support Document[15] issued by CEQ to assist agencies with developing their assessments, which includes examples of climate change impacts. The Coordinating Committee also relied heavily on the Department's Strategic Plan for FY 2011 through FY 2016,[16] which identifies the Department's strategic goals and objectives for the next five years, to provide a framework for the assessment. The Coordinating Committee selected four strategic themes (economic growth, science and information, environmental stewardship, and organizational excellence) to focus on for the high-level assessment (see Section IV.C for further discussion).

The Coordinating Committee tasked each bureau with answering a set of questions to assess their vulnerability to climate change within the selected strategic themes and objectives. Each bureau was asked to:

1. Identify how the bureau's priority mission and operational goals may be impacted by climate change.
2. Identify major climate change impacts that may significantly impact the bureau's ability to meet its priority mission/operational goals.
3. Think about how sensitive the bureau's priority mission/operational goals would be to those climate change impacts.
4. Think about what steps the bureau is already taking to manage the effects of climate change on its priority mission/operational goals.

[15] CEQ. *Federal Agency Climate Change Adaptation Planning: Support Document*, March 4, 2011. http://www.whitehouse.gov/sites/default/files/microsites/ceq/ adaptation_support_document_3_3.pdf
[16] *See* www.osec.doc.gov/bmi/budget/DOC_Strategic_Plan_022311.pdf.

5. Think about what future responses the bureau could take and what resources and capabilities would be needed to continue to adapt.
6. Identify how the Department's bureaus could leverage each other's efforts.

The bureau responses were compiled and synthesized into a Departmental-level assessment identifying key Departmental vulnerabilities and opportunities related to climate change.

C. Priority Strategic Departmental Objectives Impacted by Climate Change

The Department's Strategic Plan has six broad themes and twenty-seven strategic objectives identified to support the Department's missions. For the purposes of this initial high-level assessment, the Committee chose to focus on the strategic objectives where climate change is likely to have the greatest impact on the Department's mission or the most direct role in helping the Department adapt to a changing climate. The objectives also most closely align with the six areas in which the Department is working to promote a more climate-resilient economy, society, and environment as noted in the DAO (see text box on page 9). The assessment focused on the following strategic themes and objectives:

- *Theme 1* – **Economic Growth** – Develop the tools, systems, policies, and technologies critical to transforming our economy, fostering U.S. competitiveness, and driving the development of new businesses. Help create market opportunities that equip businesses and communities with the tools they need to create new businesses and quality jobs with special emphasis on unserved and underserved groups.
    - Objective 6 – Promote and support the advancement of green and blue technologies and industries.
    - Objective 7 – Promote competitiveness of disadvantaged and distressed communities and businesses, particularly those that are disadvantaged or in distressed areas.
    - Objective 8 – Provide services to improve the competitiveness of small- and medium-sized firms in manufacturing and service industries.

- *Theme 2* – **Science and Information** – Generate and communicate new, cutting-edge scientific understanding of technical, economic, social, and environmental systems.
    - Objective 13 – Enhance scientific knowledge and provide information to stakeholders to improve innovation and technology, support economic growth, and improve public safety.
    - Objective 14 – Improve understanding of the U.S. economy, society, and environment by providing timely, relevant, trusted, and accurate data, standards, and services enabling entities to make informed decisions.
    - Objective 15 – Enhance weather, water, and climate reporting and forecasting.

- *Theme 3* – **Environmental Stewardship** – Provide economically sound environmental stewardship and science.
    - Objective 16 – Support climate adaptation and mitigation.
    - Objective 17 – Develop sustainable and resilient fisheries, habitats, and species.
    - Objective 18 – Support coastal communities that are environmentally and economically sustainable.

- *Theme 4* – **Organizational Excellence** – Create a high-performing organization with integrated, efficient and effective service delivery.

- Objective 23 – Re-engineer key business processes to increase efficiency, manage risk, and strengthen effectiveness.

In addition to considering climate vulnerability in the context of these strategic themes, the Coordinating Committee also assessed how the Department's facilities and operations would be affected by climate change.

DAO: Addressing the Impacts of Climate Change at the Department of Commerce in Operations and Programs

The DAO lays out six areas in which the Department is working to promote a more climate-resilient economy, society, and environment:

- Providing climate science and services to the Federal Government and other stakeholders, including the business community, the non-profit sector, and local, state, and tribal governments.
- Assisting other Federal agencies, local governments, regional entities, states, and Indian tribes in integrating climate information and resiliency into their near-term and long-term strategies and actions, including economic development and natural resources stewardship.
- Promoting the advancement of green growth to create market opportunities (both domestically and abroad), new businesses, advanced technologies, and quality jobs.
- Working with industry to develop areas of expertise that facilitate climate change management and adaptation services and create economic opportunities.
- Ensuring that Departmental policies, plans, and decisions anticipate and respond to current and projected climate impacts on our society, economies, and ecosystems.
- Strengthening scientific understanding of climate variability and change and developing advanced measurements, tools, and standards for environmental monitoring and decision support.

D. Key Climate Change Vulnerabilities for Selected Department Mission Themes and Facilities

The key findings from the high-level vulnerability assessment are summarized below. This does not exhaustively examine all of the Department's vulnerabilities to climate change but rather highlights what some of its most significant vulnerabilities may be within the priority strategic themes.

i. *Theme: Economic Growth*

Climate change will affect the Department's ability to foster U.S. competitiveness that drives new business development and creates quality jobs. As the Department develops tools, systems, policies, and technologies critical to transforming the Nation's economy, it will need to integrate climate considerations to ensure that these products and services will continue to promote a strong, resilient economy in a changing climate.

Many businesses in the United States and around the world will be impacted by climate change. Sea level rise and extreme weather events caused by climate change could adversely affect communication and transportation infrastructure, including ports, roads, and airports, as well as energy infrastructure. These impacts to infrastructure could increase the costs and time, as well as interfere with our ability to

manufacture, transport, and deliver goods. The net effect could hinder U.S. exports of goods and services and diminish the competitiveness of U.S. businesses and workers in the global economy. Both the domestic supply chain and the supply of imports to the United States, which the Nation needs to fuel continued economic growth could be affected by impaired infrastructure. In addition, supply chains dependent on natural resources such as water, timber, seafood, and agricultural products would be directly affected by changes in the availability of these resources due to climate change.

Climate change also presents opportunities for U.S. companies and workers as the demand for clean energy and climate-friendly technologies increases. Business will be challenged to employ new technologies and processes to help them adapt and to develop new and innovative products to help others adapt, save energy, and adopt more sustainable practices.

The Department's ability to achieve its strategic objectives related to Economic Growth in the face of climate change has several key vulnerabilities and potential opportunities. The high-level analysis noted that:

- Disruptions in ports and other transportation infrastructure and in supply chains would greatly impact the Department's ability to promote U.S. exports and drive economic growth.
- Climate change impacts on the Department's primary customer base (U.S. businesses, workers, and communities) would affect the Department's ability to foster business and economic development.
- Climate change impacts on U.S. businesses and communities will increase interest in climate-friendly and green technologies to minimize economic and business risks and to capitalize on new, entrepreneurial opportunities. The Department will need to be positioned to translate this interest in innovative, climate-friendly, and green technologies into a competitive advantage for U.S. manufacturers and businesses.
- The increased demand for climate change adaptation-related technologies and the associated increase in patent application filings would impact the Department's ability to process such applications in a timely manner, having a direct impact on U.S. competiveness and economic growth.

In order to continue to drive economic growth and ensure that U.S. businesses remain competitive, the Department will need to promote trade, economic and business development, innovation, entrepreneurship, accurate supply chain information, best practices, standards, and performance metrics that consider climate change. The Department will also need to ensure that it is well-positioned to help companies translate the emerging demand for climate-friendly technologies into a competitive advantage for U.S. manufactures and entrepreneurs, including by working to identify and address barriers to accessing foreign markets.

ii. Theme: Science and Information

The Department is home to three of the Nation's premier science and information agencies: the National Oceanic and Atmospheric Administration (NOAA), the National Institute of Standard and Technology (NIST), and the Economics and Statistics Administration (ESA). Accurate and reliable scientific, economic, and demographic information provided by these agencies are needed to make informed decisions and manage risk, including and beyond the risks resulting from climate change.

The Department has several main vulnerabilities regarding its ability to continue to generate and communicate new, cutting-edge, scientific understanding of technical, economic, social, and environmental systems in a changing climate. Climate change will increase the demand for climate,

weather, economic, ecological, and demographic data, as well as the climate-related information and services the Department provides. Specifically, the high-level assessment noted:

- Governmental and nongovernmental entities and the private sector will look to the Department to provide a better understanding of climate variability and change and to develop advanced measurements and standards for environmental monitoring and modeling to track and assess how physical, biological, and social processes have been and may be altered by climate change for use in decision making.
- Governmental and nongovernmental entities and the private sector will need accurate ecological, economic, social, and demographic data from the Department that considers potential effects of climate change to enhance understanding, assessment, and preparedness for climate-related changes on the U.S. economy, society, and environment.
- The demand for Department-produced tools to help governmental and nongovernmental entities and the private sector transform science and data into effective decision making to minimize their climate change risks will increase as understanding and awareness grows and more climate science and data becomes available.
- U.S. buildings, infrastructure, and communities have the potential to suffer catastrophic loss due to extreme climatic events such as hurricanes, wildfires, and flooding. At present, the necessary metrics, tools, and standards needed to ensure structural and community resilience do not exist to enable communities to withstand and rapidly recover from these disasters and minimize loss of life, damage to buildings and infrastructure lifelines, and disruption to commerce. The Department's measurement science work that underpins the development of standards, technology, codes and practices necessary for cost-effective improvements to the safety and security of buildings during natural disasters will address this gap through enhanced scientific knowledge that promotes innovation and technology, informs decision making, supports economic growth, and improves public safety.

NOAA, NIST, and ESA will need to continue to support and enhance their scientific, information, and services capabilities to meet the needs of Federal and non-Federal partners in a changing climate.

iii. Theme: Environmental Stewardship

Environmental stewardship is a major mission of the Department which, among other stewardship objectives, works to: support climate change adaptation; develop sustainable and resilient fisheries, habitat, and species; and support coastal communities that are environmentally and economically sustainable. Climate change will present new challenges to the Department's stewardship mission to ensure that our ocean and coastal species, habitat, ecosystems, and communities are resilient and sustainable.

The Department has several key vulnerabilities regarding the ability to achieve its environmental stewardship mission. The high-level assessment noted:

- Many climate change impacts such as rising sea levels, increased flooding, higher air and water temperatures, increased droughts, and ocean acidification, will affect coastal and marine ecosystems, challenging the ability of the Department's existing natural resource management systems that are designed for relatively static conditions to fulfill their missions in a changing climate.
- Climate change may allow pathogens, parasites, and invasive species to flourish in new areas and spread more rapidly with possible cascading effects through marine and coastal ecosystems, also challenging the Department's existing natural resource management systems.

- Climate-driven changes in ocean physical conditions and resulting impacts on the distribution and abundance of fish stocks are expected to directly affect the timing, effort, and location of NOAA's fish stock surveys and fisheries enforcement activities so that NOAA may have to shift or expand stock surveys, enforcement efforts, etc. as living marine resources, fisheries, and other human activities respond to changing climate, ocean, and resource conditions.
- Many climate-related impacts, such as rising sea levels and increased extreme storm events, will threaten coastal communities, placing lives and properties at risk, and increasing the need for the Department to foster economic and environmental sustainability through informing community adaptation efforts.

Clearly, the Department's ability to foster and sustain healthy and resilient coastal communities and ecosystems and manage the Nation's coastal and ocean resources to sustain jobs and economic activities will be challenged. The Department will need to incorporate climate considerations into species, habitat, and ecosystem management to achieve its environmental stewardship mission goals.

iv. Theme: Organizational Excellence

Climate change will affect the Department's ability to create a high-performing organization that fosters integrated, efficient, and effective service delivery. Given the climate change vulnerabilities noted under the themes above, the high-level assessment found that:

- Climate change could hamper the Department's ability to manage risk, increase efficiencies, and strengthen the effectiveness of its business practices.
- Climate change could negatively impact the Department's infrastructure, facilities, and operations, particularly if impacts are not proactively addressed (see also facilities and operation discussion below).

v. Infrastructure, Facilities, and Operations Management

The Department and its twelve bureaus control facilities and infrastructure (personal and real property) across all fifty states, the territories, and overseas to facilitate the execution of its missions and operations. As a result of this geographical diversity, the Department's facilities and infrastructure could be vulnerable to the full range of climate change impacts. The high-level assessment found that:

- All of the Department's facilities could be vulnerable to extreme weather events, including increased precipitation, which would increase the risk of flooding and extreme heat, which would increase cooling loads on building HVAC systems. The Department's coastal facilities could be vulnerable to rising sea levels and stronger hurricanes while facilities in the Southwest could be vulnerable to increased wildfire risk.

Six of the Department's bureaus own and operate their own facilities while the other bureaus use leased space managed by the General Services Administration (GSA). Therefore, while the Department will need to take steps to minimize the risk to its facilities and operations from climate variability and change, it will also need to coordinate closely with GSA to ensure all of the Department's facilities and infrastructure are resilient in a changing climate.

V. Five Year Strategic Goals for Adaptation Planning

Over the next five years, the Department seeks to:

- Strengthen scientific understanding of climate variability and change and associated impacts on physical, ecological, and socio-economic processes.

- Develop advanced measurements, tools, and standards for environmental monitoring, socio-economic statistics, and building design that consider climate change to ensure risk-management and other decisions are based on the best available science.
- Enhance tools and services for governmental and nongovernmental entities that will help them integrate climate information and resiliency into their near- and long-term strategies and actions, including those for economic development and natural resources stewardship.
- Promote the advancement of green growth to create market opportunities domestically and abroad, new businesses, advanced technologies, and quality jobs, which will increase our Nation's resilience.
- Work with industry to develop areas of expertise that facilitate climate change management and adaptation services and create economic opportunities.
- Ensure that the Department's policies, plans, and decisions anticipate and respond to current and projected climate impacts on our society, economies, and ecosystems.

VI. FY 2012 Adaptation Actions

As part of the Federal agencies' initial adaptation planning efforts, the CEQ Implementing Instructions asked agencies to identify three to five priority climate change adaptation actions that they would implement in Fiscal Year 2012, including actions to improve agency capacity to assess and build resilience to climate change risks. While the Department is already embarking on many activities to reduce its risk to climate change, five priority actions were identified as a focus for FY 2012:

FY 12 Priority Adaptation Actions	Progress Being Made
Complete high-level analysis of agency vulnerability to climate change.	The Department completed a high-level analysis of its vulnerability to climate change in October 2011. The assessment helped to inform priority actions selected for this adaptation plan. (See Section IV for summary.)
NOAA's Office of Ocean and Coastal Resource Management (OCRM) will develop guidance for considering climate change in land acquisition and facilities development investments made through the Coastal and Estuarine Land Conservation Program (CELCP) and Coastal Zone Management Act program partnerships.	NOAA's OCRM has released a "Voluntary Step-by-Step Guide for Considering Potential Climate Change Effects on Coastal and Estuarine Land Conservation Projects". The guidance document was developed for the purposes of assisting CELCP applicants in considering potential climate change effects on proposed projects and state CELCP leads in incorporating climate change considerations into acquisition plans. The guide provides a systematic approach for thinking about how climate impacts might affect conservation projects and developing a long-term plan that addresses these impacts. This effort will help to safeguard federal land acquisition investments in a changing climate.
NOAA and the U.S. Fish and Wildlife Service (USFWS) will co-lead completion of the first National Fish, Wildlife and Plants Climate Adaptation Strategy (Strategy) to provide a Nation-wide blueprint for coordinated action among Federal, state tribal and nongovernmental entities to safeguard the Nation's valuable natural resources in a changing climate.	In partnership with state, tribal, and Federal agency partners, the Obama Administration released the Strategy for public review and comment from January 19 to March 5, 2012. This effort is co-led by NOAA, USFWS, and the State of New York. The final Strategy is expected to be released in June 2012. For more information, visit: http://www.wildlifeadaptationstrategy.gov/index.php.

FY 12 Priority Adaptation Actions	Progress Being Made
NOAA will work with partners in the Department of the Interior (DOI) and the U.S. Department of Agriculture (USDA) to co-lead a regional climate science and services partnership to inform and support adaptation. In FY 2012, the partners will complete initial regional coordination meetings and develop regional plans of action for a continuing and sustained program.	NOAA is working closely with DOI and USDA through the Interagency Climate Change Adaptation Task Force to initiate an information-gathering effort to support the coordination of regional climate science and services. This effort will help to develop a picture of where coordination among Federal agencies is happening, as well as to identify areas for future collaboration and partnership.
The Economic Development Administration (EDA), through changes to its Comprehensive Economic Development Strategy content guidelines, will consider encouraging potential grant recipients to take into account the impacts of climate change and the need to foster resiliency when developing their long-term economic development plans and strategies.	The EDA is collecting information to inform changes to its Comprehensive Economic Development Strategy, including reviewing relevant public comments to proposed regulation changes and engaging stakeholders (i.e., Economic Development Districts) for input.

VII. FY 2013 Adaptation Actions

To build off of these FY 2012 adaptation actions and work toward achieving its five-year climate change adaptation goals (see Section V) to address key vulnerabilities, the Department has identified the following priority adaptation actions to implement in FY 2013. Similar to the priority FY 2012 activities, these actions are not a comprehensive list of all of the climate adaptation activities that the Department will be undertaking in FY 2013 but instead reflect several of the Department's top priorities. These actions are organized by the key vulnerabilities identified in the high-level vulnerability assessment (See Section IV.D).

A. Economic Growth

Key Vulnerability/Opportunity: *Climate change impacts on the Department's primary customer base (U.S. businesses, workers, and communities), would affect the Department's ability to foster business and economic development.*

ACTION 1: Factor resiliency (including resiliency to the effects of climate change) into economic development investments.

Lead Office/Bureau: EDA **Scale:** National

Implementation Method: Leveraging the Comprehensive Strategy Content Guidelines developed in FY 2012 and its leadership of the Economic Recovery Support Function of the National Disaster Recovery Framework (NDRF), the Economic Development Administration (EDA) will develop internal guidance on how to factor resiliency (including resiliency to the effects of climate change) into its grant-making investment decisions.

Key Milestones:

- Draft internal guidance developed. (Quarter 3(Q3))
- Final guidance developed and disseminated to EDA's regional offices. (Q4)
- Internal training to EDA's regional offices on final guidance completed. (Q4)

Metric: Internal guidance on how to factor resiliency into its grant-making investment decisions is complete and EDA grant staff are trained in its contents.

Discussion: EDA provides grant-based investments to units of state and local governments and non-profit organizations in communities and regions suffering from economic distress. These locally-driven economic development investments foster vibrant, regional economic systems that promote collaboration, innovation, and job creation. EDA's investments range from upfront strategic economic development planning to public infrastructure construction. To ensure that funds are invested wisely and provide the greatest long-term benefit to communities, economic development plans and public infrastructure projects should be developed with future climate change projections in mind. As noted above, this action also builds off of EDA's leadership of the Economic Recovery Support Function of the NDRF and one of the Department's priority FY 2012 adaptation actions to revise EDA's Comprehensive Economic Development Strategy content guidelines to require communities to consider climate change and the need for resiliency when crafting their plans. (See Section VI for discussion of achievements to date).

As an internal guidance document, there is no need for cross-agency coordination. However EDA does plan to leverage the experiences garnered through engagement with the NDRF, which relied heavily upon interagency Federal collaboration. In addition, development of the Comprehensive Economic Development Strategy content guidelines, which will also inform the internal guidance, relied upon the engagement of a key segment of EDA's stakeholders (i.e., Economic Development Districts). No challenges are anticipated in the development and implementation of the guidance.

Key Vulnerability/Opportunity: *Climate change impacts on U.S. businesses and communities will increase interest in climate-friendly and green technologies to minimize economic and business risks and to capitalize on new, entrepreneurial opportunities. The Department will need to be positioned to translate this interest in innovative climate-friendly and green technologies into a competitive advantage for U.S. manufacturers and businesses.*

ACTION 2: Help businesses capitalize on an increased demand for green technologies sparked by a changing climate.

Lead Office/Bureau: ITA **Scale:** International

Implementation Method: The International Trade Administration (ITA) will continue to work closely with the Secretary's Renewable Energy and Energy Efficiency Advisory Committee, the Civil Nuclear Trade Advisory Committee, the Environmental Technologies Trade Advisory Committee, other industry stakeholders and U.S. Government trade agencies to implement the Renewable Energy and Energy Efficiency Export Initiative and the Civil Nuclear Trade Initiative. This action will: (1) accelerate interagency efforts to expand and improve the types of services and programs supporting these industries; (2) enhance market access overseas and intellectual property rights enforcement; (3) strengthen and tailor trade promotion efforts in these sectors; and (4) develop export markets for U.S.

companies by helping trade partners establish policies and regulations that create optimal conditions for deployment of these technologies while also monitoring these developments to ensure policies and regulations to do not create market access barriers for U.S. companies exporting to foreign markets.

Key Milestones:

- Recharter the Secretary's Renewable Energy and Energy Efficiency Advisory Committee, the Civil Nuclear Trade Advisory Committee, and the Environmental Technologies Trade Advisory Committee. (Q4)

Metric: Increased both the value of U.S. exports of climate-friendly technologies and the market shares that U.S. firms in that sector have in foreign markets.

Discussion: Promoting the development, production, and deployment of green technologies, including those that promote renewable energy and energy efficiency, as well as those that enable businesses to capitalize on new entrepreneurial opportunities in a changing climate, is a high priority for the Department. As the lead export promotion agency for the Federal Government, ITA developed two major interagency initiatives to support U.S. exporters of clean energy without any additional resources: The Civil Nuclear Trade Initiative and the Renewable Energy and Energy Efficiency Initiative. ITA worked with interagency groups to ensure Federal programs designed to promote clean energy, including civil nuclear energy, renewable energy, and energy efficiency are efficient and effective, as well as help U.S.-based firms become increasingly competitive in the global market. These programs are already enhancing the ability of ITA and the Department to help businesses take advantage of economic opportunities in clean energy and ITA will continue to promote these programs in FY 2013. As global opportunities for renewable energy continue to grow around the world, an increasing number of governments are implementing policies to favor domestic production and to develop their own domestic renewable energy industry as a hub for the region. ITA is on the lookout for such developments and works with other trade agencies to address other countries' policies and regulations which can disadvantage U.S. companies. One of the key factors determining the competitiveness of the U.S. renewable energy industry will be the extent to which there is a U.S. market for such technologies.

Key Vulnerability/Opportunity: *The increased demand for climate change adaptation-related technologies and the associated increase in patent application filings would impact the Department's ability to process such applications in a timely manner, having a direct impact on U.S. competiveness and economic growth.*

ACTION 3: Improve the ability to process patent application filings for climate change adaptation-related technologies in a timely manner.

Lead Office/Bureau: USPTO **Scale:** National

Implementation Method: The U.S. Patent and Trademark Office (USPTO) will continue to implement its Patent Prosecution Highway (PPH) and "Track 1" prioritized examination programs to provide opportunities for fast-tracked examination of patent applications for adaptation-related and other green technologies. Each of these programs is available upon request from the applicant, provided they meet the prescribed requirements, follow the prescribed procedures, and pay any necessary fees. The programs are administered through existing fast-track examination processes at the USPTO.

Metric: "Track 1" goal is to receive 10,000 applications/yr; PPH goal for CY 2012 is to receive 16,000 cumulative requests by end of year.

Discussion: The Patent Prosecution Highway (PPH) permits an applicant to fast track examination of a patent application at the USPTO when a partner office that is examining a patent application determines that the claims in a corresponding foreign patent application are patentable. Through the PPH, applicants can substantially reduce the amount of time they ordinarily must wait to obtain a patent. The PPH also allows the USPTO to leverage work already done by another office in examining the same invention, thus helping to reduce duplication of work and to increase the USPTO processing efficiency. To date, the PPH has produced efficiency gains on the order of approximately a full production unit (a reflection of the efficiency of patent examiners) per application. In addition, the PPH allowance rate, the percentage of applications determined to be patentable, is approximately double the overall USPTO allowance rate. Both metrics translate into thousands of dollars of potential cost savings for applicants from using the PPH. The USPTO currently has PPHs in place with approximately 20 other patent offices around the world, representing dozens of major U.S. trading partner countries, and will continue to expand the program in FY 2013.

The "Track 1" program expedites the examination of patent applications related to green and other technologies, within existing resources and processes, to reduce the time it takes to patent these technologies to an average of one year. As with the PPH, earlier patenting enables inventors to secure funding, create businesses, and bring vital green technologies into use much sooner.

B. Science and Information

Key Vulnerability/Opportunity: *Governmental and nongovernmental entities and the private sector will look to the Department to provide a better understanding of climate variability and change and to develop advanced measurements and standards for environmental monitoring to assess how physical biological, and social processes may be altered by climate change.*

Key Vulnerability/Opportunity: *Government and nongovernmental entities and the private sector will need accurate ecological, economic, social, and demographic data from the Department that considers potential effects of climate change to enhance understanding, assessment, planning, and preparedness for climate-related changes on the U.S. economy, society, and the environment.*

ACTION 4: Advance the development and implementation of regional climate outlooks to enhance understanding, planning, and preparedness for climate variability and change.

Lead Office/Bureau: NOAA **Scale:** National

Implementation Method: NOAA will continue to coordinate climate science and services partnerships within the Department and with other Federal partners to advance understanding of the impacts of climate variability and change on communities, ecosystems and economies. As part of this effort, NOAA will continue to host regional outlook forums where useful and appropriate. These forums serve as a venue to communicate understanding of regional climate and the potential implications of extreme events such as floods and droughts. A central focus of the forums is to increase engagement of emergency managers, natural resource managers, other interested practitioners, and the public. The forums also serve to help connect a range of other federal, state, tribal, and private interests in shared understanding of potential vulnerabilities and risks, as well as options for response. Regional outlook

forums are only one out of the many mechanisms that NOAA uses to facilitate regional engagement on climate variability and change. Other examples include the National Integrated Drought Information System, the Regional Integrated Sciences and Assessments program, and the regional climate service coordination being led by the Regional Climate Service Directors.

Key Milestones:

- Regional climate outlooks (products that describe recent and present conditions, impacts and projected climate events) will be produced on a quarterly basis for the Alaska, Pacific, Western, Southern Central, and Northeast regions of the United States. (all Qs)
- Regional outlook forums will be convened to supplement the regional outlooks and improve the network of partners that will contribute and use the information. The number and location of the forums will be contingent on emergent events (e.g., droughts, floods, wildfires) and where opportunities to improve regional collaboration exist. (all Qs)

Metric: Delivery of a Regional Climate Outlook product for the Alaska, Pacific, Western, Southern Central and Northeast regions on a quarterly basis.

Discussion: Effective coordination across federal, state, tribal, and local partners will be critical for this action. NOAA will use the National Integrated Drought Information System (NIDIS) Act of 2006 (P.L. 430-109), the NOAA-Western Governors' Association MOU, and the DOC-DOI MOU on climate-related activities as requirements to help establish critical links to other agencies. The activities will be supported through existing programs and from leveraging existing partnerships with the NOAA Regional Integrated Sciences and Assessments, the Regional Climate Centers, the State Climatologists, National Weather Service Regional Offices and Weather Forecast Offices, and additional existing partnerships with federal, tribal, state, and local agencies. Ongoing projects consistent with this action include NIDIS and the development of regional drought early warning information systems and the networks and partnerships currently being developed by the NOAA Regional Climate Services Directors.

ACTION 5: Incorporate expanded health care spending and energy usage measures into U.S. Gross Domestic Product (GDP) accounts to improve our understanding of potential climate-related vulnerabilities of the U.S. economy and society.
Lead Office/Bureau: ESA/BEA **Scale:** National

Implementation Method: The Bureau of Economic Analysis (BEA), within the Economic Statistics Administration (ESA), is currently working to refine estimates of health care spending and prices as part of a broader health care satellite account and will continue this work in FY 2013. BEA has also been conducting research to provide more detail on energy consumption by industries and individuals included in the energy accounts (e.g., benchmark input-output tables) in FY 2013.

Key Milestones:

1. Develop refined estimates of output and price indexes for health care spending. (Q4)
2. Incorporate refined estimates of output measures for patients with military and Medicaid coverage. (Q4)
3. Research energy statistics for incorporate into benchmark input-output tables. (Q4)

Metric: Economic activity related to health care better reflected in refined insurance and price indexes and output measures; increased understanding of energy consumption in benchmark input-output tables.

Discussion: The mission of the BEA is to promote a better understanding of the U.S. economy. Some of the most pressing public policy issues today call for new and expanded statistics that extend the GDP and related accounts beyond their long-established boundaries to address such national priorities as health care and energy—areas that have direct links to our understanding of climate change impacts and vulnerabilities. Expanded information on health care spending and prices will improve our understanding of costs stemming from increased illness resulting from increased temperatures and extreme weather conditions. Increasing our understanding of energy consumption by industry by expanding the detailed breakouts of energy types within the U.S. input-output accounts will provide more robust insight into how fossil fuel consumption and green sources of energy might affect economic conditions and greenhouse gas production. BEA will coordinate with the Energy Information Administration to improve the energy consumption data. Barring unforeseen changes in resource availability, there are no unexpected challenges in meeting these milestones.

Key Vulnerability/Opportunity: *The demand for Department-produced tools to help governmental and nongovernmental entities and the private sector transform science and data into effective decision making that minimizes their climate change risks will increase as understanding and awareness grows and more climate science and data becomes available.*

ACTION 6: Develop tools to help local governments and resource managers in the coral triangle integrate climate science and information info effective decision making that minimizes vulnerabilities to climate change.

Lead Office/Bureau: NOAA **Scale:** Regional (Coral Triangle)

Implementation Method: NOAA's Coral Program will support climate adaptation work in the Coral Triangle with the release of a Coral Triangle Initiative climate adaptation toolkit. The toolkit will provide guidance for local governments to work with communities to: (1) provide outreach and education on climate change impacts and adaptation; (2) perform vulnerability assessments; and (3) develop local early action plans for climate adaptation.

Key Milestones:

- Co-lead Coral Triangle Initiative Regional Exchange on climate adaptation to gather lessons from toolkit implementation. (Q1)
- Publish Version 2 toolkit, revised based on lessons learned from Regional Exchange and implementation. (Q3)

Metric: Seven new or enhanced tools implemented to improve management preparedness and response to climate change and ocean acidification.

Discussion: The Coral Triangle adaptation toolkit is one example of how NOAA is developing tools to help local decision makers minimize their risk from climate change. The Coral Triangle Initiative, one of the broadest and deepest regional ocean governance initiatives to date, is a multilateral partnership launched in 2009. NOAA is one of three implementing organizations in the U.S. Coral Triangle Initiative Support Program (US CTI), a 5-year and $42 million program, funded by U.S. Agency for International Development and the Department of State. Through US CTI, NOAA and partners aim to improve the management of millions of hectares of the Coral Triangle's coastal and marine ecosystems to protect

food security and strengthen resilience to climate change for the 363 million residents of the Coral Triangle.

Key Vulnerability/Opportunity: *U.S. buildings, infrastructure, and communities have the potential to suffer catastrophic loss due to extreme climatic events . . . [T]he necessary metrics, tools, and standards needed to ensure structural and community resilience do not exist to enable communities to recover rapidly from these disasters and minimize loss of life, damage to buildings and infrastructure lifelines, and disruption to commerce.*

ACTION 7: Working with Private sector, develop performance-based standards and tools for new and retrofit designs that enhance building resistance and prevent or mitigate collapse under extreme conditions of wind, storm surge, and fire.

Lead Office/Bureau: NIST **Scale:** National

Implementation Method: The National Institute of Standards and Technology (NIST) will continue its program in measurement science to: (1) predict structural performance to failure under extreme loading conditions; (2) predict disaster resilience at the building and community scale; (3) assess and evaluate the ability of existing structures to withstand extreme loads; (4) design new buildings and retrofit existing buildings using cost-effective, performance-based methods; and (5) derive lessons learned from disasters and failures involving structures.

Key Milestones:

- Build a first-of-its-kind facility in the U.S. for conducting large-scale tests of structures exposed simultaneously to realistic structural loads and fire conditions for experimental validation of performance-based design tools leading to more efficient, cost-effective, and safer designs for structural fire resistance. (Q4)
- Develop an integrated software tool combining computational fluid dynamics (CFD) and database-assisted design of buildings to resist wind loads resulting in safer, more cost-effective, and repeatable building designs. The CFD models provide the means to investigate the impact on buildings over a much broader range of extreme wind conditions than do currently used experimental testing methods. (Q4)

Metric: Completed guidelines and software tools for vulnerability assessment of new and existing buildings subject to collapse during extreme conditions.

Discussion: Natural and manmade disasters currently cause an estimated $57 billion in average annual costs. Increased extreme weather events due to climate change have the potential to cause losses exceeding $100 billion. NIST is at the forefront of developing measurement tools and standards to help scientists monitor the environment, as well as working with industry to create and implement climate-friendly technologies and standards. NIST programs focused on disaster-resilient structures are developing the measurement science that underpins the development of standards, technology, and practices needed for cost-effective improvements to the safety and security of buildings. These programs will help to mitigate structural failures that arise from fires and storms (hurricanes, tornadoes, storm surge). Knowledge from these efforts can improve next-generation construction standards, codes, and practices to substantially improve the resilience of structures to changes in the frequency of extreme events forecasted to occur due to climate changes.

There are a number of key stakeholder groups with interest in the outcomes of this program. At-risk communities and the American public are key stakeholders and beneficiaries. Governments at all levels, responsible for pre-disaster mitigation and for response, recovery, and rebuilding in the aftermath of catastrophic disasters, will also have a keen interest in the products of this research. Design and construction practitioners, facility owners and operators, standards and codes developers, state and local building officials, and property risk insurers will all benefit. Impacts already achieved by the program include the 40 model building and fire code changes made to be consistent with the NIST World Trade Center (WTC) investigation recommendations now required by the International Code Council's I-Codes. Similarly, the National Fire Protection Association (NFPA) has adopted 15 changes responsive to the World Trade Center Recommendations for inclusion in the 2009 Editions of the NFPA 5000 Building Code, NFPA 1 Fire Code, and NFPA 101 Life Safety Code.

C. Environmental Stewardship

Key Vulnerability/Opportunity: *Many climate change impacts such as rising sea levels, increased flooding, higher air and water temperatures, increased droughts, and ocean acidification, will affect coastal and marine ecosystems challenging the ability of the Department's existing natural resource management systems that are designed for relatively static conditions.*

ACTION 8: Continue developing networks of sentinel sites to coordinate assets and efforts to increase understanding of, and improve response to, sea level change impacts on coastal ecosystems and adjacent communities.

Lead Office/Bureau: NOAA

Scale: Regional (San Francisco, Hawaii, North Carolina, Chesapeake Bay, and northern Gulf of Mexico)

Implementation Method: NOAA will continue to develop networks of sentinel sites to better understand and respond to sea level change. NOAA will work with local area partners in San Francisco, Hawaii, North Carolina, Chesapeake Bay, and northern Gulf of Mexico, leveraging existing NOAA assets, programs and resources, to develop five Sentinel Site Cooperatives. NOAA will also work with the cooperatives to develop sea-level rise decision-making tools, products, and services, through leveraging existing assets, programs and resources.

Key Milestones:

- Contribute 3-5 products to each Sentinel Site Cooperative's efforts. Specific products will be developed during the development of the implementation plans (to be completed in FY 2012). (Q4)

Metric: Forty-three percent of U.S. coastal states and territories demonstrating 20 percent or more annual improvement in resilience capacity to weather and climate hazards.

Discussion: Sentinel sites are locations where integrated observations lead to greater understanding that allows NOAA to predict the types and magnitude of consequences of different phenomena. These data and information are then transferred to decision makers through syntheses and analyses, models, projections, visualization tools, education, outreach, and training. This full range of integrated science, service, and stewardship activities informs decisions related to NOAA trust resources, protection of

coastal infrastructure, community planning, and event response. In this way, NOAA can more fully meet the expectations and needs of populations that depend on, live near, or care about the oceans. Close collaboration with Federal partners, state agencies, nongovernmental organizations, and academia will be paramount to the success of this program.

Key Vulnerability/Opportunity: *Climate-driven changes in ocean physical conditions and resulting impacts on the distribution and abundance of fish stocks, is expected to have direct effects on the timing, effort, and locations of NOAA's fish stock surveys and fisheries enforcement activities.*

ACTION 9: Understand and respond to changes in the distribution of fish and protected species with the loss of sea ice and other changes occurring in the Arctic Ocean.

Lead Office/Bureau: NOAA **Scale:** Regional (Arctic)

Implementation Method: NOAA will continue efforts to monitor, assess, and project changes in ocean productivity and living marine resources with the loss of sea ice and other climate-related changes in some of these areas. Using a network of *in-situ* monitoring stations and ship/aerial surveys, this effort provides information needed to improve stock assessments, stock surveys, harvest levels, and recovery plans.

Key Milestones:

- Maintain the North Pacific Climate Regimes and Ecosystem Productivity Program's Climate and Ecosystem Observing Network and deliver information on climate and ocean conditions to stakeholders. (Q4)
- Deliver an eastern Bering Sea ecosystem synthesis report to the North Pacific Fishery Management Council to improve forecasts of ecosystem condition and evaluation of management options. (Q4)
- Expand stock assessment surveys for groundfish and crab species beyond those areas currently surveyed to provide information on climate-associated fish population shifts and help forecast economic effects of shifting ocean and resource conditions. These expanded surveys will increase understanding of the effect of climate variability on the Arctic Large Marine Ecosystem and improve projections of future impacts and resource levels. (Q4)

Metric: Deployment and recovery of four eastern Bering Sea and two temporary Chukchi Sea biophysical moorings and conduct associated sampling. Completion of the "northern extension" of the Bering Sea bottom trawl survey for groundfish and invertebrate resources.

Discussion: With the loss of sea ice and other climate-driven changes in the Arctic Ocean (Bering, Beaufort, and Chukchi Seas), important commercial fish stocks and protected species have shifted their distributions outside of the current NOAA-surveyed areas in the Bering Sea, resulting in incomplete information for stock assessments, catch limits, and management plans. The productive Bering Sea commercial fisheries are nationally and globally important, accounting for more than 40 percent of the U.S. catch. However, currently NOAA does not effectively monitor the Beaufort and Chukchi Seas where climate change effects have also begun to impact distributions of important fisheries and protected species (e.g., ice-dependent seals).

The Climate Regimes and Ecosystem Productivity Program (CREP) provides living marine resource managers with key information and predictions of how climate change and variability is impacting U.S. marine ecosystems and the resources and communities that depend on them. Currently focused in the Bering Sea and Gulf of Alaska, CREP work has enhanced NOAA's ability to track climate-related and other changes in these ecosystems through a network of *in situ* and remote observing systems. Information from the observing systems has been critical to helping the North Pacific Fishery Management Council sustainably manage pollock and other important fisheries during changing climate and ocean ecosystem conditions over the past 15 years. The CREP approach is one of the most successful models of ocean observing systems that provide fishery managers with information they need to track, project and respond to changing fisheries and marine ecosystems in a changing climate.

Expanded surveys for fish stocks and protected species whose distribution is shifting beyond current survey areas would require additional resources not requested in FY 2013. This is an issue not just for NOAA but also for other partners, although NOAA funds are significantly leveraged by partner resources in these efforts.

Key Vulnerability/Opportunity: *Many climate-related impacts such as rising sea levels and increased extreme storm events will threaten coastal communities, placing lives and properties at risk, and increasing the need for the Department to foster economic and environmental sustainability through informing community adaptation efforts.*

ACTION 10: Provide training to coastal communities to build their capacity to adapt to climate change.

Lead Office/Bureau: NOAA **Scale:** National

Implementation Method: NOAA will provide the following trainings: "Roadmap for Adapting to Coastal Risk," "Climate Adaptation for Coastal Communities," "Planning for Climate Change," "Coastal Inundation Mapping," and "Introducing Green Infrastructure for Coastal Resilience." NOAA will also partner with the Federal Emergency Management Agency's National Disaster Preparedness Training Center to deliver trainings on Tsunami Awareness and Coastal Community Resilience. NOAA will offer climate adaptation and resilience-related webinars and support for meetings with information users. Webinar examples include "Mapping and Visualizing Sea Level Rise," "Marshes on the Move: a Manager's Guide to Understanding ad Using Model results Depicting Potential Sea Level Rise Impacts on Coastal Wetlands," and "Coastal County Snapshots." User meetings will include regional climate communities of practice and resilience planning groups. Through these activities, communities are made aware of, and trained to use the resources that can help them assess and plan for hazard and climate change impacts.

Key Milestones:

- Develop, enhance or expand resilience assessment and planning data and tools and notify local users of availability, for 50 coastal counties. (all Qs)
- Provide 100 coastal counties with technical assistance in the use of resilience assessment and planning data and tools. (all Qs)

Metric: Forty-three percent of U.S. coastal states and territories demonstrating 20 percent or more annual improvement in resilience capacity to weather and climate hazards; 75 counties benefiting from

climate adaptation and resilience-related training; 150 coastal counties benefiting from climate adaptation and resilience learning opportunities.

Discussion: NOAA will work with partners to identify communities in most need of training to allow them to assess and plan for hazards and climate change impacts. When technical assistance is provided alongside a product or training, a community is more likely to use what they learn. Technical assistance will help identify resources that are most relevant to assessment and planning activities. Some trainings may be provided in person or by webinar depending on the availability of resources.

D. Operational Excellence

Key Vulnerability/Opportunity: *Climate change could hamper the Department's ability to manage risk, increase efficiencies, and strengthen effectiveness of its business practices.*

ACTION 11: Incorporate the Department's adaptation activities, as appropriate, into Departmental planning efforts for the National Disaster Recovery Framework.

Lead Office/Bureau: OPSP **Scale:** National

Implementation Method: The Office of Policy and Strategic Planning (OPSP) will work with the Department's Climate Change Coordinating Committee and bureaus, as appropriate, to incorporate the Department's adaptation actions into its planning efforts for the National Disaster Recovery Framework.

Key Milestones:

- The Department's National Disaster Recovery Framework (NDRF) Working Group and Adaptation Coordinating Committee hold quarterly reviews to ensure both efforts are coordinated. (all Qs)

Metric: Adaptive actions to improve the Department's overall resiliency are incorporated into the Department's National Disaster Recovery Framework planning efforts.

Discussion: The National Disaster Recovery Framework (NDRF) is being developed in accordance with Presidential Planning Directive 8 (National Preparedness). The NDRF provides a flexible structure that enables disaster recovery managers to operate in a unified and collaborative manner. It also focuses on how best to restore, redevelop and revitalize the health, social, economic, natural, and environmental fabric of the community and build a more resilient Nation.

The Departmental-wide NDRF working group has already developed draft internal Departmental planning materials which lay the foundation for a systematic, process-driven approach to address long term recovery. These materials include: (1) an inventory of capabilities to support the NDRF and the following annexes: Economic, Housing, Infrastructure, Natural and Cultural Resources, and Capacity Building and Community Planning; and (2) a Standard Operating Procedure to guide internal Departmental planning in the event the NDRF is activated. This draft doctrine fully takes the Department adaptation equities into account. In addition to developing the internal Departmental planning materials mentioned above, the bureau NDRF planners will participate in Federal Emergency Management Agency-led adjudication to review public comments on the NDRF. The NDRF planners will review the public comments and flag relevant comments to inform the Coordinating Committee.

ACTION 12: Explore opportunities for providing continued training to Departmental leadership and program staff on climate change and adaptation.

Lead Office/Bureau: Climate Change Adaptation Coordinating Committee

Scale: Departmental

Implementation Method: The Coordinating Committee will identify potential venues and mechanisms to train Departmental bureau and programmatic leadership and work with other Federal agency partners, as needed, to identify and/or develop suitable training materials, as appropriate.

Key Milestones:

- Brainstorm potential training opportunities/venues. (Q1 and ongoing)
- Identify suitable training materials, as well as what modifications may be needed to meet Departmental needs. (Q2 and ongoing)
- Partner with USGCRP or other Federal agencies to modify/develop training materials, as needed. (Q3, Q4)

Metric: Training opportunities for Departmental bureau and programmatic leadership on climate change and the importance of taking actions to reduce the Department's risk in a changing climate identified.

Discussion: Providing training and education on climate change and the importance of adaptation to Departmental leadership, including bureau and programmatic leadership, will be essential for successfully integrating climate change into the Department's plans, policies, and programs, over time. Departmental leadership must understand and value why minimizing risks in a changing climate is important. Identifying and developing effective training opportunities takes time and may require expertise outside of the Coordinating Committee. Therefore, the Coordinating Committee will explore potential partnerships within and outside of the agency to identify and develop training that will be effective for reaching specific bureaus and programs within the Department.

E. Infrastructure, Facilities, and Operations Management

Key Vulnerability/Opportunity: *Climate change could negatively impact the Department's infrastructure, facilities, and operations, particularly if impacts are not proactively addressed.*

ACTION 13: Identify Departmental properties that are vulnerable to climate change.

Lead Office/Bureau: CFO/ASA

Scale: National

Implementation Method: The Chief Financial Officer/Assistance Secretary for Administration (CFO/ASA) will review its owned and direct leased, mission critical, real property assets using existing data sources to identify properties (buildings, structures, land) that might be at mission risk due to potential vulnerabilities to climate change.

Key Milestones:

- Conduct a high-level screening process to evaluate Departmental properties and assign general levels of risk (high, medium, low). (Q1)

- Identify each mission critical facility, as well as its likelihood of vulnerability to climate change (high, medium, low). (Q2)
- Identify vulnerability risk (likelihood and severity) to each facility (high, medium, low). (Q2)

Metric: High-level assessment and prioritization of Departmental properties' vulnerability to climate change completed.

Discussion: The Department, with NOAA at the forefront, plays a leadership role in the climate change adaptation community. Specifically for real property vulnerabilities, the Department is an engaged member of the interagency Adaptation Community of Practice and actively interacts with other Federal partners to identify resources and strategic approaches to address potential vulnerabilities. The Department anticipates being fully successful in this action using existing personnel and publicly available, credible, and timely data resources.

ACTION 14: Begin to assess the vulnerability of the Department's leased facilities to climate change.

Lead Office/Bureau: CFO/ASA **Scale:** National

Implementation Method: Partner with GSA as they develop a high-level assessment of the Government's owned and leased inventory vulnerable to climate change and GSA's capacity to adapt to incremental climate change and variability.

Key Milestones: TBD with GSA

Metric: Complete and provide GSA with a list of the Department's mission-critical GSA assignments.

Discussion: As part of GSA's Client Portfolio Planning effort, the Department has been chosen to participate in a pilot as GSA develops a process to explain facility risks associated with climate change and to map an organizational approach to climate change adaption. The Department looks forward to working with GSA and anticipates GSA will provide a timeline in the near future. The Department plans to incorporate the criteria GSA develops for "assessing the criticality of facilities to mission and thereby assess vulnerability to climate change risks over time" into its vulnerability screening analyses. The Department assumes GSA's criteria will be completed by FY 2012 allowing the Department to complete its vulnerability analysis of GSA-owned real property by FY 2013 Q2.

VIII. Interagency Coordination on Climate Change Adaptation

A. Coordinating with Federal, State, Local, and Tribal Partners

Many other Federal, state, tribal, and local governments are experiencing climate change risks and vulnerabilities similar to the Department's. Therefore, it will be important for the Department to coordinate and collaborate closely with other governmental agencies so that the specific resources and skills that each agency provides can be effectively leveraged. Sustained and strategic partnerships will allow for a sharing of best practices and lessons learned that will help to reduce the risks and impacts of climate change to the Department, the Federal Government as a whole, as well as state and local entities. The Department is already working with many Federal agencies, as well as state, local, and

tribal partners, to minimize our risk to climate change. A few noteworthy examples are highlighted below.

The U.S. Global Change Research Program (USGCRP) will be an important partner not only for the Department's climate science and information efforts but will also help to provide critical science to inform the Department's adaptation decisions under the other strategic themes. The USGCRP, comprised of thirteen Federal agencies (including DOC/NOAA), coordinates and integrates Federal research on changes in the global environment and their implications for society. The USGCRP also conducts the National Climate Assessment every four years, providing a status report on current climate change science and impacts. In addition, USGCRP's Adaptation Science Workgroup improves coordination and deployment of Federal science in support of adaptation. NOAA will continue to serve as an active participant in the USGCRP and its workgroups to improve coordination of Federal climate science in support of adaptation.

NOAA has regional assets that provide and communicate science in support of climate adaptation. NOAA's six Regional Climate Centers are a federal-state cooperative effort to produce and deliver timely climate products and services to users at local, state, regional, and national levels. In 2010, NOAA hired six Regional Climate Service Directors to further build and strengthen regional partnerships and to better assess and deliver regionally-focused climate science and information products and services that help people make informed decisions in their lives, businesses, and communities. The Regional Climate Centers and Regional Climate Services Directors will continue to work closely with other Federal regional efforts such as NOAA's Regional Integrated Sciences and Assessments program and the Department of the Interior's (DOI) Landscape Conservation Cooperatives and Climate Science Centers.

Addressing climate change vulnerabilities related to environmental stewardship will require strong partnerships with other Federal agencies that have stewardship responsibilities, including DOI and the Department of Agriculture (USDA). Collectively, these agencies (DOC, DOI, USDA) are responsible for stewardship of our Nation's fish, wildlife, plants, public lands, and national forests, coasts, and oceans. Recognizing the need to advance coordination and cooperation on climate-related activities (e.g., science, services, mitigation, adaptation, education, and communication), DOC Secretary Locke and DOI Secretary Salazar signed a Memorandum of Understanding (MOU) in August 2010. The Department is currently working with USDA to develop a similar MOU to improve coordination between the two agencies on climate change issues. For example, NIST and NOAA are already working with the U.S. Forest Service to cost-effectively enhance fire safety in the South and Southwest by developing science-based tools to support implementation of new standards, codes, and technologies that reduce fire losses.

The Department is also providing significant leadership related to interagency planning and coordination for the National Disaster Recovery Framework (NDRF). The NRDF defines core recovery principles, roles and responsibilities of recovery coordinators and other stakeholders, a coordination structure that facilitates communication and collaboration among all stakeholder, and the overall process communities can use to capitalize on opportunities to rebuild stronger, smarter, and safer after a disaster. The Department is the lead Federal coordinating agency for the Economic Recovery Support Function within the NRDF's Interagency Operation Plan, one of six recovery support functions that describe how Federal agencies shall work together to support local recovery efforts. The Department also plays an important supporting role in four other recovery support functions (housing, infrastructure, community planning, and natural and cultural resources).

As noted as part of our FY 2013 actions, the Department will be working closely with the GSA, and facilities operations managers at all Federal agencies, to apply the most cost-effective and appropriate adaptive practices to identify vulnerable infrastructure and improve the resilience of the Department's facilities and operations to climate change.

B. Supporting National Cross-Cutting Climate Change Adaptation Plans

There are several climate change adaptation plans or strategies that were developed (or are currently being developed) to address important cross-cutting issues related to freshwater resources[17]; coastal communities and coastal and marine ecosystems[18]; and fish, wildlife and plants[19]. The Department is committed to supporting these plans. Several of the FY 2013 actions the Department has identified in this adaptation plan will help to implement these plans and strategies (See Appendix B for additional information on how some of the Department's FY 2013 actions specifically support these cross-cutting plans).

IX. Evaluating Success and Next Steps

The Department's Climate Change Coordinating Committee will continue to meet regularly to guide implementation of the FY 2013 actions laid out in this plan. The Coordinating Committee will also assess the Department's progress made in meeting identified milestones and metrics for each priority action and to evaluate the overall effectiveness of each action in reducing the Department's vulnerability to climate change.

Through the Coordinating Committee and its bureaus, as appropriate, the Department will also stay updated on emerging climate knowledge and other relevant information. This information, coupled with assessment of the currently identified FY 2013 actions, will help the Coordinating Committee identify new priority adaptation actions to be included in future Strategic Sustainability Performance Plans that build on the FY 2013 actions included in this plan, as needed, and further reduce the Department's climate-related risks.

The Department remains committed to undertaking comprehensive climate change adaptation planning and considering current and projected climate change impacts in its planning, policy, programmatic, and operations efforts to enable effective execution of Departmental missions and maintenance of important services in the face of climate change.

[17] Interagency Climate Change Adaptation Task Force. 2011. *The National Action Plan: Priorities for Managing Freshwater Resources.* October 2011. http://www.whitehouse.gov/sites/default/files/microsites/ceq/2011_national_action_plan.pdf
[18] National Ocean Council. 2012. *National Ocean Policy Implementation Plan* (draft). January 2012. http://www.whitehouse.gov/administration/eop/oceans/implementationplan
[19] National Fish, Wildlife, and Plants Climate Adaptation Strategy (draft). January 2012. http://www.wildlifeadaptationstrategy.gov/

Appendix A: Glossary of Acronyms

BEA	U.S. Bureau of Economic Analysis
CELCP	Coastal and Estuarine Land Conservation Program
CEQ	Council on Environmental Quality
CFD	Computational Fluid Dynamics
CFO/ASA	Chief Financial Officer/Assistance Secretary for Administration
DAO	Departemental Administrative Order
DOC	Department of Commerce
DOI	Department of the Interior
EDA	Economic Development Administration
EO	Executive Order
ESA	Economic and Statistics Administration
GDP	Gross Domestic Product
GSA	Government Services Administration
ITA	International Trade Administration
MOU	Memorandum of Understanding
NFPA	National Fire Protection Association
NIDIS	National Integrated Drought Information System
NIST	National Institute of Standards and Technology
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRDF	National Disaster Recovery Framework
OCRM	Office of Ocean and Coastal Resource Management
OPSP	Office of Policy and Strategic Planning
PPH	Patent Prosecution Highway
US CTI	U.S. Coral Triangle Initiative Support Program
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGCRP	U.S. Global Change Research Program
USPTO	U.S. Patent and Trademark Office

Appendix B: Supporting National Cross-Cutting Adaptation Plans

DOC FY 2013 Actions	Relevant Actions/Goals DOC Action Supports in National Cross-Cutting Adaptation Plans		
	National Action Plan: Priorities for Managing Freshwater Resources	National Ocean Policy Implementation Plan (draft)	National Fish, Wildlife and Plants Climate Adaptation Strategy (draft)
Action 1: Factor resiliency (including resiliency to the effects of climate change) into economic development investments.		Milestone (Action 6): Develop and incorporate adaptation strategies into future planning and management processes. Action 5: Provide guidance and training to help managers understand and use climate information and tools.	
Action 4: Advance the development and implementation of regional climate outlooks to enhance understanding and preparedness for climate variability and change.	Rec 2: Improve water and climate change information. Rec 3: Use models and projections to increase information. Action 13: Promote open access to data. Rec 6: Support training and outreach to build response capability.	Action 2: Determine the impacts of climate change, ocean acidification and other stressors. Action 3: Provide critical projections of climate impacts on coasts and oceans at decision-relevant scales. Action 5: Provide guidance and training to help managers understand and use climate information and tools.	Strategy 5.2: Conduct research into ecological aspects of climate change. Strategy 4.2: Identify, develop, and employ decision support tools including models. Strategy 5.3: Advance understanding of impacts and responses through modeling.
Action 6: Develop tools to help local governments and resource managers integrate climate science and information to inform effective decision making that minimizes vulnerabilities to climate change.		Action 4: Assess the vulnerability of coastal and ocean environment to climate change and ocean acidification. Action 5: Provide guidance and training to help managers understand and use climate information and tools. Milestone (Action 6): Develop and incorporate adaptation strategies into future planning and management processes.	Goal 3: Enhance capacity for effective management in a changing climate. Strategy 4.2: Develop decision support tools including vulnerability assessments.
Action 8: Continue developing networks of sentinel sites to coordinate assets and efforts to increase	Strengthen observational data systems (p. 19).	Action 1: Integrate observations from protected areas, research sites, and observing systems into a sentinel	Strategy 4.1: Support integrated inventory, monitoring, and observation systems.

understanding of, and better respond to, sea level change impacts on coastal ecosystems and adjacent communities.		site network. Milestone (Action 1): Increase integration of existing Federal/non-Federal observing activities into sentinel site networks.	
Action 9: Understand and respond to changes in distribution of fish and protected species with the loss of sea ice and other changes occurring in the Arctic Ocean.	Rec 2: Improve water and climate change information.	Action 2: Determine the impacts of climate change, ocean acidification and other stressors on ecological, economic, and social systems. Milestone (Action 6): Develop and incorporate adaptation strategies for coastal and ocean species and habitats into future planning and management processes.	Strategy 5.2: Conduct research into ecological aspects of climate change. Action: Conduct assessments for priority species and living resources, synthesize assessments across jurisdictions, etc.
Action 10: Provide training to coastal communities to build their capacity to adapt to climate change.	Action 19: Work with states to identify flood risk and drought management best practices.	Action 5: Provide guidance and training to help managers understand and use climate information and tools.	Goal 3: Enhance capacity for effective management in a changing climate.

Appendix 2: Fleet Management Plan

United States
Department of Commerce

VEHICLE ALLOCATION METHODOLOGY

Fleet Management Plan

February 2012

Updated

This document represents the Vehicle Allocation Methodology (VAM) Management Plan, to be reported to the General Services Administration (GSA), according to GSA Bulletin FMR B-30.

This management plan also includes a description of the process and analyses (and relative documents attached), which were performed as part of the VAM effort.

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1. Process

The development of the VAM followed the guidelines provided by the General Services Administration (GSA) and outlined in GSA Bulletin FMR B-30. The process was segmented into nine steps:

1. Gather available data
2. Complete preliminary baseline
3. Develop utilization survey
4. Implement utilization survey
5. Perform qualitative interviews
6. Analyze data
7. Draw implications
8. Review outcome with bureaus
9. Develop implementation plan

Throughout the process, the Department worked collaboratively with key fleet contacts from the largest bureaus, most notably the National Oceanic and Atmospheric Administration (NOAA) and the National Institute of Standards and Technology (NIST). A working group was set up and met regularly throughout the process; participating bureau personnel provided valuable feedback and served as points of contact to communicate more broadly within each bureau. The plan also underwent a deeper review process during the last part of the VAM project, involving field office personnel, as well as bureau management personnel (Chief Administrative Officers and Chief Financial Officers).

Step 1: Gather available data

Since a Fleet Management Information System (FMIS) is currently under development, but is not in place yet, as a first step, various available data sources were combined. The Department of Commerce (DOC) is composed of several bureaus, under different systems, so data was initially pulled from: a) the Sunflower system (for all bureau-owned vehicles, except NIST, PTO, and Census), b) the GSA database (for GSA-leased vehicles), c) bureau-level data for NIST, PTO, and Census (for bureau-owned vehicles), d) credit card reports from JPMorgan (for commercially-leased and bureau-owned vehicles).

Step 2: Complete preliminary baseline

Subsequently, secondary research was performed to extract additional pieces of key information for the available vehicles, such as vehicle dimensions, fuel type, expected ownership costs, etc. Vehicle Identification Numbers (VINs) were used in conjunction with on-line VIN decoding tools provided by vehicle manufacturers. Additionally, other

databases, such as the Kelley Blue Book and Edmunds.com, were used to triangulate and gather more data per vehicle.

All the available information (Department data and secondary research) was then combined to build a "preliminary fleet baseline" which was the starting point for the utilization survey.

Step 3: Develop utilization survey

As part of the guidelines outlined by the GSA, the Department is required to perform a vehicle utilization survey. The purpose of the survey is to gather information that is not immediately available to the Department, such as vehicle utilization and mission, which can be used to determine what an optimum fleet would look like. A set of questions was developed, based on the presidential memorandum, GSA Bulletin FMR B-30, and additional existing data gaps that were identified during the preliminary data collection process. The utilization survey was developed collaboratively with input from the key fleet contacts from the largest bureaus.

Step 4: Implement utilization survey

Since the utilization survey required users to input a fairly significant amount of information, a user-friendly interface was built, to facilitate and speed up the process. The survey was then distributed in a cascade-like fashion to the bureaus, and results were collected from over 400 geographically-dispersed respondents.

The survey was launched on October 21st and support was provided to the respondents by making an analyst available for calls and questions. In this manner, most of the information was gathered by mid-November, although the last few remaining surveys came through in late November, December, and January.

Step 5: Perform qualitative interviews

While the survey was underway, several qualitative interviews were performed with several vehicle managers across the Department. The purpose of the interviews was to gather additional information, suggestions, and concerns from Bureau fleet personnel that may be directly affected by the results of the VAM. Seven qualitative interviews were performed, using a questionnaire, and questions were discussed in person for approximately one hour per interview.

Step 6: Analyze data

Once the data from the utilization survey was received, the available data was processed, cleaned up, and a more comprehensive and accurate fleet baseline built. The fleet baseline is reported in the VAM reporting tool, and provided the starting point for the fleet analyses.

The analytical process is described in more detail in a later section, but effectively included several analyses related to total inventory, vehicle size, refresh rate, acquisition practices, vehicle ownership, and Alternative Fuel Vehicles (AFV). An analytical software tool was developed, and a user-friendly interface was programmed in such a way that in the future many of the analyses can be quickly refreshed and reports generated.

Step 7: Draw implications

From the analyses, implications were then drawn. Most notably, the preliminary optimum fleet size was determined, which also indicated the potential savings opportunities.

During this phase, for each bureau – and, in the case of NOAA, for each field office – a detailed fleet profile was prepared. The fleet profiles are going to be used as the basis to manage the fleet going forward, and are described in more detail in a later section.

Step 8: Review outcome with bureaus

Once the fleet profiles were prepared, they were more widely shared with bureau personnel, both at the field office level, as well as at the management level. Feedback was solicited from the bureaus in terms of overall feasibility of the targets and plan, and the bureaus were asked to indicate whether revisions to the plan would be necessary, given the specific situation of each bureau.

Step 9: Develop Implementation Plan

The last step of the process was the development of an implementation plan. The implementation plan describes how the targets set up during the previous steps could be reached over time. As part of the implementation plan, a schedule was developed, along with a description of how the fleet profiles would be used over time. The VAM reporting tool was also prepared, which shows the evolution of the fleet over time. Finally, a set of actionable recommendations for the bureaus to reach the desired targets was provided.

2. Context

DOC has identified and is currently in the process of procuring a Fleet Management Information System (FMIS). The FMIS will ensure better data capture that will aide in managing the Vehicle Allocation Methodology and performing the necessary analyses. The goal is to have this new FMIS system implemented NLT December 31, 2012. During the course of 2010 and 2011, a few of the main bureaus, most notably NOAA and NIST, had already begun reviewing their fleet needs, making an effort to "right-size" the fleet under the direction of DOC.

As a result of those efforts, the Federal Automotive Statistical Tool (FAST) report shows a decline in overall inventory within the DOC fleet of over 10% from FY10 to FY11. Therefore, VAMs applies to a fleet that has already been partially optimized.

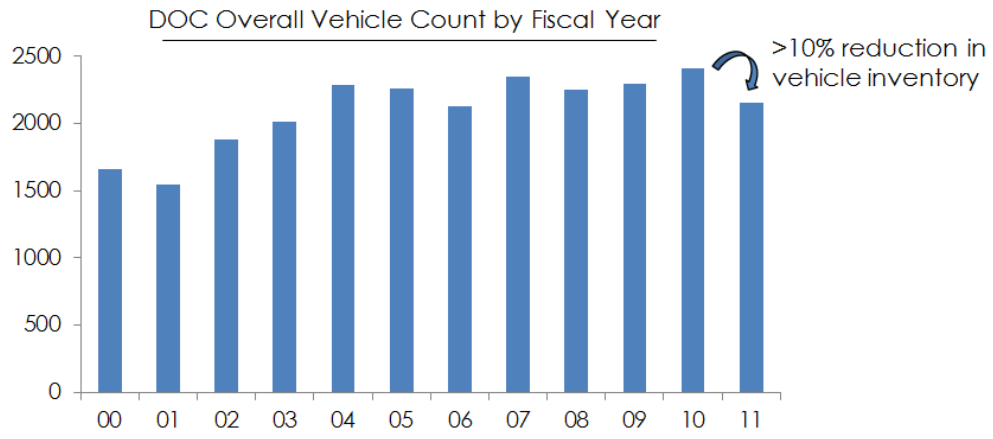


Figure 1: DOC Fleet Inventory over Time

3. Analyses and Methodology

VAM analyses focused on three main optimization levers: 1) fleet size, 2) vehicle size, 3) acquisition practices. For each of the three main optimization levers, a set of analyses was performed, as outlined below.

Optimization Levers	Corresponding Analyses	Outcome
1 **Fleet Size**	"Right-size" "Rent-vs-Have"	Eliminate a subset of vehicles that are under-utilized and not mission critical
2 **Vehicle Size**	"Keep-or-Downsize"	Replace larger vehicles with smaller vehicles to lower acquisition/lease costs and gain better mileage
3 **Acquisition Practices**	"Lease-vs-Buy" "Refresh Rate" "AFV Strategy Review"	Make acquisition decisions with respect to new vehicles, such as considering excess vehicles, acquiring certain types of AFVs, etc.

Figure 2: VAM Optimization Levers

Fleet Size

The first optimization lever was fleet size. Analyses were aimed at addressing the following set of questions: Can vehicles be eliminated? Which vehicles are likely to be the best candidates for elimination? What are potential/expected savings from elimination of vehicles?

Low-Mileage Vehicles

In terms of what vehicles may be eliminated, following the guidelines from GSA, the starting point was low-mileage vehicles. First of all, using the data obtained through the utilization survey, all vehicles that had a mileage of less than 2,000 miles per year were identified and located (by bureau and by field office). From the list of potential candidates for elimination, service vehicles, such as vehicles used for facility maintenance, fire and emergency vehicles were eliminated, since mileage is not a key indicator of utilization for these vehicles. For the same reason, law enforcement vehicles were also removed from further consideration for elimination, even though

they were not considered "exempt" with respect to the VAM reporting tool, per GSA guidance provided in Bulletin FMR B-33 of November 15, 2011, and also because such an exemption would have required the approval of the Secretary.

Vehicles that were considered to be clearly critical to the mission and/or vehicles in special situations were also removed – for example, in the case of a bureau that has only one vehicle, that single vehicle was not considered to be a reasonable candidate for elimination.

Secondly, for each of the potential candidates for elimination, a scorecard, based on four categories, was developed. For each category, a value from 0 to 20 was assigned; the lower the score of the vehicle in each category, the less critical the vehicle was deemed to be. The final score was the addition of the 4 categories and thus can range from 0 to 80, however, vehicles should be judged on their scores relative to the other vehicle scores in the fleet as to best determine candidates for elimination.

Included below are the scoring criteria for each category:

- Mission Category: the mission category value was determined using the primary mission identified in the VAM survey and the values assigned below:
    - Facilities/Maintenance – Excluded
    - Cargo Transportation – 15
    - Research – 10
    - Passenger Transportation – 7
    - Police – Excluded
    - Fire – Excluded
    - Administrative / Executive – 2
    - Other – 10

- Cost per Mile: the cost per mile value was determined by taking the estimated cost per year for a vehicle (fuel and lease if applicable) and dividing it by the reported average mileage accrued per year. This number was then scaled to a maximum score of 20.

- Utilization Frequency: the utilization frequency value was taken directly from the VAM survey data, and it is equal to the number of days that the vehicle is utilized in a month.

- GHG Score: this score was supplied by the Environmental Protection Agency (EPA), according to make, model, model year, and fuel type. The GHG score, which is typically on a scale to 10, was then multiplied by 2 to match the 20-point scale. Large/heavy duty vehicles are exempt from GHG scores and some

vehicles do not have GHG score values in the EPA database – these were assigned a score of 10.

The bureaus were then involved again and asked for an additional round of feedback. In particular, the bureaus were asked to indicate whether candidate vehicles were effectively reasonably suitable for elimination. As a result of this process, the targets were adjusted, in some cases very significantly, to account for specific situations. For example, very geographically-dispersed bureaus requested to retain a significant amount of low-mileage vehicle, due to lack of potential cost effective alternatives.

Finally, the scorecards are included within the fleet profiles (described in more detailed later in the report) and, as part of the implementation plan, DOC personnel is expected to review them with the appropriate vehicle point of contact in the field, to establish whether candidate low-mileage vehicles for elimination can ultimately be eliminated, or whether other vehicles may be more suitable for elimination.

Shuttle Services

As part of the DOC fleet, there are several vehicles that were indicated in the utilization survey as "shuttles". These vehicles do not appear under the low-mileage vehicle category, but should be considered as potential candidates for elimination. In several cases, shuttles have dedicated drivers, which represent a significant personnel expense.

As part of the implementation plan, it is proposed to periodically review shuttle vehicles and determine whether some could be eliminated, but there is no explicit recommendation to eliminate any shuttle vehicles at this point in time.

Vehicle Pools (Washington, DC Area)

In the Washington, DC metropolitan area, there are approximately 90 vehicles that belong to DOC bureaus which could be pooled together. By allowing vehicles to pool together (even simply sharing a reservation system without necessarily re-locating vehicles), there could be less need for back-up vehicles and it could help make the elimination of low-mileage vehicles fairly inconsequential and inexpensive.

Optimum Fleet

For the purpose of fleet optimization, it was initially considered that 80% of the low-mileage vehicles identified as candidates for elimination could actually be further considered for elimination. The 20% buffer allowed for the unavoidable special situations in which a low-mileage vehicle may actually be indispensable.

That number was then reviewed bureau by bureau, and field office by field office, and revised. In some situations, low-mileage vehicles were still considered to be mission

critical by the bureau, and therefore numbers were revised accordingly. To facilitate the achievement of the targets, it was also considered that the optimum fleet targets:

a) Did not include any shuttle service elimination,

b) Considered the creation of vehicle pools as a way to facilitate the elimination of low-mileage vehicles, not as an additional bucket of vehicles to eliminate,

c) Did not consider any vehicle above the 2,000 miles per year threshold – it is conceivable that, over the years and as a result of shifting missions, some offices may be able to eliminate other higher-mileage vehicles, which could then be "swapped" with low-mileage vehicles that need to be kept for specific reasons.

Vehicle Size

The second optimization lever was vehicle size. Analyses were aimed at addressing the following set of questions: Can vehicles be reduced in size? Where are the large vehicles? How many vehicles can be reduced in size without impacting the bureau's missions?

The DOC fleet, because of the missions of its bureaus, has several vehicles that were considered to be large and that could be considered for downsizing.

Large vehicles were categorized according to GSA categories, but the EPA size classification was also considered, at least internally to the Department, because it is a little more granular than the overall GSA categories and allows for downsizing of vehicles even within some GSA categories.

The EPA categories are as follows:

• Light Sedan: <110 cu. ft. interior space • Medium Sedan: 110-120 cu. ft. interior space • Large Sedan: >120 cu. ft. interior space	• Light SUV: <181.1 in. length • Medium SUV: 181.1-200 in. length • Large SUV: >200 in. length
• Light Van: <181.1 in. length • Medium Van: >181.1 in. length	• Light Truck: <8,500 lbs. • Medium Truck: 8,500-16,000 lbs. • Large Truck: >16,000 lbs.

Note that, in the VAM reporting tool and fleet profiles, the results are reported in terms of GSA categories to ensure overall consistency and compliance with GSA reporting requirements.

In collaboration with bureau fleet personnel and through qualitative interviews, it was determined which categories could be considered for potential downsizing. Large trucks, large vans, and buses were eliminated upfront from further analyses – while

these are large vehicles, it became apparent that the size of vehicles in those categories was always appropriate for the mission at hand. On the other hand, it was found that purchases of relatively large SUVs or sedans were often the result of discretional behavior.

Therefore, the bulk of the downsizing opportunities were for the SUV categories and for the large sedans. For those categories, it was assumed, for the determination of the optimum fleet, that a significant percentage of these vehicles would be downsized either to a lower EPA category within the same GSA category, or to a lower GSA and EPA category. The former occurrence is not reported to GSA, but still represents a downsizing opportunity that the DOC is expected to pursue and which would result in less expensive vehicles with better fuel efficiency.

For example, a portion of medium SUVs were proposed to be exchanged with light SUVs, while some were estimated to remain the same to account for those situations where the size of the vehicle is fully justified by the mission at hand. Note also that SUVs that have towing duties were considered separately: those vehicles were not projected to be downsized, even though it was estimated that, in some cases, those vehicles could be replaced with slightly less expensive medium-sized trucks.

In addition to SUVs, it was also determined that a significant portion of large sedans could be downsized to medium sedans. It was also considered that several medium sedans, considered "large" under EPA definition, could be downsized to a lower vehicle, yielding additional savings to the Department. Once again, the latter action is not captured in the VAM reporting tool since those sedans are not changing GSA category.

Finally, it was also estimated that a few medium-sized trucks could be downsized to lighter trucks. The amount of downsizing of medium trucks was kept low, to account for the fact that medium trucks were often fully justified by their mission.

Ranges were then assigned in terms of what percentage of large vehicles could be downsized, and resulting inventories, and associated savings, were calculated accordingly.

Once again, once this process was completed, the bureaus were asked for an additional round of feedback. In particular, the bureaus were asked to indicate whether candidate vehicles were effectively reasonably suitable for downsizing. As a result of this process, targets were adjusted, in some cases significantly, to account for specific situations.

Acquisition Practices: Lease vs. Own

As part of the analyses, the costs of purchasing and owning vehicles against the cost of leasing vehicles from GSA were reviewed, along with the cost of entering into commercial leases.

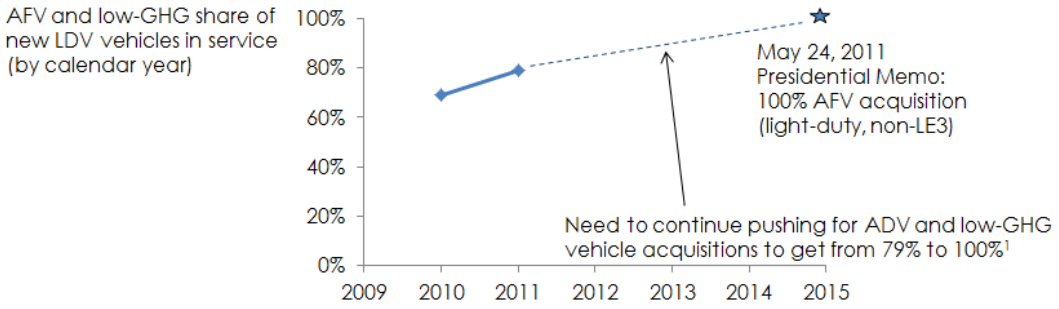
GSA rates appeared to be attractive when applied against the expected lifetime of the vehicle, defined by the GSA refresh rate guidelines. In times of budgetary constraints, it was also recognized that any vehicle that is purchased instead of leased has to be paid fully upfront out of that year's budget, creating an issue. For this reason and the relatively limited situations in which an agency-owned vehicle is actually advantageous for the Department, it was recommend to lease vehicles from GSA as the primary way of obtaining vehicles.

DOC should, of course, continue to acquire and own specialty vehicles that cannot be obtained through a GSA lease, but this should be the exception, rather than the norm.

Finally, commercial leases were more expensive than other options and should be used sparingly, and only in particular situations where a vehicle is needed within a very short timeframe. This is already covered under current DOC policy guidelines.

Acquisition Practices: Alternative Fuel Vehicles

DOC has been proactively acquiring AFVs. In 2011, not accounting for AFV waivers, 79% of the new Light Duty Vehicles (LDV) acquired by DOC have been AFVs or low Greenhouse Gas (GHG). Therefore, it was estimated that DOC is on target to meet the May 24, 2011 Presidential Memo target, which calls for 100% of new LDV acquisitions to be AFVs by December 31, 2015.



	2008	2009	2010	2011
Total Acquisitions	237	272	484	416
LDV Acquisitions				
AFV	30	36	77	57
Low-GHG	21	23	33	39
Non-AFV	8	11	49	26
AFV %	86%	84%	69%	79%
MDV/HDV Acquisitions				
AFV	66	90	170	149
Low-GHG	1	1	2	4
Non-AFV	111	111	153	141
AFV %	38%	45%	53%	52%
Blended AFV %	**50%**	**55%**	**58%**	**60%**

1. AFV waivers not included in calculation

Figure 3: DOC AFV acquisitions.

For the most part, AFV requirements were fulfilled through the purchase of E85 Flex fuel vehicles, as this was deemed to be the lowest-cost option available. Other AFVs, such as electric vehicles, natural gas, and hybrid vehicles are more expensive to acquire, and may require significant investment infrastructure and/or can only be implemented in centralized fleet situations. DOC will continue to monitor development in AFV technologies, while still continuing to acquire a portion of its AFV vehicles as hybrid vehicles. Having at least a small portion of AFVs as hybrid vehicles is beneficial, particularly for those locations where alternative fuel may not be available.

When the current expected AFV acquisitions are projected out, the percentage of AFV vehicles as part of the DOC fleet is expected to increase dramatically. Effectively, the majority of the DOC fleet will be switched over to AFVs over the next five years. The tremendous growth in AFV inventory will result in:

- Growth of alternative fuel use: this is expected to grow by approximately 16% per year between now and 2015, even at the current (limited) level of alternative fuel availability.
- Petroleum reduction: assuming current E85 consumption per vehicle stays the same, alternative fuel is expected to displace petroleum consumption by approximately 0.8% per year. While this is not sufficient to meet the 2%/yr petroleum reduction requirement, that target will very likely be reached considering that: a) fleet inventory is going to be reduced, resulting in fewer overall miles driven, b) vehicles are going to have higher fuel efficiency, c) there is going to be greater availability of E85, so use of alternative fuel per vehicle is going to increase.

Finally, in general, the Department continues to prioritize AFV locations that have greater alternative fuel availability, and plans on doing so in the foreseeable future. That is part of the DOC acquisition policies, and every time there is a new vehicle acquired, the alternative fuel availability is carefully analyzed. However, it will be unavoidable that some AFVs will end up being located in regions with lower alternative fuel availability. It is expected that, over time, as alternative fuels become more widely available, this situation will become less and less common.

4. Implementation Plan

Bureau Fleet Profiles

The main tenet of the implementation plan is the creation, revision, and use of the fleet profiles. The fleet profiles are documents that were developed for each bureau – and, in the case of NOAA, for each field office. The fleet profiles will serve as management and review tools, but are not meant to be prescriptive in terms of which exact vehicles will ultimately be eliminated or downsized.

The bureau fleet profiles are mostly composed of three parts:

1) Vehicles to be considered for elimination: this includes a list of all the low-mileage vehicles, by VIN, with the exception of vehicles for which the mission is facilities/maintenance, police, or fire. Each vehicle is assigned a scorecard, as previously described, which indicates whether each vehicle is a relatively strong candidate for elimination or not. Additionally, shuttle vehicles were flagged in this section as additional potential candidates for elimination.
2) Large vehicles to be considered for downsizing: this section includes a list of all the vehicles that fall under categories that should be considered for downsizing, by VIN. For certain bureaus/offices, this can be a fairly long list, even though the actual number of vehicles that are proposed to be downsized is only a relatively small percentage of this list.
3) Review of performance against AFV and environmental practices: this section outlines, at a high level, recent bureau performance against AFV compliance requirements.

Effectively, the bureau fleet profiles include bureau-by-bureau fleet baselines and bureau-by-bureau optimum fleet, which, in aggregate, form the DOC fleet baseline and optimum fleet, which, in turn, are reported in the VAM reporting tool.

For the internal use of the Department, additional information was also provided, including: a snapshot of the bureau fleet, potential savings resulting from proposed elimination and downsizing, and additional recommendations.

Finally, it is important to note that the bureau fleet profiles report only the optimum fleet, not the implementation timelines. The implementation timelines, especially for vehicles that need to be downsized, depend significantly on the GSA refresh policy, and are discussed in the next sections.

Implementation Process

The Bureau Fleet Profiles are suggested starting points to optimize the DOC fleet, but do not necessarily represent a list of the vehicles that will, or should, ultimately be eliminated or downsized.

The fleet profiles were used initially as a tool to estimate what the DOC optimum fleet may look like, and to surface what vehicles may be the most immediate candidates for elimination and downsizing. Those fleet profiles were then reviewed with bureau fleet personnel and management, and changes were made to account for specific situations, as described in previous sections. The optimum fleet was then recalculated in light of those changes.

Moreover, each bureau should make its own determination as to which vehicles are ultimately best suited for elimination/downsizing depending on the continuously shifting needs, missions, and circumstances for each particular situation. For example, a bureau may decide to keep a certain number of low-mileage vehicles, while eliminating mid- or high-mileage vehicles that are less mission-critical. Because of the decentralized nature of the DOC, these decisions are best left in the hands of the bureau, or of the field office.

As part of the implementation process, during the remainder of FY12, each fleet profile will first be reviewed by DOC personnel with the appropriate bureau contact. During this discussion, each of the vehicles that appear on the fleet profile will be reviewed.

- *Elimination* – Vehicles that were listed as candidates for elimination will be reviewed one by one. The team will determine whether each specific vehicle should indeed be eliminated, or whether the vehicle is mission-essential regardless of utilization (and even though it does not belong to a "fire", "police", or "facilities/maintenance" category, which were already taken out of the list, and was not removed as part of the preliminary review process). If a low-mileage vehicle is deemed to be mission-essential, that vehicle should be flagged in the VAM database (and in the future FMIS) as "keep" and should not be included in future VAM reviews. If a low-mileage vehicle is currently deemed to be mission-essential, but there are reasonable expectations that the situation may evolve in the future, the vehicle should be kept, but not flagged in the database, so that it will come up for review again at the next VAM annual review. If the total sum of the vehicles that are identified for actual elimination is less than the elimination target, the bureau contact should offer reasonable suggestions for other vehicles that may have higher mileage, but that could be eliminated, so that the overall reduction target – which was agreed upon with the bureaus – can be met.

- *Downsizing* – Vehicles that are candidates for downsizing will also be reviewed one by one and, similarly to the elimination process, the bureau should determine which of the vehicles can actually be downsized. For example, the team may determine that agency-owned vehicles may not be good candidates for downsizing because they have already been fully paid, and could prefer to downsize GSA-leased vehicles. The downsizing targets already took into account bureaus' feedback; therefore, the bureaus should have sufficient flexibility to ensure that the overall downsizing target can be reasonably met in a cost-effective manner.

- *AFV Plans* – To reach the DOC optimal fleet plan in 2015, ten current vehicles will be replaced with AFVs.. This number seems low because 55% of the current DOC fleet is already AFV. The bureaus and DOC will discuss the current situation relative to the acquisition of heavy duty AFV vehicles when available. The discussion should revolve around meeting the AFV 2015 targets, ensuring that each bureau is on track to meet those targets, and analyzing best geographic placement of AFV vehicles to ensure maximum alternative fuel utilization, while limiting the use of exemptions.

  DOC operates an E85 fueling station on its Gaithersburg campus and will participate in GSA's electric car program in FY12. Infrastructure for one charging station has been installed at DOC Headquarters for a Chevy Volt arriving in FY12.

  Additionally, the Census Bureau has partnered with Andrews Airforce Base to use its E85 pumps. DOC continues to seek other partnerships with local private stations. DOC uses DOE gas staion locators before requesting 701 waivers or traveling out of local jurisdictions.

Implementation Timelines

The immediate next step in the implementation is the in-depth review of the fleet profiles with bureau fleet contacts. This is expected to begin in March 2012, and is expected to last approximately 4-6 months. The plan included with this report already includes feedback from the bureau, but, during this next step, the Department will seek additional feedback and confirm the lists of vehicles that need to actually be eliminated or downsized.

At the end of the bureau fleet profile review, vehicles that need to be eliminated should be turned in as soon as reasonably possible, assuming that GSA can take back additional vehicles, above and beyond the vehicles that had been submitted for retirement to GSA before the VAM project was completed. Vehicles that were identified for downsizing should then be turned in for smaller vehicles, once they are scheduled to be refreshed, or earlier, if possible and depending on GSA availability.

This process will be repeated again next year as part of the planned FY 2013 VAM project. The high-level schedule for the next 12 months is illustrated in the figure below.

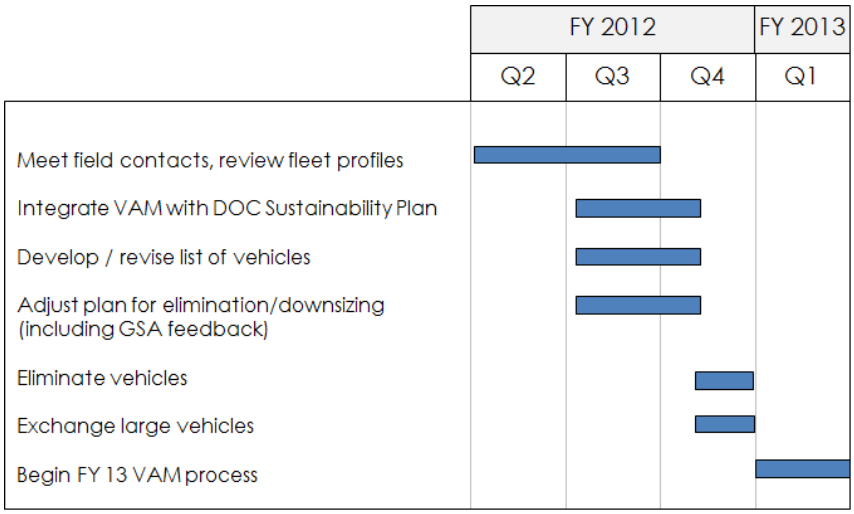


Figure 4: High-level implementation schedule for next 12 months.

The result of this process is that the optimum fleet will be reached over time, with most of the elimination vehicles being eliminated earlier, and with downsizing taking a little longer. The implementation timelines are reported as part of the VAM reporting tool.

Agency Policies

DOC already has a set of policies in place for vehicle acquisition, which should be maintained. While DOC, given its decentralized nature, does not have a list of pre-approved vehicles by mission and by organization, DOC offers fairly specific guidance, both in terms of responsibilities and goals, as well as acquisition policies.

The following sections provide some excerpts from the departmental policy in a few key areas, which provide a good picture of how the Department will manage the fleet going forward. Additionally, once again, the bureau fleet profiles provide an additional management and control tool for DOC personnel to ensure right-sizing of the fleet.

Overall Responsibilities

"*Bureau Fleet Managers are responsible for […] conducting annual reviews and evaluations on motor vehicle operations effectiveness; limiting the number of vehicles required for headquarters and field units to the minimum and assuring that required vehicles conform to standards for maximum fuel efficiency, minimum body size, engine size and special equipment required for program operation; pooling vehicles where geographically practical to ensure cost efficient utilization; [and] developing a plan for the acquisition of alternative fueled vehicles as replacement vehicles for owned and leased vehicles.*"

Vehicle Inventory Management

"*Motor vehicles acquired shall be limited to the minimum number required for essential purposes and utilized to the maximum extent possible. Actions as pooling and sharing shall be considered, thereby reducing the need to acquire additional vehicles. All motor vehicles shall have maximum fuel economy in compliance with Executive Order 12375. DOC shall acquire the maximum number of alternative fuel vehicles practicable to reduce its overall consumption of gasoline and diesel fuel and help develop Alternative Fuel Vehicles acquisition goals for the Federal fleet set forth in Executive Order 13031.*"

Fuel Efficient Vehicles

- "*All motor vehicles acquired for official purposes by DOC Bureaus shall be selected to achieve maximum fuel efficiency and limited to the minimum body size, engine size, and optional equipment necessary to meet requesting office's requirements.*

- *Use of Government limousines (class V) and large sedans (class IV) shall be eliminated. Exceptions shall be made only for essential needs and must be approved by the Director, OAS, and GSA.*
- *All class IV and V sedans shall be replaced by class II or smaller sedans unless a class III is absolutely essential to the agency's mission and certified accordingly by GSA.*
- *The acquisition of passenger vehicles shall be limited to class IA, IB, or II (small, subcompact, or compact); unless the requesting office is able to certify that, a class of larger vehicles is essential to the agency's mission.*
- *The acquisition of passenger vehicles for use in transporting DOC executives (employees at the Assistant Secretary level or higher or at Executive Level IV and above or their equivalent), shall be held to the minimum number necessary for the orderly transaction of official agency business. All such requests regardless of the type of vehicle and source shall be sent to the DOC Fleet Manager for review and forwarded to the Director, OAS, for approval."*

"The applicable Standards apply to Executive agencies located in any State, Commonwealth, territory or possession of the United States, and the District of Columbia, which operates motor vehicles, owned or leased by the Government in the conduct of official business: 1) You must select motor vehicles to achieve maximum fuel efficiency; 2) Limit motor vehicle body size, engine size and optional equipment to what is essential to meet your office's mission; 3) With the exception of motor vehicles used by the President and Vice President and motor vehicles for security and highly essential needs, you must purchase and lease midsize (class III) or smaller sedans; and 4) Purchase and lease large (class IV) sedans only when such motor vehicles are essential to your office's mission."

Commercial Lease

"DOC shall rely on GSA as the primary source of vehicles before purchasing, leasing or renting of motor vehicles from commercial sources."

Determination of Requirements

"In determining the requirements for motor vehicles, consideration shall be given to the following: 1) The essential need and cost for all non-standard systems and equipment and the potential benefits to be derived from their use; 2) The number of each type of vehicle needed to accomplish the program objective; 3) The fuel economy rating for all planned vehicle acquisitions and their effect on the Line Unit's meeting the fleet average fuel economy rating established by the Department of Energy (DOE); 4) The extent of intended use i.e., the cargo or number of passengers to be transported, the frequency and types of trips, etc.; 5) Dual-purpose vehicles capable of hauling both personnel and light cargo shall be used whenever appropriate to avoid the need for

two vehicles; 6) The reassignment of existing DOC Fleet vehicles to meet the requirements; 7) The feasibility of obtaining the required motor vehicle support from another Federal agency; 8) The feasibility of lease or rental from commercial sources, especially in those instances where the requirement is for a period of 3 months or less; and 9)The feasibility and economy of using a privately owned vehicle or local public transportation in lieu of acquiring additional vehicles."

5. VAM Reporting Tool

The VAM reporting tool includes detailed accounts of the current fleet baseline, the optimum fleet, and the expected overall DOC fleet profile year after year, until 2015. Once again, the optimum fleet was calculated based on the initial analyses, and adjusted based on bureaus' feedback.

Per GSA guidance, the decision to include foreign vehicles and to exempt law enforcement and emergency vehicles from the VAM analysis may only be made by the Department Secretary, and was not pursued at this stage. Therefore, in the DOC VAM reporting tool, no vehicles were considered to be "exempt", even though some vehicle categories were actually not considered as potential candidates for elimination. Also, the Department has a number of foreign vehicles, but they were also not considered as part of the VAM, and were therefore not reported.

The charts below are provided to facilitate the review of the VAM reporting tool. Since the VAM reporting tool that is submitted to GSA through FAST provides overall aggregate numbers for DOC, but no specific numbers for the bureaus, we included some bureau-specific information in the charts below.

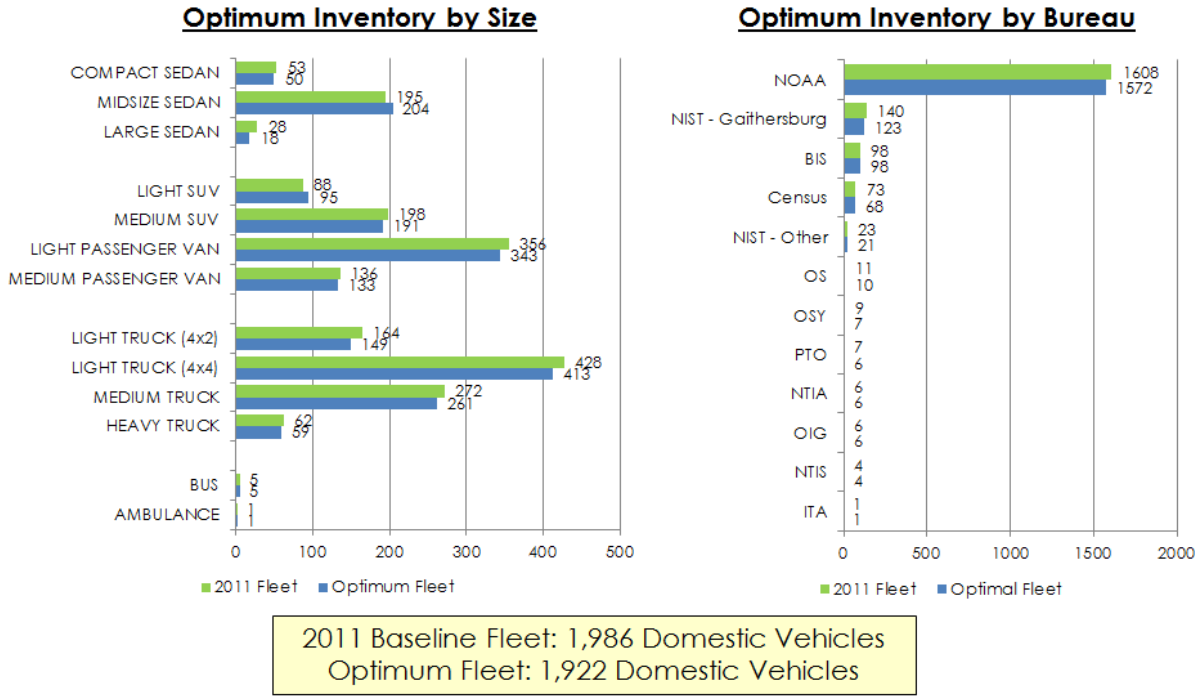


Figure 5: Optimum DOC fleet inventory by vehicle size and by bureau.

Finally, the charts below summarize the implementation timelines, i.e. how many vehicles are expected to be eliminated or downsized year after year, and the resulting DOC fleet inventory over time.

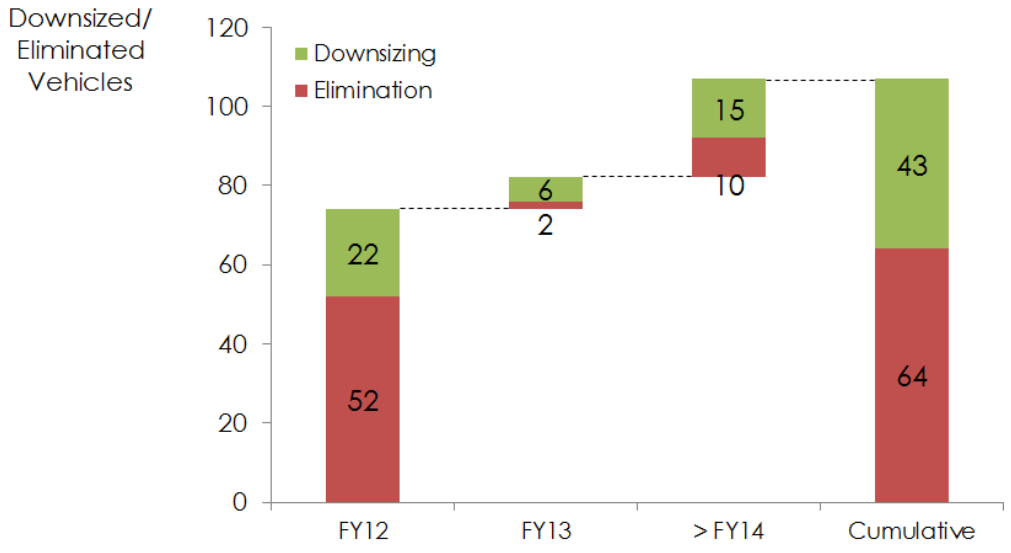


Figure 6: Expected DOC fleet changes by year.

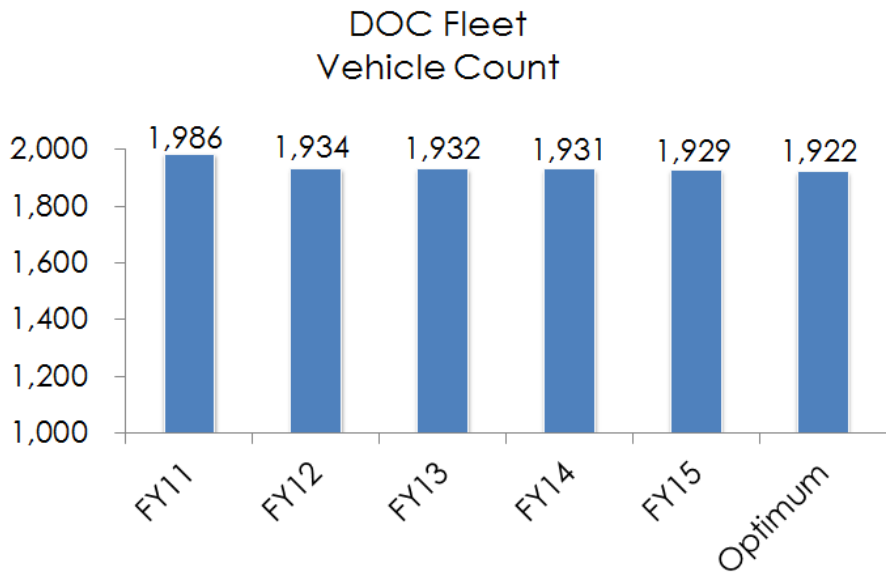


Figure 7: Expected DOC inventory by year.

Appendix 3: Biobased Purchasing Strategy

DEPARTMENT OF COMMERCE
1401 Constitution Ave., NW
Washington, DC 20230

Addendum to the 2012 Strategic Sustainability Performance Plan: Responding to the President's Memorandum on Promotion of Biobased Markets

Background:

On February 21, 2012, President Obama signed a Memorandum, *Driving Innovation and Creating Jobs in Rural America through Biobased and Sustainable Product Procurement*. The memorandum requires all federal agencies to increase their purchase of biobased products. The Department of Commerce is moving aggressively to implement the Presidential Memorandum requirements.

Accomplishments:

- The Department of Commerce created the Green Acquisition Team (GAT). The GAT has been instrumental in increasing the awareness of biobased purchasing within the Department of Commerce.
- Encouraged the Department's acquisition workforce to take web-based training on www.biopreferred.gov

Baseline for Biobased Contracting:

During FY12, the Department of Commerce included requirements and clauses for biobased products in 69 applicable contract actions.

FY 2013 Target/Compliance Goal:

- As a leader in sustainable acquisition strategies, the Department of Commerce plans to increase biobased contract actions by 10% in FY13.
- The Department of Commerce plans to achieve an increase by 5% annually thereafter.

Strategies for Improving Compliance:

The Department of Commerce's strategy for improving compliance with full incorporation of requirements and clauses for biobased products in appropriate contracts includes the following elements:

- The Department of Commerce will generate Department level validation reports on biobased compliance using data reporting elements in the Federal Procurement Data System.
- The Department of Commerce will identify and emphasize requirements that should utilize biobased products (Construction, Renovation, Repair, Landscaping, Building Operations and Maintenance, Janitorial Services, Food Services, Laundry Services, Building Interior, Furniture)
- The Department of Commerce's Office of Administrative Services and Office of Acquisition Management shall develop Department-wide green acquisition training.
- The department of Commerce will include biobased purchasing requirements in at least 50% of its cafeteria, fleet maintenance and construction contracts and will attempt to include requirements and performance standards for biobased products in 100% of newly awarded janitorial contracts.