2010

USDA Strategic Sustainability Performance Plan (SSPP)

USDA
Departmental Management
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Section 1: Agency Policy and Strategy

I.1 Agency Policy Statement

This policy statement sets forth USDA's commitment to operating in a sustainable manner in compliance with applicable statutes, regulations, and Executive Orders.

USDA is committed to fostering a clean energy economy and to improving the environment by conducting operations in a sustainable and environmentally responsible manner, complying with environmental laws and regulations, and leading by example. USDA's sustainable operations program includes the following areas of emphasis:

- Reducing our reliance on nonrenewable energy by improving energy conservation, increasing efficiency, and promoting renewable energy projects and programs
- Promoting water conservation through identification of water inefficiencies and implementation of water conservation projects
- Implementing sustainable acquisition practices for recycled content, energy efficient, bio-based, and environmentally preferable products, and services
- Pursuing waste management strategies that include reducing, reusing, or recycling
- Promoting sound environmental practices for the three life-cycle phases of electronic products: acquisition, operations and maintenance, and end-of-life management
- Supporting green transportation and travel practices that reduce harmful emissions, increasing operational and fuel efficiency, and reducing nonrenewable fuel use
- Planning, designing, constructing, and operating facilities that address "whole site" sustainable practices
- Engaging employees, stakeholders, and the public in our environmental commitment

USDA has achieved some early successes consistent with our commitment to lead by example. The Department exceeded Executive Order 13514 energy conservation goals by using employee green teams, energy savings contracts, green power purchase agreements, and environmental management systems. These actions led to USDA receiving the Presidential Leadership in Federal Energy Management Award in October 2009.

Although USDA has achieved significant successes, we nevertheless face significant challenges in moving forward to improve the sustainability of our operations. One of the biggest challenges involves USDA's geographic diversity–offices in hundreds of locations in all 50 states. Many of these offices are near our customers or stakeholders in rural, remote locations. This diversity presents challenges for reducing greenhouse gas emissions and may limit our alternatives for implementing sustainable practices and technologies. However, these same challenges can foster other opportunities and successes as we work with local communities to reach common goals of sustainability–both in USDA operations and American agriculture.

I.2 Sustainability and USDA's Mission

USDA's programs touch almost every American every day. In response to the growing concerns about climate change, greenhouse gases, and depleting natural resources, USDA's mission is designed to create opportunities for farmers, ranchers, forest landowners, public land managers, and families in rural communities to prosper in new, innovative, sustainable ways while conserving the Nation's natural resources and preventing pollution.

A diverse portfolio and wide range of activities in remote locations presents challenges to agency-directed efforts to monitor sustainable operations goals such as the reduction of energy and water consumption and waste production. At the same time, this diversity offers synergies needed to meet future challenges. Specifically, as global climate change increases, natural resource conservation provides the land with the resilience necessary to maintain productive agriculture, which supports rural communities in a global market. Rural communities, in turn, provide the personal connection to natural resources needed to encourage conservation.

In order to fulfill its mission of providing leadership for food, agriculture, natural resources, rural development, nutrition, and related issues, USDA focuses on the future, recognizing the significance of global climate change and utilizing this knowledge to create and maintain conditions under which humans and nature can exist in productive harmony.

I.3 Greenhouse Gas Reduction Goals

In accordance with Executive Order (EO) 13514, "Federal Leadership in Environmental, Energy, and Economic Performance," USDA established a Scope 1 and 2 Greenhouse Gas (GHG) reduction target of 21% for 2020, compared to the 2008 base year. To help achieve our reduction target, the Department will focus on reducing energy consumption and increasing renewable energy use in USDA facilities, and on reducing fossil fuel use and increasing alternative fuels use in USDA fleet vehicles.

USDA also established a Scope 3 GHG reduction target of 7% for 2020, compared to the 2008 base year. To help achieve our reduction target, we will focus on reducing GHG emissions from USDA primarily on employee travel, and secondarily on transmission and distribution losses from purchased electricity and contracted waste disposal.

As a follow-up to establishing GHG reduction targets, USDA's goal is to develop and maintain a Department-wide comprehensive GHG inventory. The comprehensive inventory will be developed in accordance with EO 13514 and the Federal GHG Accounting and Reporting Guidance. The target date for USDA to complete its initial GHG inventory is December 2010, prior to its submission to the Council on Environmental Quality (CEQ) and the Office of Management and Budget (OMB) in January 2011.

I.4 Plan Implementation

The Department formed a Sustainable Operations Council (SOC) to implement this Plan. USDA's Senior Sustainability Officer chairs the SOC and senior executives from each of USDA's seven mission areas comprise core SOC membership. The SOC reviewed and approved this Plan prior to its submission to CEQ and OMB. The SOC will implement the Plan in an organized "management system" manner, incorporating the steps shown in Figure 1 to the right. The SOC will provide leadership involvement while creating opportunities for employee and USDA agency participation with an overall goal of continual improvement. The steps of the implementation process are described below.

Figure 1
Sustainability Management System

Assessment

The first critical step in the sustainability plan is to identify and inventory our activities, operations, processes, products, and services, and to determine the associated environmental impacts. Our GHG inventory, scheduled to be completed on December 31, 2010, will play a major role in determining potential impacts and where to focus efforts. In some areas, as described in Section II, the Department has already established baselines, which are used as the foundation to measure progress as we move toward sustainability. In other areas, we are still working on the assessment to create our baseline. Under SOC leadership, USDA will review the effectiveness of this Strategic Sustainability Performance Plan (SSPP) annually at the Department level to determine what changes are necessary to ensure we meet our existing goals and look for opportunities for continual improvement.

Define Goals and Targets

For those actions that have a potential to cause significant impacts to the environment, the SOC works with respective USDA agencies through membership in SOC Workgroups to develop goals and targets for the reduction or elimination of the associated environmental impacts. USDA strives to maintain balance between the life-cycle return on investment to the agency while taking into account economic, environmental, social, and mission-related costs and benefits.

Action Plans and Monitoring Plans

The SOC Workgroups will develop action and monitoring plans at the Departmental level; however such plans will be implemented at multiple levels throughout USDA. The action plans assist the Department in meeting specific goals and targets by creating milestones and schedules. The monitoring plans will measure progress toward meeting sustainability goals.

Implementation Initiatives

Each action plan will contain implementation initiatives. Implementation initiatives are general actions that, when applied to operations, reduce the Department's impact on the environment. Since USDA agencies are diverse with respect to both mission and physical location, the extent and degree to which sustainable initiatives apply or can be implemented at each agency will vary. The SOC will oversee these initiatives to ensure appropriate consistency and that EO 13514 goals are being pursued aggressively.

Monitoring Performance

The Department will utilize a number of methods to monitor performance. Monitoring tools will include scorecards, data calls and reports as outlined in Table 1, as well as utility bills and procurement records.

Communicate Process

SOC Workgroups will periodically update our "greening" website (www.greening.usda.gov) to keep employees and the public updated on progress towards sustainability. The workgroups will keep leadership informed through quarterly SOC meetings. Annual updates of the SSPP will be used as opportunities to remind employees and the public of the plans, goals, progress and expectations. Section I.4.B describes other methods of communication.

Assessment

Every year USDA's SOC will conduct a performance management review of the results of the year's efforts to monitor compliance with Federal requirements relating to sustainability and measure USDA's progress towards sustainability goals. This review process will allow SOC workgroups to provide recommendations for improvement and provide information needed for the SOC to continuously improve sustainability efforts.

Tie to USDA Agencies' existing Environmental Management Systems (EMS)

While USDA does not have an official Department-wide EMS, the "management system" structure described above is based on core components of an EMS. Currently, the degree to which facility-level and agency-directed multi-site organizational EMSs incorporate the sustainability goals within EO 13514 varies from agency to agency. Because of this diverse approach to EMS implementation, USDA did not address EMS under each EO goal outlined in Section 2 of this plan. Instead USDA continues to endorse integration of EO 13514 sustainability goals into all existing EMSs and provides this "management system" framework to which USDA agencies with existing EMSs can easily connect.

I.4.A Leadership and Accountability

The Secretary of Agriculture designated the Deputy Assistant Secretary for Administration as USDA's Senior Sustainability Officer (SSO) to chair the previously described SOC, whose organization is shown in Figure 2. SOC members include representatives from each USDA mission area and thus represent each of USDA's agencies.

Figure 2
USDA Sustainable Operations Council Structure
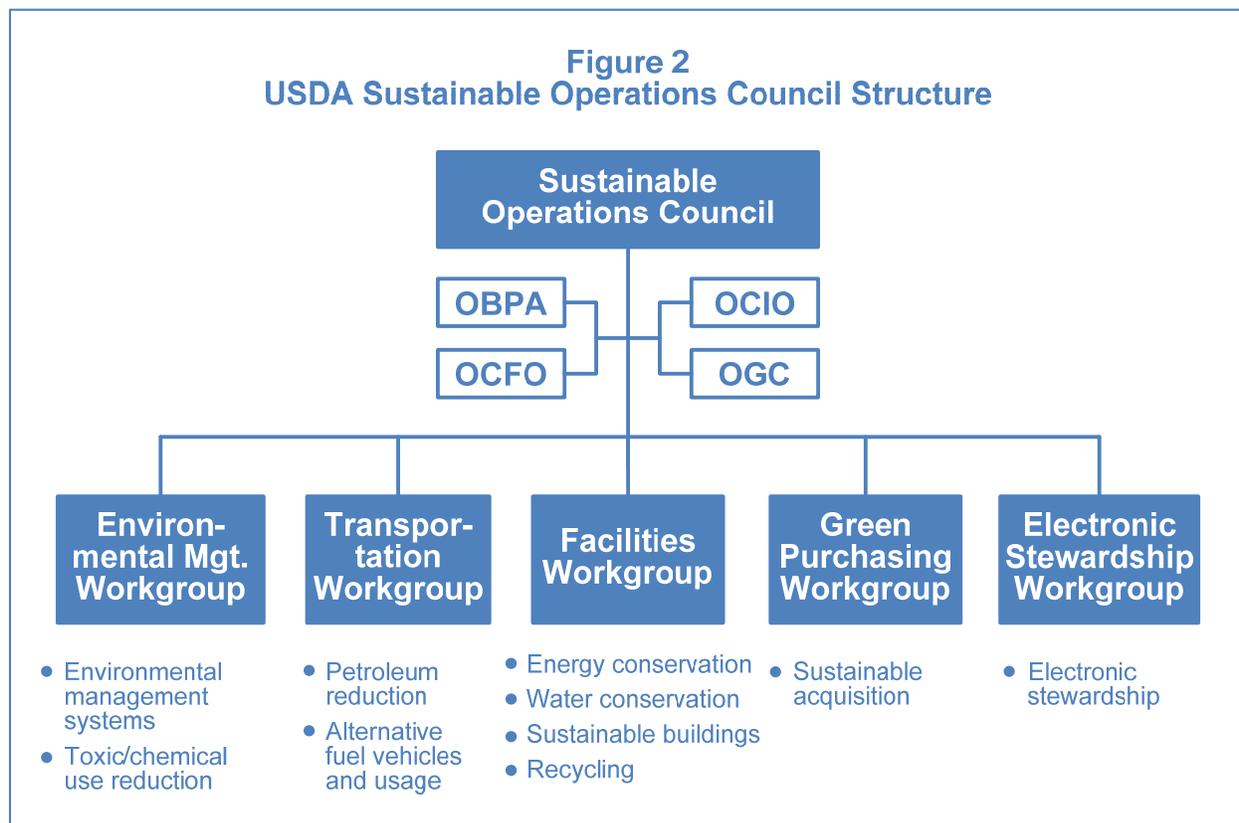
The activities of the SOC are coordinated with the Office of Budget and Program Analysis (OBPA), the Office of Chief Information Officer (OCIO), the Office of Chief Financial Officer (OCFO), Office of General Council (OGC), the Senior Real Property Officer, the Real Property Council, and the Procurement Council.

There are five workgroups under the direct leadership of the SOC. Workgroup members serve as key points of contact for day-to-day implementation of USDA sustainability initiatives, and assist in the development of recommendations in the formation of policy, direction and guidance. The workgroup representation includes staff members from the Office of Procurement and Property Management, the Office of Operations, the Office of Chief Information Office, USDA agency headquarters and field offices staff.

I.4.B Coordination and Communication
Coordination and communication are critical components in the success of our SSPP. The SOC and representative workgroups play a critical role in coordination and dissemination of information. USDA utilizes the following practices to ensure communication:

- Ensure that all agencies and/or Mission Areas have representation on the SOC Workgroups
- Post the SSPP on USDA's intranet
- Post critical components of the SSPP, such as USDA targets and progress, on a public website
- Reference the SSPP in critical planning documents such as USDA's Sustainable Buildings Implementation Plan
- Include goals and targets in USDA policy, direction, and guidance documents
- Communicate USDA's progress and accomplishments through usual channels of communication such as meetings, workshops, web sites, newsletters, electronic email, and internal memos
- Include the contents of the SSPP in upcoming workshops, meetings, and outreach events
- When the annual update of the SSPP is complete, use this opportunity to refresh employee and public awareness of the plan's goals, progress and expectations
- Emphasize the role of employees at the office and at home to help achieve and promote sustainability
- Promote Green Teams, both place-based and virtual, to increase employee awareness and emphasize employees' roles in sustainability

I.4.C Budget and Planning Integration
The OBPA will explore means to track budget information as it relates to the sustainability goals outlined in EO 13514. Currently our existing budget line items do not specifically address sustainability as a separate line item. However, in many cases sustainability is already an integral part of our operation based on USDA policy, guidance, and direction.

Table 1: Critical Planning Coordination[1]

The purpose of this table is to illustrate the current relationship between the sustainability plan and other planning and reporting efforts across the agency.

Originating Report / Plan	Scope 1 and 2 GHG Reduction	Scope 3 GHG Reduction	Develop and Maintain Agency Comprehensive GHG Inventory	High-Performance Sustainable Design / Green Buildings	Regional and Local Planning	Water Use Efficiency and Management	Pollution Prevention and Waste Elimination	Sustainable Acquisition	Electronic Stewardship and Data Centers	Agency Specific Innovation
USDA Strategic Plan (GPRA)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
USDA Budget Process[2]	No	No	No	No	No	No	No	Yes	Yes	NA
Facilities - Agency Capital Plan	Yes	No	No	Yes	Yes	Yes	Yes	Yes	NA	NA
Facilities - Asset Management Plan	Yes	No	No	Yes	Yes	Yes	Yes	Yes	NA	NA
Facilities - Sustainable Building Implementation Plan	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	NA	Yes
Energy - Annual Report on Energy Management	Yes	Yes	No	Yes	NA	Yes	NA	Yes	Yes	NA
Energy – Metering Plan	Yes	Yes	No	Yes	NA	Yes	NA	NA	Yes	NA
Fleet –AFV Program Annual Report	Yes	Yes	No	NA	NA	NA	NA	Yes	NA	NA
Acquisition – Green Purchasing Affirmative Procurement Plan	No	No	No	Yes	NA	Yes	Yes	Yes	Yes	Yes
Acquisition – Sustainable acquisition practices: green purchasing, waste management, and chemical management Annual Report	Yes	Yes	No	Yes	NA	Yes	Yes	Yes	Yes	Yes
IT - A-11 300s (major investments e.g. data centers)	Yes	Yes	No	NA	NA	NA	Yes	Yes	Yes	NA
IT - Circular A-11 Exhibit 53s (annual IT expenses)	Yes	Yes	No	NA	NA	NA	Yes	Yes	Yes	NA
IT – USDA Green Information Technology Strategic Plan	Yes	Yes	No	NA	NA	NA	Yes	Yes	Yes	Yes
IT - Data Center Consolidation Program	Yes	Yes	No	NA	NA	NA	Yes	Yes	Yes	Yes
IT – Electronic Stewardship Plan	Yes	Yes	No	NA	NA	NA	Yes	Yes	Yes	Yes
Environmental Management System	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Monitoring - OMB Scorecards	Yes	Yes	Yes	Yes	NA	Yes	Yes	Yes	Yes	NA

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[1] Yes = Integrated; No = Not integrated; NA = Not applicable
[2] Budget process and sustainable practices not yet fully integrated

Table 1 represents a current snapshot in time. In the future, USDA plans to integrate more of the listed operating plans and reports with EO 13514 goals where it makes sense to do so. For example, USDA plans to integrate its comprehensive GHG inventory with its facility-related and fleet-related reports including the annual Energy Report, Asset Management Plan, Sustainable Buildings Implementation Plan, and others as appropriate.

I.4.D Methods of Evaluation

Every year USDA's SOC will conduct a performance management review of the results of the year's efforts to monitor compliance with Federal requirements relating to sustainability, and measure USDA progress towards sustainability goals. This review process will allow USDA to continuously improve sustainability efforts. To the extent that quarterly and biannual monitoring data are available, such data will be included in annual reviews and compared from year to year.

I.5 Evaluating Return on Investment

The extent to which USDA prioritizes projects, initiatives, and efforts based on lifecycle return on investment varies significantly. For example, USDA facility managers regularly evaluate lifecycle return on investment for energy and water conservation projects, which are being accomplished by energy savings performance contract (ESPC) or utility energy services contract (UESC). In these instances, facility managers typically establish criteria for payback time associated with return on investment and select projects that meet or exceed those criteria. By contrast, other types of USDA procurement actions may not receive evaluation on lifecycle return on investment. Decisions on product purchases often do not include such analyses. A major challenge in having procurement officials perform such analyses is the organizational separation of costs and benefits. If a product has a higher initial price but results in lower disposal costs at end of life, the purchaser may not place a high priority on this attribute if another part of the organization pays for disposal.

Consideration of costs and benefits varies by USDA mission area. Agencies under the Natural Resources and Environment mission area are highly attuned to the environmental costs and benefits associated with their activities. Similarly, agencies associated with Rural Development, Food Safety, Farm and Foreign Agricultural Services, and Food Nutrition and Consumer Services are highly attuned to social costs and benefits, including harm to future generations and international impacts. USDA decision-makers typically consider non-quantifiable benefits in both environmental and social arenas. The decision to fund and establish the People's Garden, for example, took its symbolic value into account. As a living exhibit of what USDA does every day, the Garden incorporates sustainable practices, is a collaborative effort, and benefits the community. One year after the decision, there more than 300 Peoples' Gardens designated throughout the country, which certainly represents an excellent return on investment.

USDA is beginning to incorporate the use of behavioral economics into its decision-making. Some of that thinking is reflected in our Strategic Sustainability Performance Plan. For example, our discussion of Goal 8 – Sustainable Acquisition in Section 2 of the Plan indicates that USDA will not achieve sustainability in 95 percent of contracts by 2011. A major factor associated with the longer schedule for achieving this goal is the time it takes to overcome the human inertia of continuing current procurement processes and habits.

Concerned about the risks of climate change to agriculture and forestry, USDA established a Climate Change Program Office within the Office of the Chief Economist some years ago. This Office functions as the Department-wide coordinator of

agriculture, rural and forestry-related global change program and policy issues facing USDA. The Office ensures that USDA is a source of objective, analytical assessments of the effects of climate change and proposed response strategies. The Office also serves as USDA's focal point for climate change issues and is responsible for coordinating activities with other Federal agencies, interacting with the legislative branch on climate change issues affecting agriculture and forestry, and representing USDA on U.S. delegations to international climate change discussions.

I.6 Transparency

USDA is committed to clearly communicating the progress of our SSPP both within USDA and to the public.

Internal

USDA utilizes the following methods to facilitate internal communication: (1) Green Teams; (2) outreach events; (3) newsletters; (4) the Internet; (5) training and workshops; and (6) memos, email and voice messages directly from the Secretary.

SOC Workgroups provide quarterly updates and an annual progress report to the SOC, including: (1) fiscal year progress towards USDA's sustainability goals; (2) success stories to facilitate internal networking; and (3) a brief analysis of any barriers or issues that may impede performance.

Annual progress reporting provides senior management with the information needed to analyze and alter strategies. The SSPP is updated accordingly to ensure continual success for subsequent years. The annual report also provides the information needed to report our progress to the Office of Management and Budget (OMB) and the Council on Environmental Quality (CEQ).

External

USDA is already using "social media" and "Web 2.0" to connect with people in ways that are the most convenient and effective for them. For some, the most convenient way is to read information directly on our Web site; others might prefer audio or video casts. USDA utilizes blogs, Facebook, Flickr, Podcasts, RSS (Really Simple Syndication) feeds, Twitter, Widgets, and You Tube to increase awareness of USDA's programs. Links to these social media tools, which USDA plans to begin using to communicate about its sustainable operations, can be found at http://www.usda.gov/wps/portal/usda/usdahome?navid=USDA_STR.

In addition to posting stories and articles on an ongoing basis, USDA will post key documents relating to SSPP targets and performance twice a year.

Section II: Performance Review and Annual Update

II.1 Summary of Accomplishments

This section highlights some of USDA's recent accomplishments in key Executive Order 13514 goal areas.

Scope 1 and 2 Greenhouse Gas Emissions Reduction
USDA has made significant progress in recent years in improving its energy efficiency and renewable energy use performance. In fiscal year (FY) 2009 and FY 2010, USDA achieved statutory goals and policy requirements relating to energy intensity reduction, renewable energy use, advanced electric metering, energy evaluations, and alternative financing. In FY 2009, USDA achieved a 22 percent reduction in energy intensity compared to the FY 2003 baseline. In FY 2009, USDA purchased and consumed renewable energy equivalent to 5 percent of the Department's total electricity use.

Water Conservation
USDA has made significant progress in recent years in improving its water use efficiency and management performance. In FY 2009 and FY 2010, USDA achieved statutory goals and policy requirements relating to water use intensity reduction. In FY 2009, USDA reduced its water use intensity by 21 percent compared to the FY 2007 baseline.

Sustainable Buildings
As of FY 2009, the USDA measures 3 percent as sustainable, after assessing after assessing a little less than half of all buildings over 5,000 gross square feet. At present, agencies are furthering the assessment process to measure and validate which existing buildings meet the *Guiding Principles*. In 2010, the Department continues to implement strategies to achieve its sustainable buildings goals. Agencies are initiating a study of the resources required to achieve EO 13514 goals using a sample of existing buildings.

Waste Reduction and Recycling
USDA is working to decrease its waste stream and increase its recycling rate. Currently USDA headquarters diverts over 60 percent of its waste from the FY 2005 baseline, with a recycling rate of over 40 percent. The waste minimization and recycle program practices workforce education by conducting outreach events and providing timely data and directions on the web. Besides encouraging employee participation in the program, the Office of Operations also incorporates waste minimization and recycling criteria into service contracts, including concessions, janitorial, and operations and maintenance contracts.

Green Purchasing
USDA is making strides towards sustainable acquisitions in all required green purchasing categories. In particular, USDA's BioPreferred program leads by example in the biobased products area. By designating categories of biobased products for preferred Federal procurement and developing a voluntary labeling program, USDA is creating wealth in rural America and meeting Farm Bill mandates.   The BioPreferred program web site, (www.BioPreferred.gov) contains contract templates and model language to assist Federal agencies in purchasing biobased products and services. To date, USDA has designated 42 product categories—more than 4,500 individual products—for preferred Federal purchase.

Electronic Stewardship

The USDA Chief Information Officer (CIO) has proactively sought to continually decrease the carbon footprint of our data centers. Soon after launching a data center consolidation initiative in FY 2007, the CIO commissioned a study, called the Green IT Strategic Plan, which formulated a strategy for reducing data centers' greenhouse gas emissions through virtualization, consolidation, and energy optimization. Consequently, USDA was well-poised in FY 2010 to submit a Data Center Consolidation Plan to the Office of Management and Budget that enumerates both substantive accomplishments and aggressive timelines for further improvements.

Environmental Management Systems

USDA currently has 130 facility-level environmental management systems (EMSs) and one multi-site EMS, which addresses 142 additional facilities. USDA agencies will continue to utilize EMSs to ensure environmental compliance and pursue progress on the sustainability goals.

II.2 Goal Performance Review

Goal 1 – Scope 1and2 Greenhouse Gas Reduction

Goal 1 – Description

USDA will reduce reliance on nonrenewable energy by improving energy conservation, increasing efficiency, and promoting renewable energy projects and programs. In accordance with EO 13514, USDA established a Scope 1 and 2 greenhouse gas (GHG) emissions reduction target of 21 percent in FY 2020, compared to the FY 2008 base year. To help achieve our reduction target, we will focus efforts on reducing energy consumption and increasing renewable energy use in USDA facilities, and reducing fossil fuel use and increasing alternative fuels use in USDA fleet vehicles.

Goal 1 Objective 1 – Decrease Energy Intensity

Reduce energy intensity by 37.5 percent by FY 2020, compared to the FY 2003 base year.[3]

> In FY 2009, USDA achieved a 22 percent reduction in energy intensity compared to the FY 2003 base year. The reduction target of 37.5 percent by FY 2020 assumes that USDA will meet the Energy Independence and Security Act's 30 percent energy intensity reduction goal in FY 2015; while reducing energy intensity by an additional 1.5 percent per year from FY 2016 to FY 2020.

Objective 2 – Increase Use of Renewable Energy

Purchase and generate renewable energy equivalent to at least 10 percent of the Department's total electricity use by FY 2020.

> In FY 2009, USDA purchased and generated renewable energy equivalent to 5 percent of the Department's total electricity use. The target of purchasing and generating renewable energy equivalent to 10 percent of total electricity use by FY 2020 assumes that USDA will meet the Energy Policy Act's 7.5 percent renewable energy use requirement in FY 2013 while using an additional 2.5 percent by FY 2020.

Objective 3 - Reduce Petroleum use in Fleet Vehicles

Reduce covered federal fuel consumption by 2 percent annually for a total reduction of 30 percent from FY 2005 to FY 2020.

Goal 1 Objective 4 - Increase Use of Alternative Fuels in Fleet AFVs

Increase use of alternative fuel in locations where alternative fuel is available.

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[3] EO 13423 establishes a 30 percent energy intensity reduction goal for 2015 based upon a 2003 baseline. USDA has extended this goal to 37.5 percent for 2020 based on the same 2003 baseline as the basis for its Scope 1 and 2 GHG emissions reduction target. The GHG target is based on a 2008 GHG emissions baseline as required by EO 13514.

> The FY 2005 USDA alternative fuel consumption baseline is 196,642 gasoline gallon equivalents (GGEs). The annual alternative fuel consumption by FY 2020 is forecasted at 2,175,880 GGEs, an increase of 1007% as compared with FY 2005. This substantial increase is based on several viable initiatives that have been instrumental in escalating the use of alternative fuel in the Department over the past

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Objective 5 - Optimize Use of Vehicles and Right-Size Fleet
Reduce annual fleet fuel consumption by 451,989 gasoline gallon equivalents (GGEs) by FY 2020.

Goal 1 Objective 6 - Increase Use of Low Emission and High Fuel Economy Vehicles
Reduce annual fleet fuel consumption by 2,561,271 GGEs by FY 2020.

> This objective will be accomplished through the acquisition of low emission and high fuel economy vehicles. These vehicles are projected to increase the overall miles per gallon (mpg) rate in the USDA fleet from 23.5 in FY 2010 to 29 mpg in FY 2020. USDA motor vehicle fleet reviews have determined that the vehicle acquisition process varies substantially from year to year. The vehicle acquisition (owned, commercially leased, GSA leased) rate could total 6,000 vehicles in any given year and decline to 4,000 vehicles the next. Light duty vehicles leased from GSA (such as sedans) are generally replaced every three to four years. However, USDA-owned vehicles are replaced anywhere from every six to 10 years. Also, the USDA Forest Service operates under a working capital fund and may replace owned vehicles more frequently than other USDA agencies. The strategy for accomplishing this objective takes into account the vehicle acquisition variance when determining the annual number of vehicles required to reach the 30% petroleum reduction goal by FY 2020.

Goal 1 – Leadership
The USDA Sustainable Operations Council (SOC), which is chaired by the USDA Senior Sustainability Officer (SSO), is responsible for overseeing the overall objectives and goals of EO 13514. There are five workgroups under the direct leadership of the SOC: Environmental Management, Transportation, Facilities, Green Purchasing, and Electronic Stewardship. The Facilities Workgroup and the Transportation Workgroup serve as the key points of contact for day to day implementation of the USDA Scope 1 and 2 GHG emissions reduction initiatives.

Goal 1 – Implementation Methods
USDA will rely on the organizational structure and resources of the SOC to implement measures to facilitate compliance with Executive Order EO 13423 and EO 13514. The efforts of the SOC are supported at the national level by groups such as the USDA's Real Property Council and Procurement Council, as well as various workgroups and employee green teams at the regional and field levels. USDA green teams are groups of employees, regardless of discipline or organizational level, specifically chartered by leadership to promote and foster sustainable operations that reduce a unit's environmental footprint.

USDA will continue to integrate its strategic plans and policies with the services provided by the Federal Energy Management Program (FEMP) to create effective management tools and energy initiatives to achieve its Scope 1 and 2 GHG Reduction Target by FY 2020. The Department's planned implementation initiatives will incorporate provisions from various USDA policies and plans including: Departmental Regulation 5500-001; the USDA Utilities Metering Guidance; the USDA Renewable Energy Guidance; USDA's Environmental Management Systems; and the fleet management policies mandated in the Agriculture Property Management Regulations.

Examples of management tools/strategies that USDA plans to use to achieve this goal include Department of Energy (DOE) sponsored Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs); green power purchase agreements; purchasing Renewable Energy Certificates (RECs); awards programs; performance evaluations; training; metering; and Life Cycle Cost Analysis. Viable fleet management related strategies will be developed through the USDA Internal Motor Vehicle Tool. This tool will also be used as a management tool to perform fuel use audits, acquire AFV or fuel efficient vehicles in specific locations nationwide, and pinpoint AFVs that can use alternative fuel all of the time. In addition, vehicles with critical travel related mission requirements will be able to map alternative fueling locations that correspond with their travel routes.

Other tools/strategies include utilizing internal USDA Agency scorecards and corporate data management systems. Specific energy initiatives that USDA will employ entail increasing the use of alternative transportation fuels, procuring more energy efficient replacement vehicles, "right-sizing" vehicles to perform critical mission requirements, implement vehicle utilization strategies, performing facility energy audits, and strategically disseminating "*You Have the Power*" campaign materials.

As the comprehensive GHG inventory is developed under Goal 3, it should better inform the decision making and implementation process under this goal, as well as Goal 2. Achieving this goal should help the Department better comply with the High Performance and Sustainable Buildings Guiding Principles in Goal 4. Also, we anticipate that synergies will be achieved between this goal and Goals 2, 3, and 6, due to the similar implementation strategies that USDA plans to employ in attaining these respective goals.

The following table provides a description of specific implementation initiatives and programs:

Initiatives and Programs	Description
Life-cycle Cost Analysis	Use life-cycle cost methodologies and value engineering to identify cost-effective opportunities to improve energy efficiency, use renewable energy, and reduce petroleum fuel use in facilities and fleet operations. Consider the life-cycle costs of combinations of projects, particularly to encourage bundling of energy-efficiency projects with renewable energy projects.
Energy Audits and Efficiency Improvements	Conduct energy audits of EISA Section 432 Covered facilities for energy efficiency and to expand the use of renewable energy and technologies, to the greatest extent possible, subject to available funding. As evaluations are completed, continue to identify and implement projects that improve energy efficiency and offer potential use of renewable energy and technologies.

Initiatives and Programs	Description
Energy Audits and Efficiency Improvements (cont'd.)	Include an energy analysis during the design phase of renovation projects to identify potential energy efficiency opportunities.
	Consider new energy conservation technologies in appropriate repair and construction projects.
	Initiate early retirement of older, inefficient appliances and other energy using equipment.
	Switch to less greenhouse gas-intensive, non-petroleum energy sources, such as natural gas or renewable energy sources, and decrease unnecessary fuel use through efficiency projects.
	Pursue combined heating/cooling/power systems projects, when life-cycle cost effective. Target facilities for combined heating/cooling/power systems where there is a high demand for hot water or cooling for process needs and where low cost fuel (such as natural gas or biomass) are readily accessible.
Alternate Financing Mechanisms	Promote the use of ESPC and UESC, when life-cycle cost effective, to help finance energy efficiency and renewable energy projects.
	Utilize audit reports to identify potential sites for energy savings performance contracts and/or utility energy service contracts.
Distributed Generation	Use solar and other renewable technology, particularly at remote locations, where it competes favorably with traditional power systems.
	Incorporate solar power to run pumps and exhaust fans at recreation sites.
	Utilize wind power at selected facilities
Electrical Load Reduction	Remain accountable and responsible electrical power consumers Coordinate with utility companies to minimize overall use of electricity and manage electricity consumption during emergencies
Metering	USDA will continue to install advanced meters, whenever life-cycle cost effective. By utilizing advanced metering technologies, USDA will obtain the information needed to meet energy goals, save money, and improve the Department's building operations
Optimize Use of Vehicles and Right-Size Fleet	Seek out efficiencies through right-sizing specifications within Departmental agencies.
	Acquire vehicles meeting the GHG minimum scoring requirements unless they do not meet critical mission requirements.
	Review the make-up of the USDA fleet; (e.g., body size, engine size and optional equipment) to ensure that each vehicle achieves the maximum fuel efficiency and is the right size needed to perform critical mission requirements.
Petroleum Reduction	Identify alternative fuel vehicles (AFVs) in close proximity to alternative fueling stations and notifying USDA agencies to use the fuel immediately; in accordance with EPAct §701.
	Create specific agency acquisition strategies to replace petroleum vehicles with AFVs in areas in close proximity to alternative fueling sites; Exchange petroleum vehicles in close proximity to alternative fueling stations with AFVs in rural locations.
	Match high mileage AFV mission travel routes with alternative fueling locations to ensure alternative fuel use 100 percent of the time in selected AFVs.

Initiatives and Programs	Description
Training, Awareness, and Recognition	Raise the level of participation and visibility of USDA in government-wide energy and transportation management initiatives while increasing the awareness of these initiatives within the Department.
	Continue to disseminate "You Have the Power" campaign awareness information to Agency facility managers, energy managers, and fleet managers; and promote awareness, education, and training of energy and transportation requirements through the USDA Sustainable Operations Website.
	Encourage appropriate personnel to attend training program and workshops provided by the Federal Energy Management program, private and public institutions, and other federal agencies.
	Sponsor the GovEnergy 2010, and encourage employees' participation in the annual conference.
	Promote employee commitment to improving energy efficiency through awards and recognition programs.
	Participate in the Annual Federal Energy and Water Management Awards program and the "You Have the Power" recognition program; Submit FY 2010 nominations to recognize outstanding energy efficiency and renewable energy use efforts.
	Encourage and support USDA agency specific employee award and recognition programs that cover a broad-range of categories, including energy efficiency and conservation.
Monitoring and Accountability	Develop a USDA scorecard to track USDA agencies and staff offices progress in executing the Department's initiatives relating to this goal.
	Incorporate energy management responsibilities as an element in position descriptions and performance evaluation standards of its personnel (e.g., facility managers, area and location engineers, building engineers, maintenance mechanics, energy managers, engineering project managers, and procurement personnel) considered being critical to the implementation of this goal.

Goal 1 – Positions

USDA anticipates that it will utilize current staffing to support the development and implementation of the Department's Scope 1 and 2 GHG Reduction initiatives. A substantial portion of the work is performed as a collateral duty.

Goal 1 – Planning Table

SCOPE 1and2 GHG TARGET	Unit	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19.	FY 20
Energy Intensity Reduction Goals (BTU/SF reduced from FY03 base year)	%	15	18	21	24	27	30	30	30	30	30	30
USDA Planned Energy Intensity Reduction (BTU/SF reduced from FY03 base year)	%	22	23	25	27	29	30	31.5	33	34.5	36	37.5
Renewable Electricity Goals (Percent of electricity from renewable sources)	%	5	5	5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
USDA Planned Renewable Electricity Use (Percent of electricity from renewable sources)	%	5	5	5	7.5	7.5	7.5	8	8.5	9.0	9.5	10
Petroleum Use Reduction Targets (Percent reduction from FY05 base year)	%	10	12	14	16	18	20	22	24	26	28	30
USDA Planned Petroleum Use Reduction (Percent reduction from FY05 base year)	%	10	12	14	16	18	20	22	24	26	28	30
Alternative Fuel Use in Fleet AFV Target (Percent increase from FY05 base year)	%	61	77	95	114	136	159	185	214	245	280	318
USDA Planned Alternative Fuel Use in Fleet AFV (Percent increase from FY05 base year)	%	95	100	112	184	262	371	467	571	681	802	1007
Scope 1 and 2 – USDA Reduction Target (reduced from FY08 base year)	%	3.7	5.5	7.4	9.2	11	12.9	14.4	15.9	17.4	18.9	20.6

[Note, with respect to targets: Shaded targets are listed for reference and represent targets as outlined in the EO; the columns that are not shaded represent USDA planned targets.]

Goal 1 – Agency Status

USDA has made significant progress in recent years in improving its energy efficiency and renewable energy use performance. In FY 2009 and FY 2010, USDA achieved statutory goals and policy requirements relating to energy intensity reduction, renewable energy use, advanced electric metering, energy evaluations, and alternative financing.

A summary of USDA's recent performance and initiatives are provided below:

➢ In FY 2010, USDA established its Scope 1 and 2 Greenhouse Gas Reduction Target in accordance with EO 13514

➢ In FY 2009, USDA's energy use index (EUI) is estimated at 67,480 British thermal units (Btu) per gross square foot (GSF), which represents an approximate 22 percent reduction compared to the FY 2003 baseline of 86,281 Btu per GSF. The FY 2009 EUI reduction goal for EPACT is 8 percent (as compared to the FY 2003 baseline); and the FY 2009 reduction goals for EISA and EO 13423 are both 12 percent (as compared to the FY 2003 baseline). Accordingly, USDA exceeded all three of these goals.

- In FY 2009, USDA reported using 43,700 gallons (5.5 billion Btu) of aviation fuel, which represents a 93 percent decrease compared to the Department's FY 2008 usage.
- USDA target goal for alternative fuel consumption in FY2009 was a 46% increase as compared to the FY2005 baseline. The actual FY2009 alternative fuel consumption was 378,279 GGEs; an increase of 92%. This percentage far surpassed the targeted goal of 46%.

- USDA agencies strived to select products, materials, and systems that maximize the use of renewable energy. We gave appropriate consideration to incorporating solar, wind, and other renewable technologies when cost-effective over the life cycle. Accordingly, through a combination of purchases and on-site generation USDA used about 25,000 megawatt-hours (MWH) of renewable energy, which is equivalent to about 5 percent of USDA's total electricity use for FY 2009. Thus, USDA exceeded the EPACT renewable energy use goal of 3 percent for FY 2009.

- In FY 2009, USDA conducted energy and water evaluations for at least 25 percent of its covered facilities in accordance with EISA Section 432.

- USDA completed all of the milestones in its Electric Metering Plan, including completing advance metering installations in at least 25 percent of its facilities. Additionally, all USDA facilities within the National Capital Region have advanced electric meters installed. The Agricultural Research Service has also conducted training of key personnel involved in implementing the electric metering plan and conducted an in-house electric meter survey of all 3,200 buildings in its inventory. Additionally, the Forest Service estimates that approximately 4,500 of its buildings are currently metered either internally or by local utilities with standard meters; this figure represents about half of the Forest Service facilities that have electricity service.

- USDA's Departmental Management continued to execute its UESC with Washington Gas Energy Services (WGES). The UESC, which was awarded in FY 2007, is a ten year contract for $10 million and covers the USDA HQ Complex and the George Washington Carver Center (GWCC). The HQ Complex and GWCC (located in Beltsville, Maryland) contain more than three million gross square feet of mixed use office space. The first phase of the UESC contract has a simple payback of 4.5 years and will provide over 2,300 megawatt-hours of electrical savings and $552,000 in cost savings annually.

- ARS has entered into an interagency agreement with Bonneville Power Administration (BPA) for energy efficiency upgrades at several sites in Idaho and Oregon, and is contracting with Washington Gas to perform energy upgrades at the National Arboretum.

- In FY 2009, as part of the Department's ongoing facilities modernization, repair, and maintenance activities, USDA spent more than $ 5.6 million for related building energy efficiency improvement projects. These projects included improving the energy efficiency of existing pre-engineered buildings by means of re-insulating the roof areas and interior perimeter walls with fiberglass faced insulation and installing energy efficient lighting and vent fans. Other projects entailed installing energy efficient boilers and heating, ventilating, and air conditioning (HVAC) equipment; upgrading plumbing equipment; installing variable speed drives on pumps and air handlers; upgrading digital control systems; and implementing computer-controlled metering for electricity. Furthermore, USDA agencies refurbished insulation for coolers; installed alarm systems on freezers; cleaned HVAC condenser/evaporator fan coils; repaired compressed air leaks; and

installed advanced meters, rain sensors, hot water tank timers, and restroom occupancy light sensors.

➢ In FY 2009, USDA ARS received $176 million in American Recovery and Reinvestment Act (ARRA) funds. These funds were used to address specific critical deferred maintenance needs at ARS research facilities. Completion of this work will, in many cases, result in improved energy and water efficiency and reduction in operation and maintenance costs. The projects include work at 36 locations in 28 states and the District of Columbia.

➢ In collaboration with DOE National Laboratories, USDA initiated 12 energy and water projects (relating to auditing, modeling, and training) at USDA facilities with over $500,000 in ARRA funds channeled through FEMP.

➢ USDA received the 2009 Presidential Award for Leadership in Federal Energy Management for its performance in energy management, renewable energy use, and transportation management.

➢ USDA maintained Green rating for status and progress on OMB Energy Management Scorecard.

➢ In FY 2009, USDA developed an internal data tool to help monitor and provide oversight relative to AFV use and to improve driver compliance with regulatory requirements. This tool is capable of monitoring and providing oversight of USDA AFVs and will allow the Department to alert drivers of fuel efficiency advantages. Drivers will also be educated in terms of assisting the Department with achieving regulatory compliance goals. The tool will provide viable petroleum reduction information, such as exchanging gasoline vehicles in close proximity to alternative fueling stations with AFVs in rural locations (this initiative will decrease AFV waivers). Also, the tool allows for planning AFV and fuel efficient vehicle acquisitions and mapping alternative fuel use for AFVs.

➢ In FY 2009, USDA performed an analysis that identified approximately 2,000 high mileage vehicles. These vehicles were GSA leased vehicles which are used by USDA agencies to travel district-wide, State-wide, and regionally to perform critical mission requirements. Approximately 37 percent of these vehicles were light duty trucks and sports utility vehicles. Agencies will be instructed to conduct a review of these vehicles to determine if a significant portion of these vehicles are capable of being "down-sized or right-sized." Agencies will also be instructed to develop key fuel efficient vehicle and AFV acquisition strategies.

➢ USDA worked with GSA Fleet Management Center representatives and the Department of Energy to develop audit methods for leased alternative fuel vehicles. The result of this synergetic effort was the USDA internal data tool which is used for auditing, monitoring, and analyzing motor vehicle related data.

➢ USDA also realized energy and cost savings from the following ESPCs:

Energy Savings Performance Contracts			
Facility	**Location**	**Energy Savings (BTU/Year)**	**Description**
Center for Medical, Agricultural and Veterinary Entomology	Gainesville, Florida	TBD	Awarded in FY 2009
Multiple Facilities - Agricultural Research Service (ARS)	Texas	$9,365 Million	Awarded in FY 2009
Beltsville Agricultural Research Center	Beltsville, Maryland	$48,685 Million	Awarded in 2003
National Agricultural Library	Beltsville, Maryland	$11,322 Million	Awarded in 2000 and includes: lighting retrofits, burner replacement, chiller plant automation, and building automation systems
National Animal Disease Center	Ames, Iowa	$20,396 Million	Awarded in 1999 under the DOE Mid-West Area Super ESPC
Forest Service Forestry Laboratory	Corvallis, Oregon	See description	Awarded in 1999. The focus of the ESPC is on heating retrofit and building automation systems, has achieved $48,100 in cumulative savings beyond the guaranteed savings of $598,536

USDA's planned initiatives for FY 2010 and beyond:

➢ Perform energy and water evaluations for at least 25 percent of USDA "Covered Facilities" in accordance with EISA Section 432 requirements (Was completed by June 30, 2010).

➢ USDA agencies will continue to pursue ESPC opportunities. Specifically, agencies will review data from EISA Section 432 energy evaluations to determine if it will be cost effective to employ ESPCs or UESCs as a follow-up to the site evaluations (Current review will be completed by December 31, 2010).

➢ Update USDA Metering Plan and Guidance to include other utilities, and continue installations of advanced metering at USDA facilities (Will be completed by December 31, 2010).

➢ Update USDA Renewable Energy Guidance to incorporate provisions contained in EO 13514 (Was completed by June 30, 2010).

➢ Develop USDA Agency Scorecards for Energy Management, and track agencies' progress (Will be completed by June 30, 2011).

➢ Participate in Federal Energy Management Program (FEMP) First Thursday Seminars.

➢ Identify AFVs that travel in close proximity to alternative fueling stations when performing critical mission requirements and mandate immediate alternative fuel consumption (Was completed by June 30, 2010).

➢ Develop Alternative Fuel and Fleet Efficiency Handbook for fleet representatives at headquarters and field offices (Was completed by June 30, 2010).

➢ Complete Fleet Trend Analysis Review and develop specific initiatives to increase alternative fuel use (Completed).

➢ Develop site-specific fleet efficiency and petroleum reduction report strategies geared to increase alternative fuel use and decrease waivers (Was completed by June 30, 2010).

➢ Conduct inventory to identify waivered AFVs that can immediately be relocated to locations with alternative fuel availability (Was completed by June 30, 2010).

➢ USDA will partner with Veteran Affairs in South Dakota to develop initiatives to increase alternative fuel use (Was completed by June 30, 2010).

➢ Coordinating with other agencies and DOE's Clean Cities program to increase alternative fuel use in areas with high AFVs in close proximity to USDA (Was completed by June 30, 2010).

➢ Forest Service will report to USDA Headquarters detailing progress of B20 diesel tank conversion analysis (Was completed by June 30, 2010).

➢ Work with FEMP to identify further actions to improve compliance (Completed).

Goal 2 – Scope 3 Greenhouse Gas Reduction

Goal 2 – Description

In accordance with EO 13514, USDA will reduce Scope 3 GHG emissions.

Goal 2 Objective 1 – Reduce Scope 3 GHG emissions

Reduce GHG by 7 percent by 2020, compared to the 2008 base year. To help achieve our reduction target, USDA will focus our efforts on reducing GHG emissions from USDA employee travel, transmission and distribution (T&D) losses (from purchased electricity), and contracted waste disposal.
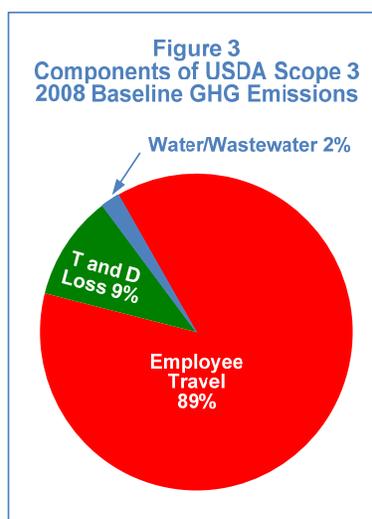
Goal 2 – Leadership

The USDA Sustainable Operations Council (SOC), which is chaired by the USDA Senior Sustainability Officer, is responsible for overseeing the overall objectives and goals of EO 13514. There are five workgroups under the direct leadership of the SOC: Environmental Management, Transportation, Facilities, Green Purchasing and Electronic Stewardship. The Facilities Workgroup serves as the key point of contact for day-to-day implementation of the USDA Scope 3 GHG reduction initiatives.

Goal 2 – Implementation Methods

USDA will rely on the organizational structure and resources of its Sustainable Operations Council (SOC) to implement measures to facilitate compliance with EO 13423 and EO 13514. The efforts of the SOC are supported at the national level by groups such as the USDA's Real Property Council and Procurement Council, as well as various workgroups and employee green teams at the regional and field levels. USDA green teams are groups of employees, regardless of discipline or organizational level, specifically chartered by leadership to promote and foster sustainable operations that reduce a unit's environmental footprint. The Department's planned implementation initiatives will incorporate provisions from various USDA policies and plans including: USDA Strategic Plan; USDA DR-5500-001; USDA's Environmental Management Systems; and USDA Travel Policy and Regulations.

As the comprehensive GHG inventory is developed under Goal 3, it should inform the decision-making and implementation process under this goal, as well as under Goal 1. Also, it is anticipated that synergies will be achieved between this goal, Goal 1, and Goal 3, due to the similar implementation strategies that USDA plans to employ in attaining these goals.

Figure 3, provides a breakout of USDA GHG emissions by Scope 3 sub-category. Employee travel (specifically employee commuting) is the largest contributor to Scope 3 GHG, accounting for 89% of USDA's baseline emissions. Transmission and distribution losses (from purchased electricity) account for 9 percent of USDA's baseline Scope 3 GHG emissions while only 2 percent are attributable to contracted waste disposal.

Figure 3
Components of USDA Scope 3
2008 Baseline GHG Emissions

Water/Wastewater 2%
T and D Loss 9%
Employee Travel 89%

Initiatives and Programs

USDA will explore opportunities and develop strategies to reduce GHG emissions; specific initiatives and programs are described below:

Initiatives and Programs	Description
Increase in Telework	Explore opportunities to increase utilization of telework, alternative work schedules, and regional telework centers, which will reduce GHG emissions from employee commuting and contracted wastewater treatment.
Increase Use of Telecommunications	Explore opportunities to facilitate the increased utilization of conference calls, video-conferencing, webinars, and web-conferencing, which will reduce GHG emissions from business travel.
Reduction in Non-renewable Electricity Purchases	Rely on the implementation strategies and initiatives outlined on Goal 1 of this Plan to reduce GHG emissions from T&D losses. GHG emissions from T&D losses track directly to the use of electricity generated "off-site" (a Scope 2 activity).
Tracking Solid Waste	Develop methods to gather baseline data and reduce current non-hazardous waste for USDA-owned facilities.
Communication and Networking	Facilitate communication and networking across agency boundaries to share successful implementation strategies to reduce Scope 3 GHG emissions.
Training, Awareness, and Recognition	Raise the level of participation and visibility of USDA in government-wide energy, travel, and waste management initiatives while increasing the awareness of these initiatives within the Department.
	Continue to promote awareness, education, and training of energy, travel, and waste management initiatives through the USDA Sustainable Operations Website.
Monitoring and Accountability	Develop a scorecard to track how well its agencies and staff offices are executing the Department's initiatives relating to this goal.

Goal 2 - Positions

USDA anticipates that it will utilize current staffing to develop targets, gather baseline data, and implement Scope 3 GHG reduction measures. Staffing for implementing these activities consists of full time employees for which Scope 3 GHG reduction is a collateral duty.

Goal 2 – Planning Table

SCOPE 3 GHG TARGET	Unit	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
Overall Agency Scope 3 Reduction Target (reduced from FY08 base year)	%	0.7	1.3	2.0	2.6	3.3	3.9	4.5	5.0	5.5	6.1	7.0
Sub-Target for Federal Employee Travel	%	0.5	0.9	1.4	1.8	2.3	2.7	3.2	3.6	4.1	4.6	5.0
Sub-Target for Contracted Waste Disposal	%	4.0	8.1	12.1	16.1	20.1	21.8	22.6	23.5	24.3	25.2	26.0
Sub-Target for Transmission and Distribution Losses from Purchased Energy	%	2.1	4.2	6.2	8.3	10.4	12.5	13.8	15.1	16.4	17.7	19.1

Goal 2 – Agency Status

USDA will continue to promote telework programs to the maximum extent possible without diminished employee performance. USDA DR-4080-811-002 sets forth the authority, policy, and responsibilities for managing teleworking programs within the Department.

USDA is currently utilizing telecommunications to reduce GHG emissions. This method is not currently being tracked on a national scale; however USDA hopes to do so within the next two to three years. For the past five years, the USDA Forest Service has hosted an Annual Sustainable Operations Summit to share lessons learned, unearth barriers, and build a sense of community for sustainable operations champions. The summit has grown significantly in participation and influence. In 2009, the Forest Service used virtual technology to allow participation from close to 600 people, 500 of whom were scattered across 80 locations. By using virtual technology, the summit avoided producing 267 metric tons of CO2-equivalent greenhouse gases.

USDA is improving its energy efficiency and renewable energy use performance; therefore, reducing associated transmission and distribution losses from electricity purchases. A summary of USDA's recent energy intensity reduction and renewable energy use performance is included under Goal 1 of this plan.

USDA has made significant progress is reducing waste at our Headquarters facilities and at various other facilities throughout USDA through the use of Environmental management systems and green teams. A summary of accomplishments in this area can be found under Goal 7 of this plan.

Goal 3 – Develop and Maintain Agency Comprehensive Greenhouse Gas Inventory

Goal 3 - Description
USDA will develop and maintain a Department-wide comprehensive greenhouse gas inventory in accordance with EO 13514 and the Federal GHG Accounting and Reporting Guidance. The target date for USDA to complete its initial GHG inventory is December 31, 2010.

Goal 3 – Leadership
The USDA Sustainable Operations Council (SOC), which is chaired by the USDA Deputy Assistant Secretary for Administration (who is also the USDA Senior Sustainability Officer), will be primarily responsible for overseeing the development and maintenance of the Department's comprehensive greenhouse gas inventory.

Goal 3 - Implementation Methods
In as much as GHG emissions touch on nearly every aspect of USDA's mission and operations, the Department will undertake an integrated, cross-competency approach for developing and managing its GHG inventory. USDA will integrate GHG reduction strategies into its strategic plans, policies, and regulations.

USDA intends to develop and manage its GHG inventory in accordance with the Federal Greenhouse Gas Accounting and Reporting Guidance and fully document its rationale, should it become necessary to deviate from calculation and data collection methodologies provided in the Guidance. Also, USDA will rely on updated guidance from CEQ and DOE as improvements in data collection and emission estimation becomes available and new Scope 3 categories are added to the Department's inventory.

Goal 3 - Positions
USDA anticipates that it will utilize current staffing to develop and maintain its Comprehensive Greenhouse Gas Inventory. Staffing for implementing these activities consists of full time employees, of which GHG inventory development is a collateral duty in some cases.

Goal 3 – Agency Status
In FY 2009, USDA agencies conducted GHG inventories for the Yellowstone Ecosystem (encompassing Yellowstone National Park and six adjacent National Forests) and the Yates Office Building in Washington, D.C. Additionally, in FY 2010, USDA agencies served as "Road Testers" for the Public Sector GHG Accounting Protocol, in which USDA agencies developed key components of a GHG inventory. USDA gained critical insight into practical implementation issues from these two initiatives, and will use the lessons learned to better inform the Department's decision-making and actions in developing a comprehensive GHG inventory.

Goal 4 – High-Performance Sustainable Design/Green Buildings

Goal 4 - Description

USDA will continue to use sustainable building and site practices to plan, design, construct, operate and maintain facilities. The Departmental agencies measure sustainable building performance by way of a third-party certification system, such as the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) system, where practicable.

> USDA is the steward for buildings with a total area of 58.7 million gross square feet (GSF). EO 13514 mandates that Federal agencies, as leaders in environmental stewardship, apply the *Guiding Principles* to all new building construction, and to major and minor renovations over 5,000 GSF. Within the USDA portfolio are 2,743 buildings to which this requirement applies, totaling 36.9 million GSF. In response to the EO 13514, USDA is analyzing and assessing these buildings for environmental sustainability.

Goal 4 Objective 1 - Design for Net Zero Energy

Beginning in FY 2020, design all new buildings, and those buildings undergoing major renovation, to achieve zero-net energy by FY 2030.[4]

Goal 4 Objective 2 - Follow the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings (*Guiding Principles*)

Construct all new buildings, and renovate, repair, and alter existing buildings in compliance with the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings* (*Guiding Principles*). Increase the number of existing buildings and building leases of 5,000 GSF or over that meet the *Guiding Principles.* Demonstrate annual progress toward 100-percent conformance with the *Guiding Principles* for the Department's building inventory.

Goal 4 Objective 3 - Optimize performance of the agency's real property portfolio and use of non-renewable resources; reduce and minimize waste in a manner that is cost effective, and innovative

Examine opportunities to decrease environmental impacts through consolidation, co-location, reuse, and disposal of existing assets prior to adding new assets.
Demonstrate the use of cost-effective, innovative building strategies to minimize energy, water, and materials consumption.

Goal 4 Objective 4 - Preserve our Nation's cultural resources and historic properties

Ensure the use of best practices and technologies in rehabilitating historic properties.

Goal 4 – Leadership

The USDA Sustainable Operations Council (SOC), which is chaired by the USDA Senior Sustainability Officer (SSO), is responsible for overseeing the overall objectives and goals of EO 13514. There are five workgroups under the direct leadership of the SOC: Environmental Management, Transportation, Facilities, Green Purchasing and Electronic Stewardship. The

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[4] EO 13514 imposes this requirement beginning in FY 2020. USDA is not implementing this requirement sooner because in many cases the technology to achieve zero-net energy does not currently exist or is not practicable for the types of buildings USDA is likely to need.

Sustainable Buildings Workgroup, a subgroup of the Facilities Workgroup, leads this effort by recommending sustainability guidance, direction, and policy, to the SOC.
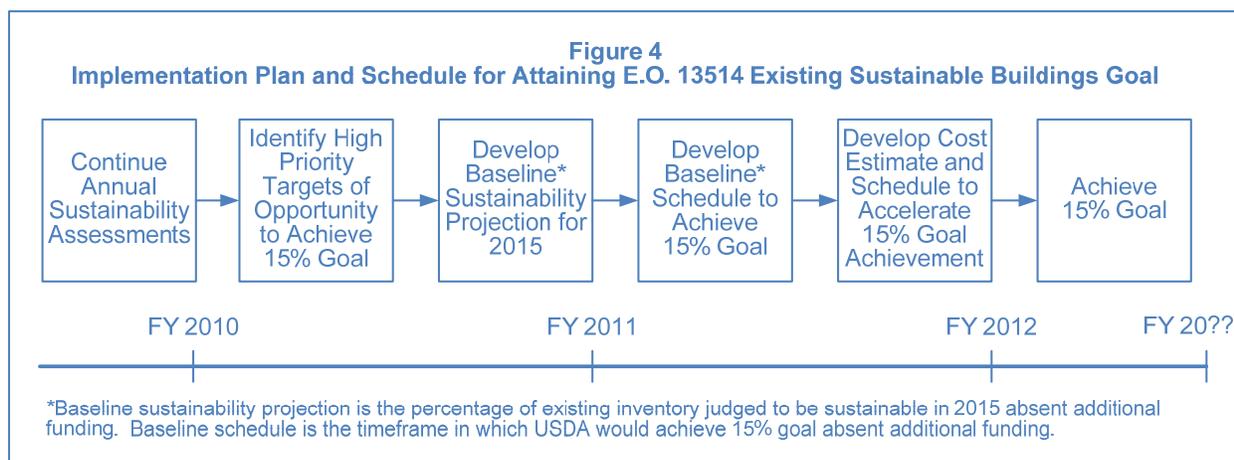
Goal 4 - Implementation Methods

The Department implements sustainable building technical and assessment initiatives and provisions of various USDA policies and plans including the annual USDA Sustainable Building Implementation Plan, DR-5500-001, the USDA Utilities Metering Guidance, and the USDA Renewable Energy Guidance. (See Appendix 2 for USDA agency-specific policy and implementation strategies.)

Achieving the High-Performance Sustainable Design/Green Buildings goal helps the Department to achieve objectives of Goals 1, 2, and 6, such as reaching the GHG reduction target, and achieving water and energy conservation objectives.

USDA is currently assessing its inventory of buildings and developing an action plan for achieving sustainability in 15 percent of our facilities as required by EO 13514. Based on our previous accomplishments and recognizing that some of our largest buildings are the biggest consumers of energy, we believe achieving sustainability for 15 percent of our buildings based on square footage is not only significant but also achievable by 2015.

It is unlikely, however, that USDA will be able to achieve sustainability in 15 percent of the number of buildings over 5,000 square feet, which is the metric CEQ has adopted, by 2015. At this time, the Department lacks sufficient information to develop a schedule for achieving the 15 percent sustainability target because we have not yet completed sustainability assessments for all of our existing buildings over 5,000 square feet. USDA hopes to complete its sustainability assessments for existing buildings during FY 2011. In FY 2011, USDA will identify buildings which are closest to being considered sustainable and therefore represent "targets of opportunity" to further achievement of our sustainable buildings goal. USDA will also develop an initial baseline projection of what percentage of buildings will be sustainable by 2015. In FY 2012, USDA will be better able to forecast compliance with the 15 percent requirement. Figure 4 below illustrates this process.

Figure 4
Implementation Plan and Schedule for Attaining E.O. 13514 Existing Sustainable Buildings Goal

Continue Annual Sustainability Assessments → Identify High Priority Targets of Opportunity to Achieve 15% Goal → Develop Baseline* Sustainability Projection for 2015 → Develop Baseline* Schedule to Achieve 15% Goal → Develop Cost Estimate and Schedule to Accelerate 15% Goal Achievement → Achieve 15% Goal

FY 2010   FY 2011   FY 2012   FY 20??

*Baseline sustainability projection is the percentage of existing inventory judged to be sustainable in 2015 absent additional funding. Baseline schedule is the timeframe in which USDA would achieve 15% goal absent additional funding.

The following table outlines USDA initiatives and programs that will contribute to achieving the sustainability objectives of EO 13514.

Initiatives and Programs	Description
Evaluate and Prioritize	Enhance the existing USDA building survey to assess the extent to which these buildings meet the *Guiding Principles*
	Develop tools to assist and guide agencies in prioritizing buildings within existing inventories, to address sustainability in design and construction projects
Certification	Use a third-party sustainable building certification system such as the U.S. Green Building Council's (USGBC's) LEED system, to measure sustainability in constructing new buildings, where practicable
	Ensure contracts require Architectural and Engineering firms to design buildings to achieve at least a LEED-Silver rating
	Require all new design and construction, at a minimum, owned buildings meet the *Guiding Principles*, and leased buildings over 10,000 GSF meet the criteria of the USGBC's LEED Silver Certification, where practicable
Procure Green Building Products, Materials, and Systems	Pursue green procurement methods and use green contract language in leasing, constructing, repairing, altering, and operating and maintaining facilities
	Incorporate green materials, including biobased products, and systems into technical construction specifications to ensure that buildings meet the *Guiding Principles*, and, where practicable, meet the USGBC's LEED Silver Certification criteria
Green Leasing Standards	Further develop a USDA leasing standard which, for all new leasing actions, follows the GSA Solicitation for Offers (SFO), and requires projects of 10,000 rentable square feet and above to earn the Energy Star label and the Leadership in Energy and Environmental Design – New Construction (LEED-NC) Silver criteria
	Follow the GSA SFO and require that all leasing build-outs meet the *Guiding Principles* and the USGBC's LEED for Commercial Interiors, Certified criteria
	Encourage all lease offerors, through award factors and evaluation criteria, to use Energy Saving Performance Contracts (ESPCs) or utility agreements to achieve, maintain, and/ or exceed the ENERGY STAR Benchmark Score of 75, and to practice Energy Efficiency and Renewable Energy methods in design and construction, and facility operation
Communication and Networking	Enhance the existing USDA Sustainable Buildings SharePoint site. The current site provides a foundation to share information and to raise awareness of sustainable building accomplishments within the Department, and to recognize agency achievements in sustainable building design, construction, and operation
Models and Pilots	Expand upon net-zero energy models for buildings, and the example the Forest Service's model provides
	Form research and interest groups to pilot projects in sustainable sites/ sustainable land management, alternative energy, and water conservation and Low Impact Development (LID) technologies

Initiatives and Programs	Description
Conserve Resources	Implement energy, water, and natural resource conservation activities
	Utilize Energy Savings Performance Contracts (ESPC's) to complete energy and water conservation projects and to install renewable energy systems
Meter Building Utilities	Implement the USDA Building Electric Metering Plan, and install advanced electricity meters whenever life-cycle cost effective
	Utilize metering technologies to obtain the information needed to meet Departmental energy goals, save money, and improve building operations
	Install electric meters by 2012 and natural gas/ steam meters by 2016
Training, Awareness, and Recognition	Share information and raise awareness of sustainable building practices by creating training presentations, internet-based tools, and tools to inspire sustainable operations practices
	Hold discussion groups with the Sustainable Buildings Sub-workgroup and with the Facilities Workgroup
	Develop methods to recognize and reward positive sustainable building performance
Monitoring and Accountability	Develop performance standards of existing buildings including: offices, laboratories, farm buildings, and buildings that serve national forests
	Refine and enhance internal real property accounting systems to track and measure sustainability characteristics
	Further develop and maintain a reporting system for USDA agencies to report their current sustainable buildings status

Goal 4 – Positions

The Department has one dedicated sustainable buildings staff member. Within each USDA agency, sustainable buildings duties are collateral to the position's engineering or program management duties. Our dedicated staff member works with USDA agency staff to train them on sustainable buildings requirements and assessment methodologies and posts information on a USDA Sustainable Buildings Microsoft® SharePoint website.

Goal 4 - Planning table

SUSTAINABLE PERFORMANCE BUILDINGS	Unit	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Owned Facilities Targets	%	5.0	TBD[5]	TBD	TBD	TBD	TBD
Leased Facilities Targets	%	5.0	TBD	TBD	TBD	TBD	TBD
Total Facilities Targets (by number of buildings)	%	5.0	TBD	TBD	TBD	TBD	TBD

Goal 4 – Agency Status

As of FY 2009, about 3 percent of all buildings over 5,000 GSF met the USDA sustainability criteria. Over the next two years agencies will continue conducting assessments. USDA agencies will use assessment results to identify priorities for sustainability which will form the basis for USDA's future sustainability goal.

Specific agency example of their efforts includes:

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[5] See text for a description of why there are not forecasted targets.

- The Animal Plant Health Inspection Service (APHIS) Engineering Office is surveying all of the sustainable facilities over 5,000 GSF and implementing green initiatives such as energy and water conservation projects to enhance sustainability.

- The APHIS Realty Business Office is surveying APHIS, AMS, and GIPSA sustainable buildings with leases over 5,000 square feet.

- The Agricultural Research Service (ARS) assesses existing building sustainability annually, following similar criteria to that of LEED-EB v2.0; ARS currently has six percent of existing buildings sustainable. This assessment concentrates on locating and improving sustainable facilities. The ARS identifies agency-wide sustainability practices, and implements them in a cost effective, affordable manner.

- The Forest Service and the U.S. Department of Energy's National Renewable Energy Lab are developing a net-zero energy model for buildings, and partnering with EPA on what net-zero waste means, plus establishing an implementation model for a ranger district.

- The Forest Service's Sustainable Operations Western Collective is creating and developing office-level tools and educational materials for sustainable operations practices across five regions and one research station.

- The Forest Service uses a micro-grant program to implement energy, water, and resource conservation activities, and ESPC's to complete energy and water conservation projects and to install renewable energy systems.

Goal 5 – Regional and Local Planning

Goal 5 - Description

Goal 5 Objective 1 - Partnerships

Ensure coordination and partnerships with states, local governments, Federal agencies, communities, regions, and Native American tribes, whose actions contribute to the quality and integrity of the environment, atmosphere, land, and watersheds. These actions include developing energy and transportation infrastructure within jurisdictions.

Goal 5 Objective 2 - Location

Incorporate sustainable building location into policy and planning for new Federal facilities and leases (Goal 4 Objective 2 - Sustainable Buildings and Guiding Principles addresses locating buildings sustainably.)

Goal 5 Objective 3 - NEPA

Ensure that all environmental impact statements and environmental assessments required under the National Environmental Policy Act (NEPA) for proposed new or expanded Federal facilities identify and analyze impacts associated with energy usage and alternative energy sources.

Goal 5 - Leadership

The USDA Sustainable Operations Council (SOC), chaired by the USDA Senior Sustainability Officer, is responsible for overseeing the overall objectives and goals of EO 13514. There are five workgroups under the direct leadership of the SOC: Environmental Management, Transportation, Facilities, Green purchasing and Electronic Stewardship workgroup. The SOC group that presently leads this goal is the Facilities Workgroup.

Goal 5 - Implementation Methods

USDA currently conducts environmental impact statements and environmental assessments as required under NEPA.

The USDA Strategic Plan outlines how USDA works with rural communities to create prosperity and ensure lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources. The USDA Strategic Plan places emphasis on the use of partnerships with individuals, communities, and State, tribal and local governments in almost every aspect of USDA's operations.

Key agencies and offices involved with sustainability include:

The USDA Sustainable Development Office
The Sustainable Development Office, operating within the Office of the Chief Economist (OCE), advances the principles and goals of sustainable development through partnerships, collaboration, and outreach. Their work focuses on sustainable agriculture, sustainable forests, and sustainable communities.

Climate Change Program Office

The Climate Change Program Office operates within OCE, functioning as the coordinator of agriculture, rural and forestry-related global change program and policy issues which face USDA. This Office also serves as USDA's focal point for climate change issues.

USDA Sustainable Operations Council

The Sustainable Operations Council is responsible for overseeing the overall objectives and goals of EO 13514. The Council works with respective USDA agencies to implement policy, guidance, and direction to implement Departmental sustainable practices.

USDA Agency Offices/Programs

USDA agencies are involved in numerous sustainability efforts that involve coordination and partnerships dealing with sustainable operations and development. USDA's sustainable programs and activities website identifies sustainable programs and activities (http://www.usda.gov/oce/sustainable/).

The SOC promotes regional and local planning throughout USDA, and enhances public education and awareness of the many facets of USDA's role with sustainability by:

 ➢ Providing opportunities during Council meetings for USDA agencies to showcase their successes
 ➢ Publishing projects or initiatives on our sustainable operations website (http://www.greening.usda.gov) or utilizing other forms of networking to share success stories
 ➢ Developing a system to recognize leaders in sustainability.

Goal 5 - Positions

This goal results in accomplishments that achieve multiple sustainability goals, therefore this goal does not lend itself to separate tracking; refer to staffing as outlined under the other sustainable goals.

Goal 5 - Agency Status

USDA is involved in numerous innovative initiatives, projects, practices and partnerships that promote and achieve sustainability, including the following examples:

Greater Yellowstone Greenhouse Gas Inventory

The Forest Service was the first Federal land management agency to join the Environmental Protection Agency Climate Leaders program. The Forest Service collaborated with the National Park and U.S. Fish and Wildlife Services to set comprehensive emission reduction goals for the 18 million-acre Greater Yellowstone ecosystem. As part of this affiliation, the Forest Service inventoried greenhouse gas (GHG) emissions at seven locations, including within the Greater Yellowstone Area (GYA) National Forests. This inventory is one of many actions the Forest Service takes to reduce its environmental footprint while utilizing the power of partnerships to benefit local communities. The inventory was completed in the spring of 2009. The National Renewable Energy Lab consolidated this inventory with GYA GHG inventories from the other agencies. The consolidated GHG inventory accounts for anthropogenic activities on all Federal lands in the GYA.

The USDA and Department of the Navy Memorandum of Understanding
A January 21, 2010 Memorandum of Understanding, signed between the USDA and the Department of the Navy, encourages the development of advanced biofuels and other renewable energy systems. The Departments work together to support President Obama's initiative to make the United States a global leader in developing a renewable energy economy, reducing energy consumption derived from fossil fuels, and increasing energy production from renewable energy sources.

Chesapeake Bay Conservation Partnership Projects
As of April 19, 2010, USDA is accelerating voluntary efforts toward a healthy and restored Chesapeake Bay, through its Cooperative Conservation Partnership Initiative (CCPI), a USDA Natural Resources Conservation Service (NRCS) initiative using existing conservation programs. CCPI projects improve water quality in six states by working with landowners and operators to reduce sediments and nutrients, increase carbon sequestration, and contribute to a healthy Chesapeake Bay.

USDA plans at least $5 million in financial assistance from two programs, the Environmental Quality Incentives Program and the Wildlife Habitat Incentive Program, to carry out CCPI in the Chesapeake Bay Watershed in FY 2010. This funding is available for single-state and multi-state partnership projects that address natural resource concerns within six Chesapeake Bay Watershed states: New York, Delaware, Maryland, Pennsylvania, Virginia, and West Virginia. Approximately $500,000 of the total funding is set aside for multi-state projects.

Mississippi River Basin Conservation Partnership Project
To improve the health of the Mississippi River Basin, including water quality and wildlife habitat, NRCS is developing the Mississippi River Basin Healthy Watersheds Initiative (MRBI). Through this new Initiative, NRCS and its partners help producers in selected watersheds in the Mississippi River Basin to voluntarily implement conservation practices that avoid, control, and trap nutrient runoff; improve wildlife habitat; and maintain agricultural productivity. MRBI conserves the resources of 41 watersheds in 12 states, through existing NRCS programs and initiatives. The USDA cooperates with agricultural producers, partner organizations, and Federal, State, and local agencies, to improve the watersheds and quality of life for those millions living in the Mississippi River Basin.

GOAL 6 - Water Use Efficiency and Management

Goal 6 - Description[6]
USDA will promote water conservation through identification of water inefficiencies and implementation of water conservation projects.

Goal 6 Objective 1 - Reduce Potable Water Use
Institute practices to reduce potable water use intensity by at least 26 percent by FY 2020, relative to USDA's FY 2007 baseline, as required by EO 13514.

Goal 6 Objective 2 – Reduce landscaping and agricultural water use
Seek opportunities to reduce agricultural and landscaping water use by 20 percent by FY 2020, relative to USDA's FY 2010 baseline, as required by EO 13514.

Goal 6 Objective 3 – Stormwater design
Use technically feasible stormwater control practices, in development or re development, that use or mimic natural hydrologic processes, to manage the temperature, rate, volume and duration of stormwater discharge; to achieve the specific performance objectives of EISA Section 438, as well as the objectives prescribed by EPA in Stormwater Guidance for Federal Facilities.

In FY 2007, USDA's potable water use intensity was 37.4 gallons per gross square foot. Our target potable water use intensity for FY 2020 is 28 gallons per gross square foot. The FY 2020 reduction target assumes that USDA will meet EO 13423 16 percent water use intensity reduction requirement by the end of FY 2015; while achieving an additional 2 percent reduction in water use intensity per year from FY2016 to FY2020. It also assumes that USDA's FY 2008 facilities gross square footage (58,865,300) will be relatively steady through FY 2020.

Goal 6 – Leadership
The USDA Sustainable Operations Council (SOC), which is chaired by the USDA Senior Sustainability Officer, is responsible for overseeing the overall objectives and goals of EO 13514. There are five workgroups under the direct leadership of the SOC: Environmental Management, Transportation, Facilities, Green purchasing and Electronic Stewardship workgroup. The Facilities Workgroup serves as the key point of contact for this goal.

Goal 6 - Implementation methods
USDA will rely on the organizational structure and resources of its Sustainable Operations Council (SOC) to implement measures to facilitate compliance with Executive Order EO 13514. The efforts of the SOC are supported at the national level by groups such as the USDA's Asset Management Council and Procurement Council; as well as, various workgroups and employee green teams at the regional and field levels. USDA will continue to integrate its strategic plans and policies with the services provided by FEMP to create effective management tools and

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[6] The goals described below exclude water that the Forest Service uses to fight forest fires. Fire fighting is considered an emergency response and may be exempted from EO 13514 water conservation requirements. Section 18 (c) (i) states: The head of an agency may exempt law enforcement, protective, emergency response, or military tactical vehicle fleets of that agency from the provisions of this order, other than this subsection and section 20.

initiatives to achieve its Water Use Efficiency and Management Targets by FY 2020. The Department's planned implementation initiatives will incorporate provisions from various USDA policies and plans including: DR-5500-001; the USDA Utilities Metering Guidance; and USDA's Environmental Management Systems.

Examples of management tools/strategies that USDA plans to use to achieve this goal include DOE sponsored Energy Savings Performance Contracts and Utility Energy Service Contracts; awards programs; performance evaluations; training; metering and Life Cycle Cost Analysis. Other tools/strategies include utilizing internal USDA Agency scorecards, and corporate data management systems.

Specific initiatives USDA will employ entail increasing the use of water efficient products; implementing Water best management practices (BMPs); performing facility water audits; designing facilities to protect and preserve water resources, as well as, maintaining or restoring pre-development hydrology.

Achieving this goal should help the Department better comply with the High Performance and Sustainable Buildings Guiding Principles in Goal 4. Also, synergies should be achieved between this goal and Goal 1, due to the similar implementation strategies that USDA plans to employ in attaining these respective goals.

The following table outlines USDA initiatives and programs that will contribute to achieving the sustainability objectives of EO 13514.

Initiatives and Programs	Description
Life-Cycle Cost Analysis	Use life-cycle cost methodologies and value engineering to identify/implement life-cycle cost-effective opportunities to improve water efficiency
Facility Water Audits and Efficiency Improvements	Conduct water audits of EISA Section 432 covered facilities to the greatest extent possible, subject to available funding. As evaluations are completed, USDA will continue to identify and implement projects that improve water use efficiency
	Renovation projects will include a water use analysis during the conceptual phase to identify potential opportunities. New water conservation technologies will be considered in appropriate repair and construction projects
Metering	Install advanced meters, whenever life-cycle cost effective. By utilizing advanced metering technologies, USDA will obtain the information needed to meet water conservation goals, save money, and improve the Department's building operations
Alternative Financing Mechanisms	Promote ESPCs and UESCs, when life-cycle cost effective, to help finance water efficiency projects. USDA agencies will review completed audit reports and identify sites with potential for ESPC and/or UESC projects. USDA anticipates that it will continue to receive annual benefits in reduced water use from ESPCs and UESCs awarded in previous fiscal years

Initiatives and Programs	Description
Green Infrastructure/Low Impact Design	Use Green Infrastructure/Low Impact Design (GI/LID) management practices to maintain or restore the on-site pre-development hydrology. These practices mimic the natural hydrologic cycle processes of infiltration, evapotranspiration, and re-use, and enable local re-use of precipitation. The Department uses these practices at the site, neighborhood, or regional scale, to allow precipitation to infiltrate, recharge groundwater, and release into the atmosphere
Stormwater Management	Follow design, construction, and maintenance stormwater management practices that either: 1) manage rainfall onsite, and prevent the off-site discharge of the precipitation from all rainfall events less than or equal to the 95th percentile rainfall event, or; 2) preserve the pre-development runoff conditions following construction, determined by a site-specific hydrologic analysis
Training, Awareness, and Recognition	Raise the level of participation and visibility of USDA in government-wide water management initiatives while increasing the awareness of these initiatives within the Department. Promote awareness, education, and training of water use requirements through the USDA Sustainable Operations Website
	Provide timely and topical water management training and materials to its employees to keep up awareness
	Encourage attendance in training programs and workshops provided by the Federal Energy Management program, private and public institutions, and other Federal agencies
	Sponsor GovEnergy 2010, and encourage employee participation in this annual conference
	Promote employee commitment to improving water efficiency through awards and recognition programs
	Participate in the Annual Federal Energy and Water Management Awards program and the "You Have the Power" recognition program; submit FY 2010 nominations for these award programs to recognize outstanding water use efficiency and management
	Encourage and support USDA agency-specific employee award and recognition programs that cover a broad range of categories, including water use efficiency and conservation
Monitoring and Accountability	Continue to incorporate water management responsibilities as an element in position descriptions and performance evaluation standards of its personnel (e.g., facility managers, area and location engineers, building engineers, maintenance mechanics, energy managers, engineering project managers, and procurement personnel) considered critical to the implementation of this goal
	Develop a scorecard to track how well its agencies and staff offices are executing the Department's initiatives relating to this goal

Goal 6 - Positions

USDA anticipates that it will utilize current staffing to support the development and implementation of the Department's Water Use Efficiency and Management initiatives. A significant amount of this work is also provided by employees as a collateral duty.

Goal 6 - Planning table

WATER USE EFFICIENCY AND MANAGEMENT	Unit	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
Potable Water Reduction Targets (gal/SF reduced from FY07 base year)	%	6	8	10	12	14	16	18	20	22	24	26
Planned Potable Water Reduction (gal/SF reduced from FY07 base year)	%	21	21	22	22	23	23	24	24	25	25	26
Industrial, Landscaping, and Agricultural Water Reduction Targets (gal reduced from FY10 base year)	%	-	2	4	6	8	10	12	14	16	18	20
Planned Industrial, Landscaping, and Agricultural Water Reduction (gal reduced from FY10 base year)	%	-	2	4	6	8	10	12	14	16	18	20

Goal 6 – Agency Status

USDA has made significant progress in recent years in improving its water use efficiency and management performance.

In FY 2009 and FY 2010, USDA achieved statutory goals and policy requirements relating to water use intensity reduction.

A summary of USDA's recent performance and initiatives are provided below:

➢ USDA used an estimated 1,737 million gallons of water in its buildings during FY 2009 at a cost of $8.1 million. The FY 2009 consumption level translates to 29.7 gallons per GSF, which represents a 20.5 percent reduction compared to the FY 2007 baseline amount of 37.4 gallons per GSF. USDA exceeded the EO 13423 reduction goal for FY 2009 of 4 percent.

➢ USDA and its agencies executed a wide variety of new and ongoing water conserving practices during FY 2009, including installing water meters as part of new construction projects; installing low-flow water devices; utilizing rain sensors and native plant species for landscaping. USDA also employed techniques such as leak detection and historical data analysis throughout the Department.

➢ USDA continued to operate its Sustainable Landscape Partnership to address sustainable landscaping at facilities within the National Capital Region.

➢ In FY 2009, USDA conducted energy and water evaluations for at least 25 percent of its covered facilities in accordance with EISA Section 432.

➢ In FY 2009, USDA ARS used $176 million in ARRA funds to address specific critical deferred maintenance needs at ARS research facilities. Completion of this work will, in many cases, result in improved energy and water efficiency and reduction in operation and maintenance costs. The list of projects includes work at 36 locations in 28 states and the District of Columbia.

➢ USDA received the 2009 Presidential Award for Leadership in Federal Energy Management for its performance in water use management.

➢ USDA maintained Green rating for status and progress on OMB Energy/Water Management Scorecard.

Provided below is a summary of USDA's planned initiatives for FY 2010 and beyond:

➢ Establish USDA's FY 2010 baseline for industrial, landscaping, and agricultural water use

➢ Perform energy and water evaluations for at least 25 percent of USDA covered facilities in accordance with EISA Section 432 requirements

➢ USDA agencies will continue to pursue ESPC opportunities. Specifically, agencies will review data from EISA Section 432 energy evaluations to determine if it is cost effective to employ the use of ESPCs or UESCs as a follow-up to the site evaluations

➢ Update USDA Metering Plan and Guidance to include water consumption; and continue installations of advanced metering at USDA facilities

➢ Update USDA Water Conservation Guidance to incorporate provision contained in EO 13514

➢ Develop USDA Agency Scorecards for Water Use Management and track agencies' progress

➢ Participate in FEMP First Thursday Seminars

➢ Develop better collection methodologies for capturing water consumption and costs data. USDA lacks a Department-wide system for tracking water use, and has to rely on cost-based estimates (from water, trash, and other utilities object class accounting codes) for reporting

GOAL 7 - Pollution Prevention and Waste Elimination

Goal 7 - Description

USDA will pursue integrated waste management strategies that include reducing, reusing and recycling, with emphasis on green purchasing.

Goal 7 Objective 1 – Minimize the generation of non-hazardous waste through waste diversion and recycling

➢ Divert 55 percent of non-hazardous solid waste in all Government-owned, USDA-occupied buildings by FY 2015, using a baseline of FY 2005.

➢ Divert 50 percent of Construction and Demolition (C&D) Debris by FY 2015 in Government-owned, USDA-occupied facilities.

➢ Pursue opportunities to increase recycling and divert compostable and organic materials.

(Note: USDA will address diversion in buildings USDA leases after receiving guidance from CEQ on these facilities.)

Goal 7 Objective 2 – Minimize the purchase and use of hazardous chemicals and materials. Where hazardous materials are necessary, manage these materials according to regulations to minimize the risks associated with their use.

➢ Implement pollution prevention practices through source reduction and green purchasing.

➢ Ensure that hazardous materials are managed and disposed of in accordance with all applicable regulations

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

Goal 7 - Leadership

The USDA Sustainable Operations Council (SOC), which is chaired by the USDA Senior Sustainability Officer, is responsible for overseeing the overall objectives and goals of EO 13514. There are five workgroups under the direct leadership of the SOC: Environmental Management, Transportation, Facilities, Green Purchasing and Electronic Stewardship Workgroups. Several workgroups contribute to this goal including Green Purchasing, Facilities, and Environmental Management. The Facilities Workgroup is the key point of contact for the solid waste diversion goals.

Goal 7 - Implementation Methods

USDA will rely on the organizational structure and resources of its Sustainable Operations Council (SOC) to implement measures to facilitate compliance with Executive Order EO 13514. The efforts of the SOC are supported at the national level by the workgroups described above; as well as various employee-driven Green Teams and Agency-related Environmental Management teams at the National, Regional and Field levels which are instrumental in pollution prevention and waste reduction. Since waste generation cuts across multiple sustainability goals, the Department's planned implementation initiatives incorporate provisions from various USDA policies and plans including: DM-5600; the Green Purchasing Affirmative

Procurement Plan (GPAPP), the Sustainable Buildings Implementation Plan, Electronic Stewardship Plan, and Agency-specific Environmental Management Systems.

USDA has achieved significant successes, not only at our headquarters (HQ) facilities but throughout USDA. USDA agencies rely heavily on voluntary efforts of employees to achieve waste reduction successes; therefore, the level at which this information is tracked varies significantly. Although there are complete records for HQ facilities, such records are generally not available throughout USDA. USDA has already achieved E.O. 13514's waste diversion targets for our headquarters operations. Before USDA can commit to diversion targets outside of Washington, DC, however, we must first establish a baseline that takes into account our agencies' information. Figure 5, below, illustrates a timeline for collecting data, establishing a baseline, and implementing practices towards achievement of a 50% diversion target by 2015.
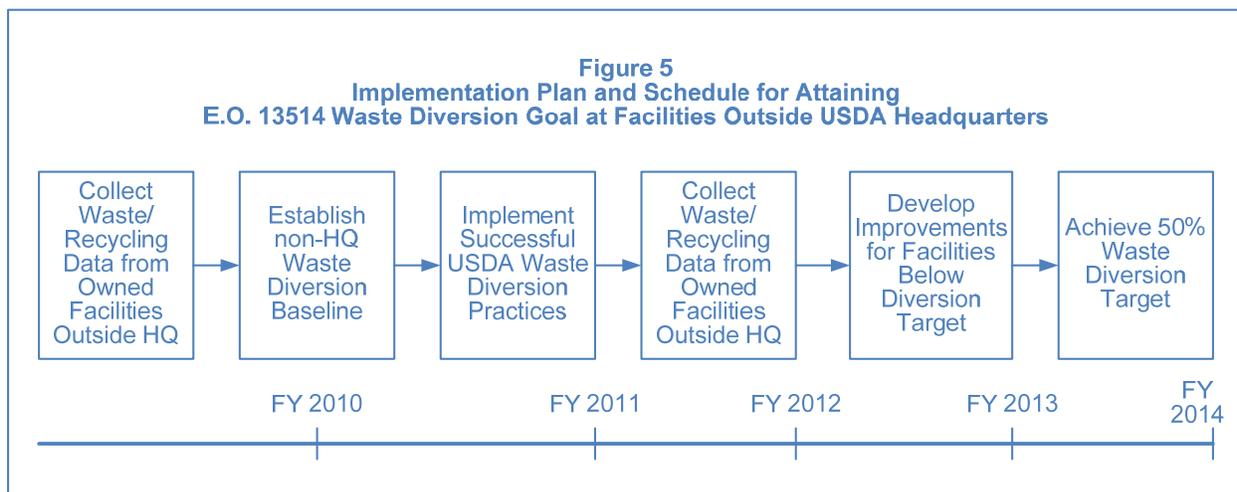
Figure 5
Implementation Plan and Schedule for Attaining
E.O. 13514 Waste Diversion Goal at Facilities Outside USDA Headquarters

| Collect Waste/Recycling Data from Owned Facilities Outside HQ → Establish non-HQ Waste Diversion Baseline → Implement Successful USDA Waste Diversion Practices → Collect Waste/Recycling Data from Owned Facilities Outside HQ → Develop Improvements for Facilities Below Diversion Target → Achieve 50% Waste Diversion Target |

FY 2010 FY 2011 FY 2012 FY 2013 FY 2014

The following table outlines USDA initiatives and programs that will contribute to achieving the sustainability objectives of EO 13514.

Initiatives and Programs	Description
Non-hazardous Waste Reduction	Develop an implementation plan for tracking and reporting non-hazardous waste reductions to set specific targets to meet overall sustainability goals as outlined in EO 13514.
	Update Departmental policy to include USDA sustainability reduction targets.
	Provide forums to share best management practices throughout USDA to facilitate waste reduction progress.

Initiatives and Programs	Description
Divert C&D	Track construction and demolition (C&D) waste diversion in new building construction, major renovations, and building modernizations utilizing data tracking methods under the Leadership in Energy and Environmental Design (LEED) certification. Those projects that seek LEED certification will automatically pursue at least 50 percent C&D waste diversion; those projects that aren't LEED-registered will seek 40 percent diversion in FY 2011 and 50 percent by FY 2012, following the best practices of LEED-registered.
	Update Departmental policy to include USDA sustainability reduction targets.
Chemical and Hazardous Materials Reduction	Implement strategies outlined under Goal 8 (Sustainable Acquisition) to minimize the purchase and use of chemicals and hazardous substances.
	Update Departmental policy to focus on pollution prevention through source reduction and product substitution.
Integrated Pest Management Practices	Increase awareness of integrated pest management practices through the Beneficial Landscaping Partnership, of which the "People's Garden" is a part. The Partnership's mission is to create a visually inspiring USDA headquarters landscape that showcases environmentally responsible practices, engages and educates the public, provides social benefits for employees, and serves as a sustainable site planning model for public institutions in the region and throughout the Department.
Compliance	Utilize environmental management systems (EMS) to ensure compliance with environmental regulations.
	Ensure compliance with respect to Emergency Planning and Community Right-to-Know Act reporting through annual verification reporting.
Training, Awareness, and Recognition	Conduct awareness and outreach efforts, including improved container signage, janitorial staff training, recycling logistics, and booth displays during public events.
	Continue to promote awareness, education, and training for pollution prevention and waste management initiatives through the USDA Sustainable Operations Website.
	Develop new employee orientation training for HQ facilities, including information about sustainable practices.
	Coordinate Departmental nominations for the White House Closing the Circle awards.
Monitoring and Accountability	Develop a methodology and baseline for tracking pollution prevention and waste reduction efforts.
	Utilize Green Teams and EMS teams to track and report accomplishments.

Goal 7 - Positions

USDA anticipates that it will utilize current staffing to develop targets, gather baseline data, and implement waste reduction and recycling measures. Staffing for all phases of recycling and waste reduction consists of full time employees for which waste management is a collateral duty.

Goal 7 - Planning Table

POLLUTION PREVENTION AND WASTE ELIMINATION	Unit	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
HQ Non-Hazardous Solid Waste Diversion Targets (non C&D)	%	70%	73%	75%	76%	78%	80%
Non-HQ Non-Hazardous Solid Waste Diversion Targets (non C&D)	%	TBD[7]	TBD	TBD	TBD	TBD	55
C&D Material and Debris Diversion Targets	%	TBD	TBD	50	50	50	50

Goal 7 – Agency Status

➢ By the end of FY 2009, USDA HQ Complex reduced waste by 22 percent and achieved a 42 percent recycling rate for a total waste diversion rate of 64 percent. Practices include placing additional recycling containers inside and outside the buildings, composting food trays and food scraps, and increasing used printer cartridges collection. Waste reduction practices HQ implemented include removing subscribers from mailing lists, conducting more business electronically, and reusing more personal property.

➢ Using ARRA funds, USDA HQ restarted building modernization in FY 2009 in the South Building, which, at 1.5 million square feet, is the largest building in the USDA inventory. One of the requirements in the modernization specification is to recycle 50 percent of C&D debris. USDA is documenting this requirement as part of the LEED process.

➢ New Forest Service ranger stations and administrative buildings have applied for, or achieved, LEED certification, recycling up to 75 percent of C&D debris.

➢ In FY 2009, OFEE awarded USDA HQ an Honorable Mention in the "Recycling" category of the Closing the Circle awards program.

➢ USDA is currently updating our Departmental Manual (DM) 5600 to emphasize pollution prevention through source reduction and product substitution.

➢ USDA is showcasing integrated pest management techniques through the "People's Garden" (refer to Goal 10 for more information).

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[7] See text for a description of why there are not forecasted targets.

GOAL 8 - Sustainable Acquisition

Goal 8 - Description
USDA will implement sustainable acquisition practices for recycled content, energy efficient, bio-based, and environmentally preferable products and services.

Goal 8 Objective 1 – Pursue sustainable contracts
USDA intends to reach 95 percent compliance with acquisition of all six categories of green products: energy efficient (ENERGY STAR-qualified, FEMP-designated, and low standby power), water efficient, environmentally preferable (not including EPEAT-registered), biobased, recycled content, and non-ozone depleting during the FY 2015 to 2020 timeframe as described below.

Goal 8 Objective 2 – Initiate pilot program for janitorial contracts
Starting October 2010, USDA plans to initiate a pilot program to require all USDA contracts to contain biobased language. The Agricultural Research Service, USDA's second largest agency, has already been mandated that all of its janitorial contracts contain biobased language. By the end of FY 2011, USDA project 95 percent compliance for the Department. In FY 2012, USDA plans to extend this requirement to all construction and operations and maintenance contracts.

Goal 8 - Leadership
The USDA Sustainable Operations Council (SOC), which is chaired by the USDA Senior Sustainability Officer, is responsible for overseeing the overall objectives and goals of EO 13514. There are five workgroups under the direct leadership of the SOC: Environmental Management, Transportation, Facilities, Green Purchasing, and Electronic Stewardship. The Green Purchasing Workgroup serves as the key point of contact for day-to-day implementation of the Sustainable Acquisition goal.

In April 2010, the Secretary of Agriculture transmitted letters to all Cabinet Members emphasizing the importance of the procurement of biobased products and requesting that all Departments work with their procurement and acquisition officials to identify contracts that could incorporate biobased products. USDA has received six responses back to date and will actively work with those departments in adding biobased products and green products to their operations.

In 2007, USDA began working with the U.S. House of Representatives' "Green the Capitol" initiative–advising on the purchase of biobased food service products, and assisting the House with initiation of food service waste composting. Today, House cafeterias have emerged as models of sustainability for other Federal agencies. The House has eliminated Styrofoam and plastic food containers, and has replaced foodservice cutlery and packaging with biobased products. The composting effort has resulted in the diversion of more than 650 tons of compost to the composting facility. USDA anticipates further implementation of sustainable cafeteria best practices (product sourcing, cafeteria operations, and end-of-life material management) across Federal foodservice facilities. These efforts will be made more scalable through the July 2010 initiation of an Office of the Federal Environmental Executive Sustainable Acquisition and Materials Management green cafeteria/food waste composting workgroup, on which USDA plays a leadership role.
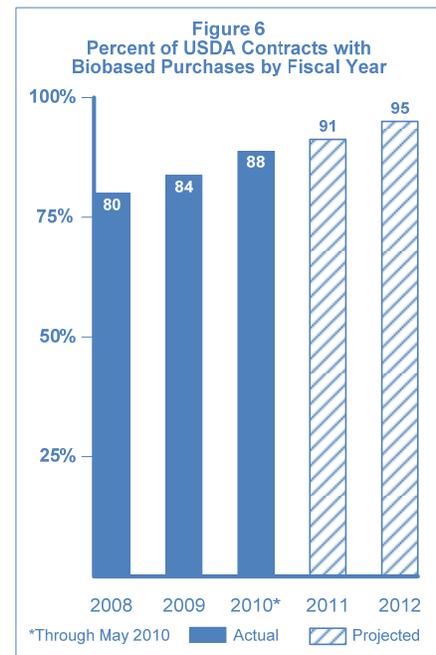
Goal 8 - Implementation Methods

As the Federal organization with lead responsibility for implementing the BioPreferred program, USDA strives to lead by example in achieving E.O. 13514's sustainable acquisition goals for biobased products. Consequently, the Department has developed specific data elements to track procurement of biobased products using our Integrated Acquisition System (IAS). As indicated in Figure 6, USDA has achieved relatively high compliance with biobased product-related sustainable acquisition over the past few years. USDA plans to increase the percentage of applicable procurements with biobased product purchases to 91 percent in FY 2011 and 95% in FY 2012.

Figure 6
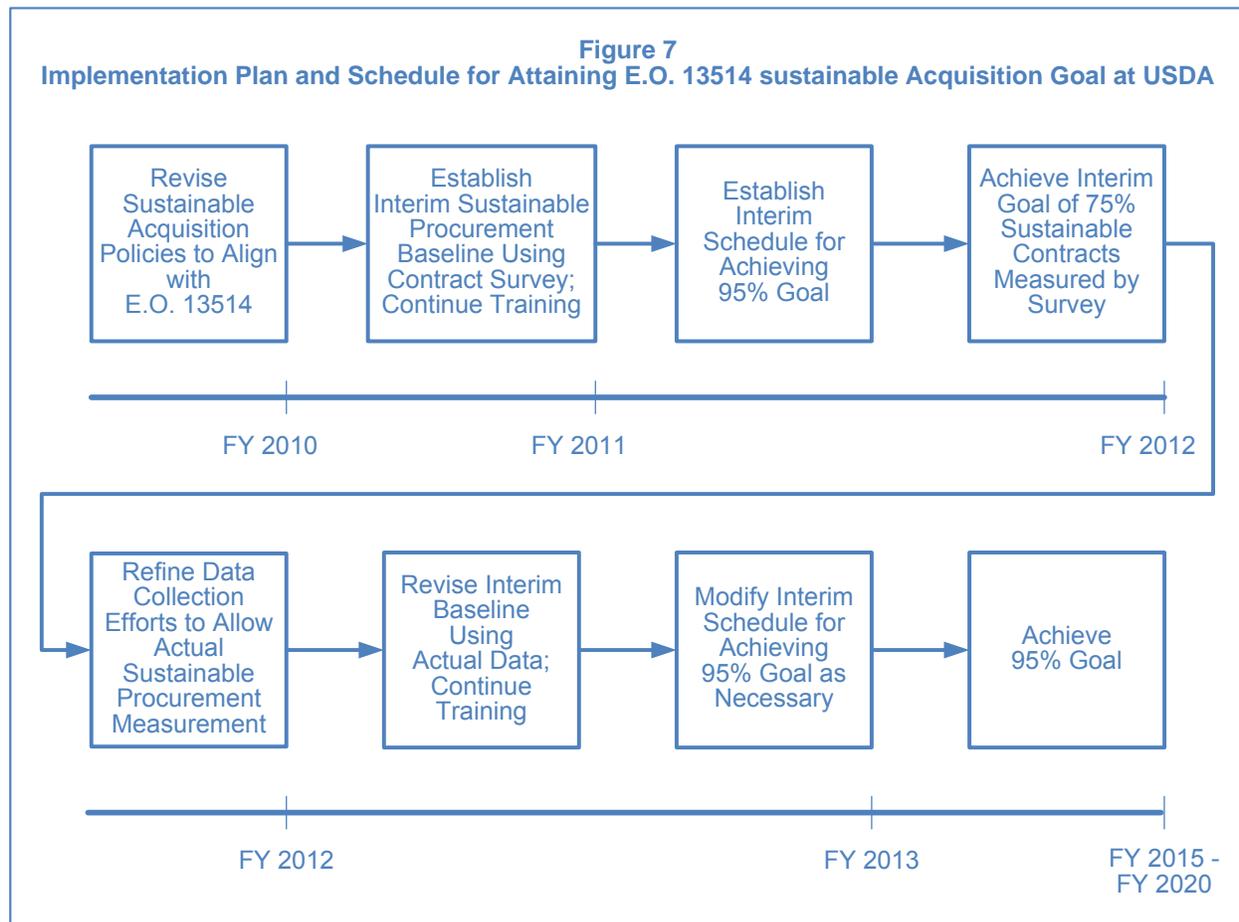Percent of USDA Contracts with
Biobased Purchases by Fiscal Year

Although USDA has achieved significant successes in the biobased product area, we nevertheless face significant challenges in tracking green acquisitions in most of the other procurement categories. Two of our most significant challenges are measurement and the need to change behavior in the procurement community. Existing federal procurement tracking systems, such as the Federal Procurement Data System (FPDS), GSA*Advantage!*, and SmartCard, do not align with designated sustainability categories. As a result, USDA selects a sample of its largest contracts and conducts surveys of those contracts to prepare its annual Sustainable Acquisition Survey reports to CEQ and OMB. This method does not yield accurate reporting data; however it represents the best we can do given the limitations of existing procurement tracking systems.

The awareness of the USDA procurement community regarding sustainable acquisition varies widely among individuals. USDA plans to conduct training and raise awareness among the procurement community as described in the implementation initiatives and programs table below. Behavioral economics teaches us to expect that training and awareness efforts will take time because human behaviors are not easily changed.

As a result of these two challenges, USDA plans to achieve the goal of having 95 percent of contracts sustainable, but that achievement will take longer than EO 13514 contemplates. In the short term, the Department will continue to rely on contract surveys to measure sustainability. USDA will use the survey mechanism to establish an interim sustainability baseline and schedule for achieving the 95 percent goal, while we begin to modify our Integrated Acquisition System (IAS) to include the data elements required to measure all six categories of sustainable acquisition. USDA will also continue training and awareness activities during this period. In the absence of a baseline and schedule, we cannot forecast a specific time to achieve the 95 percent goal. Consequently our planning table has gaps in most cells.

Figure 7 on the following page outlines the process for achieving the 95 percent goal. As the figure indicates, we expect to achieve 75 percent contract sustainability by FY 2012 as measured by contract survey. Full compliance with the 95 percent goal is not forecast prior to FY 2015.

Figure 7
Implementation Plan and Schedule for Attaining E.O. 13514 sustainable Acquisition Goal at USDA

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┌─────────────┐   ┌─────────────┐   ┌─────────────┐   ┌─────────────┐
│ Revise      │   │ Establish   │   │ Establish   │   │ Achieve     │
│ Sustainable │   │ Interim     │   │ Interim     │   │ Interim     │
│ Acquisition │→  │ Sustainable │→  │ Schedule for│→  │ Goal of 75% │
│ Policies to │   │ Procurement │   │ Achieving   │   │ Sustainable │
│ Align with  │   │ Baseline    │   │ 95% Goal    │   │ Contracts   │
│ E.O. 13514  │   │ Using       │   │             │   │ Measured by │
│             │   │ Contract    │   │             │   │ Survey      │
│             │   │ Survey;     │   │             │   │             │
│             │   │ Continue    │   │             │   │             │
│             │   │ Training    │   │             │   │             │
└─────────────┘   └─────────────┘   └─────────────┘   └─────────────┘

   FY 2010           FY 2011                            FY 2012

┌─────────────┐   ┌─────────────┐   ┌─────────────┐   ┌─────────────┐
│ Refine Data │   │ Revise      │   │ Modify      │   │             │
│ Collection  │   │ Interim     │   │ Interim     │   │             │
│ Efforts to  │→  │ Baseline    │→  │ Schedule for│→  │ Achieve     │
│ Allow Actual│   │ Using       │   │ Achieving   │   │ 95% Goal    │
│ Sustainable │   │ Actual Data;│   │ 95% Goal as │   │             │
│ Procurement │   │ Continue    │   │ Necessary   │   │             │
│ Measurement │   │ Training    │   │             │   │             │
└─────────────┘   └─────────────┘   └─────────────┘   └─────────────┘

   FY 2012                            FY 2013          FY 2015 -
                                                       FY 2020
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The following table outlines USDA initiatives and programs that will contribute to achieving the sustainability objectives of EO 13514.

Initiatives and Programs	Description
Data Management and Tracking	Develop an implementation plan for tracking and reporting "green purchasing" to set specific FY targets to meet overall sustainability goals as outlined in EO 13514.
	Review existing programs and policies to identify barriers and develop solutions.
	Modify USDA Integrated Acquisition System (IAS) to include the data elements required to measure all six categories of sustainable acquisition.
Acquisition Policies	Update the USDA Green Purchasing Affirmative Procurement Plan (GPAPP) to require sustainable acquisition for 95 percent of new contracts, and define non-toxic or less toxic alternatives as one of the green product categories.
Training, Awareness, and Recognition	Utilize the USDA Green Purchasing Workgroup to communicate sustainable acquisition guidance and policy to agency members who, in turn, disseminate the information throughout their organizations.

Initiatives and Programs	Description
Training, Awareness, and Recognition (cont'd.)	Continue to use the USDA "greening" website's training module that covers six green products and services categories.
	Post green purchasing training on USDA corporate training site (AgLearn) to facilitate tracking requirements.
	Conduct training and awareness on biobased products through the USDA BioPreferred Program.
Monitoring and Accountability	Utilize the FPDS to monitor compliance with green purchasing directives by examining a selection of the larger construction, service, and supply contracts from various agencies on a semiannual basis.
	Report annually through OMB's Sustainable Acquisition Survey, summarizing the Department's yearly procurement of green products and services.
	Utilize purchase card summary invoices, supply contractors spreadsheets, and USDA's Integrated Acquisition Service's database to track acquisitions

Goal 8 - Positions

USDA anticipates that it will utilize current staffing to develop targets, gather baseline data, and implement sustainable acquisition measures. Staffing for all phases of contracted green products and services purchasing consists of full time employees for which sustainable acquisition is a collateral duty.

Goal 8 - Planning Table

Sustainable Acquisition	Unit	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
New Contract Actions meeting Sustainable Acquisition Requirements	%	-		75	TBD [8]	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Energy Efficient Products (ENERGY STAR, FEMP-designated, and low standby power devices)*	%	-	90	91	93	95	95	95	95	95	95	95
Water Efficient Products*	%	-	*	75	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Biobased Products*	%	88	91	95	95	95	95	95	95	95	95	95
Recycled Content Products*	%	-	*	75	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Environmentally Preferable Products/Services (excluding EPEAT)*	%	-	*	75	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
SNAP/non-ozone depleting substances*	%	-	*	75	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

* Refer to the implementation timeline on the previous page

Goal 8 – Agency Status

The latest limited contract sampling from FPDS of some 33 contracts from FY 2009, worth an aggregate of $68 million, showed that 94 percent by dollar value of the appropriate contracts had green products and/or services in at least one sustainability category; 17 percent by dollar value of the contracts sampled were inappropriate for green product or service use.

USDA has leveraged its buying power over the years by establishing Blanket Purchase Agreements (BPAs) with multiple award schedule contracts the U.S. General Services Administration (GSA) has procured. An office products BPA directs purchasers not only to a full range of Comprehensive Procurement Guidelines (CPG) and biobased products, but also to AbilityOne products that meet both CPG and biobased requirements. USDA*Advantage!* has environmental icons and key words that users can select to show only green products in the product category for which they search. GSAAdvantage also has these icons, as well as an "Environmental Aisle" containing only green products.

USDA, through its BioPreferred Program, oversees the biobased products program for the entire Federal government, designating products for preferred procurement, promulgating regulations for a biobased labeling program, and conducting outreach to the Federal, academic, and commercial communities.

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[8] See text for a description of why there are not forecasted targets.

GOAL 9 - Electronic Stewardship and Data Center

Goal 9 - Description

USDA will promote sound environmental practices for the three life-cycle phases of electronic products: acquisition, operations and maintenance, and end-of-life management.

Goal 9 Objective 1 – Pursue "green" acquisition

➢ By FY 2011, 90 percent of acquisitions will be ENERGY STAR and EPEAT-registered products.

Goal 9 Objective 2 – Pursue "green" operations

➢ By FY 2011, power management will be enabled on 95 percent of all appropriate electronics.

➢ By FY 2011, USDA data centers will achieve 30 percent hosting through cloud computing, 90 percent metered and monitored on a weekly basis, 33 percent operating on a bandwidth utilization of 85 percent, 50 percent operating with an average CPU utilization of 60 to 85 percent, 25 percent with an average power usage effectiveness (PUE) range of 1.3 to 1.6, and 30 percent of activity implemented via virtualization. In addition, USDA intends to reduce the number of data centers by 20 percent in FY 2011.

Goal 9 Objective 3 – Pursue "green" disposal practices

➢ USDA will handle the disposition of 95 percent of excess and surplus electronics in an environmentally sound manner.

Goal 9 - Leadership

The USDA Sustainable Operations Council (SOC), which is chaired by the USDA Senior Sustainability Officer, is responsible for overseeing the overall objectives and goals of EO 13514. There are five workgroups under the direct leadership of the SOC: Environmental Management, Transportation, Facilities, Green Purchasing, and Electronic Stewardship. The Electronic Stewardship workgroup will oversee the implementation of the goals for power management, ENERGY STAR and EPEAT procurement, and data center consolidation and optimization. The Facilities Workgroup will oversee the implementation of sound environmental practices for excess and surplus electronics.

Goal 9 - Implementation Methods

The four goals of Electronics Stewardship mandated by EO 13423 and reinforced by EO 13514 are: purchasing of 95 percent EPEAT products, enabling power management on all applicable computers and monitors, extending computers' lifespan to four years, and using environmentally sound disposition practices for all excess and surplus electronics. USDA has demonstrated compliance with all goals except power management, a goal that EO 13514 extended to all applicable electronics.

The following table outlines USDA initiatives and programs that will contribute to achieving the sustainability objectives of EO 13514.

Initiatives and Programs	Description
Power Management	Deployment of Big Fix to all agency computers by the end of FY 2010. Big Fix is capable of monitoring the status of computers and printers throughout the network. Network administrators can then re-image computers to conform to the power management requirement or enable power management over the network. USDA agencies can use Big Fix to deploy power management settings on all devices that have Big Fix agents on them.
	Developing and piloting scripts to automate the shutdown and startup of desktop computers allowing for reduction of electrical consumption while still facilitating the after-hours security patching and systems maintenance requirements. Pilot tests across several thousand desktops indicate positive results; OCIO is negotiating deployment of these scripts with various USDA agencies as another tool for scaling up power management.
Cloud Environments	Establishing a private cloud environment called Platform as a service, and actively standing up new, as well as migrating existing, applications into this environment when and where appropriate.
	Piloting the use of public cloud offerings and, based on analysis of the pilot, adopting their usage where appropriate. Moreover, USDA is actively monitoring bandwidth utilization across the USDA wide area network (WAN), including in all data centers attached to the USDA WAN. OCIO regularly analyzes results from the monitoring tools to ensure that bandwidth is "right-sized" at all of the data centers.
Virtualization	Virtualization of agency applications in preparation for USDA's Data Center Consolidation Initiative. USDA is making steady progress in moving from a physical server per application model of operation to a model where multiple applications reside on a single server through the use of virtualization. USDA is closely monitoring central processing unit utilization rates in these virtualized server environments to ensure average utilization rates are in the 60 to 70 percent range.
Green IT Strategic Plan	The Green IT Strategic Plan provides USDA's strategy for reducing data centers' carbon footprint through consolidation, virtualization, and energy optimization (see http://www.dm.usda.gov/USDA_Green_IT_Strategic_Plan.pdf).
Metering	Installation of metering devices to measure and track electrical consumption at USDA data centers on all Enterprise Data Centers (EDCs) and seventeen other computer rooms within the USDA headquarters complex.

Initiatives and Programs	Description
Data Center Consolidation	Focusing capital investment into EDCs and implementing new green technologies and industry best practices to drive down the power usage effectiveness (PUE) ratio at these sites. Currently the primary production EDC is rated at 1.64, a ratio that meets the criteria both for certification as an ENERGY STAR-qualified data center and conformance with the EPAct of 2005, which required PUE ratios for data centers of less than 1.7 by the end of 2011.
	Migration of applications to three certified USDA-owned EDCs commenced in FY 2009 and is ongoing.
	Analyzing commercial data center hosting providers as options to meet potential space and or geographic needs to complete consolidation; a contract award for commercial data center hosting is expected in FY 2010.
	Updating the USDA Data Center Consolidation Plan in compliance with the OMB Data Center Consolidation Initiative due July 30, 2010.
Training and Awareness	Electronics Stewardship Plan establishes policy for this program area.
	Departmental Regulation 3170, End User Workstation Standards mandates implementation of the four Electronics Stewardship goals of EO 13423.
	The SOC workgroups, specifically, the Green Purchasing Workgroup and the Electronic Stewardship Workgroup provide policy, direction, guidance and awareness of USDA efforts under this goal.
Monitoring and Accountability	The OMB Environmental Stewardship scorecard provides monitoring documentation.
	USDA Green IT strategic plan, Electronic Stewardship Plan, and the Data Center Consolidation Plan all provide information for monitoring USDA's progress.
	After completion of the OMB-approved Data Center Consolidation Plan, USDA will implement action items needed to achieve targets for cloud computer hosting, metering, bandwidth utilization, PUE range, virtualization, and consolidation. USDA will assess its overall achievement of the targets using metrics laid out in the plan on an ongoing basis.

Goal 9 - Positions

Enterprise Data Centers are appropriately staffed to support data center consolidation and cloud initiatives and will augment staff, as needed, with contract support to cover the surge in staff hour requirements related to actual migrations of applications and data center closure.

Goal 9 - Planning Table

Electronic Stewardship and Data Center	Unit	FY 10	FY 11	FY 12	FY 13
% of device types covered by current ENERGY STAR specifications that must be ENERGY STAR qualified	%	75	90	95	95
% of electronic assets covered by sound disposition practices	%	90	95	95	95
% of cloud activity hosted in a data center	%	5	30	60	95
% of agency data centers independently metered or advanced metered and monitored on a weekly basis	%	40	90	100	95
Reduction in the number of data centers	%	5	20	40	95
% of agency, eligible electronic products with power management and other energy-environmentally preferable features (duplexing) actively implemented and in use	%	50	95	100	95
% of agency data centers operating with an average CPU utilization of 60-70%	%	10	50	75	95
% of agency data centers operating at a PUE range of 1.3-1.6	%	0	25	50	95
% of covered electronic product acquisitions that are EPEAT registered	%	75	95	95	95
% of agency data center activity implemented via virtualization	%	10	30	40	95

Goal 9 – Agency Status

USDA has had success with the goals of procuring EPEAT products, extending the life of computers to four years, and using environmentally sound practices for excess and surplus electronics. A more difficult goal has been that of enabling power management on all computers, but in FY 2009, USDA began to resolve those challenges by applying "Big Fix" to half of the computers, as explained above in "Goal 9 - Implementation Methods."

Regarding excess and surplus electronics, USDA uses the GSAXcess website to track, reassign, transfer, and donate electronics nationwide. In addition to donating thousands of computers a year to schools through the Computers for Learning program, USDA also transfers used computers and scientific equipment to land-grant colleges under the authority of the Federal Agriculture Improvement and Reform Act of 1996, which authorizes the Secretary of Agriculture to acquire and transfer title of Federal excess personal property to certain eligible institutions in support of research, educational, technical, and scientific activities or related programs.   In the National Capital Area, USDA conducts its own sales of surplus property and uses UNICOR to recycle surplus electronics that are not sold at auction.

USDA ensures that all contracts for IT equipment contain verbiage requiring that ENERGY STAR-qualified products be procured when and where available. Additionally, the EDCs are working with the Environmental Protection Agency (EPA) to establish standards and criteria for ENERGY STAR certification of data centers. For instance, USDA continues to work with EPA on the analysis of the primary disaster recovery EDC and looks to gain ENERGY STAR

certification for that site in late 2011. In FY 2007, USDA established a Blanket Purchase Agreement (BPA) for computer hardware with the original intent of having similar hardware Department-wide. In 2008 USDA "refreshed" this BPA so that the vendor supplies only desktops, laptops, and monitors that are Electronic Product Environmental Assessment Tool (EPEAT)-registered. Major USDA agencies like the Forest Service and Natural Resources Conservation Service bought thousands of computers using this BPA in FY 2009, helping USDA achieve a 95 percent EPEAT procurement rate.

Since Electronics Stewardship became a mandatory program in January 2007 (as a result of EO 13423), USDA has remained "green" in progress on the OMB Environmental Stewardship scorecard. USDA has been "yellow" in status on the scorecard because of the failure to adequately enable power management on all computers.

To find and implement best practices for energy efficient management of servers and data centers, USDA has contracted the services of the Lawrence Berkley Laboratories to evaluate its EDCs and make recommendations for energy saving through investment in green technologies. Many of these recommendations have been implemented at the EDCs, including:

➢ Replacement of Data Center lighting with high efficiency electronic ballasts utilizing low wattage lamps

➢ Installation of a Virtual Tape System allowing for the decommissioning and removal of many outdated and inefficient tape drives

➢ Replacement of outdated and inefficient Computer Room Air Conditioning (CRAC) Units with newer technology CRAC Units that are rated at >90 percent efficient

➢ Replacement of Uninterruptible Power Supply (UPS) units, with high efficiency modular units that allow for the right sizing of supply power to load while operating at >93 percent efficiency

➢ Replacement of main electrical distribution system transformers with newer technology transformers that operate at >95 percent efficiency

➢ Replacement of rooftop mounted air conditioning dry-coolers with new units rated to operate at >90 percent efficiency

➢ Installation of an air economizer feature allowing the data center space to utilize "free-cooling" when outside air temperatures drop below 40 degrees F

➢ Implementation of virtualization across shared computing environments allowing the physical number of machines to be reduced, as compared to the old paradigm of one server per application

➢ Optimization of the raised floor layout by relocating equipment and aligning the entire space to the hot row-cold row concept of operations (This process is on-going as customer outages have to be coordinated to physically relocate equipment.)

➢ Analysis of the layout and location of vented floor tiles, resulting in realignment as necessary to ensure that the static pressure of the raised floor plenum was maintained and that conditioned air was directed to the heat loads rather than inefficiently expended to areas where no load was present

➢ Development of standards for all equipment racks housed within the EDCs; installation of blanking panels and air dams to ensure that conditioned air was directed to the heat loads rather than inefficiently expended

➢ Investment in building automation technology that continuously monitors and adjusts CRAC units to ensure that they are properly coordinated, and that inefficient operations such as, one unit being in a heat mode competing with others in a maximum cooling mode, do not occur

➢ Installation of in-row cooling for high heat load equipment; by adopting close coupled cooling technology the cooling source can be moved directly adjacent to the heat source. This proximity allows the use of less powerful fans as compared to cooling a large open space

GOAL 10 - Agency Innovations

Goal 10 - Description

Promote agency innovations that expand the sustainability mission beyond what is required in EO 13514 by linking USDA's sustainable operations with USDA's sustainable agriculture and forestry missions.

Goal 10 Objective 1

USDA will pursue innovative initiatives, projects, practices, and partnerships that promote and achieve sustainability

Goal 10 - Leadership

The USDA Sustainable Operations Council (SOC), chaired by the USDA Senior Sustainability Officer, is responsible for overseeing the overall objectives and goals of EO 13514. There are five workgroups under the direct leadership of the SOC: Environmental Management, Transportation, Facilities, Green Purchasing and Electronic Stewardship. There is no one SOC workgroup that leads this goal because it is a vital piece of every goal. Emphasis on fostering new innovative ideas and technology is critical to reaching our sustainability goals.

Goal 10 - Implementation Methods

USDA SOC will create an environment that recognizes new innovative ideas for achieving sustainability by:

➤ Providing opportunities during Council meetings for agencies to showcase their successes

➤ Publishing projects or initiatives on our green website or utilizing other forms of networking to share success stories

➤ Develop a system to recognize leaders in sustainability

Goal 10 - Positions

USDA anticipates that it will utilize current staffing.

Goal 10 - Agency Status

USDA is involved in numerous innovative initiatives, projects, practices and partnerships that promote and achieve sustainability. The following examples showcase USDA's recent success in the area of "innovative sustainability."

The People's Garden
In 2009, the Secretary declared the entire grounds of the USDA Headquarters complex in Washington, D.C., as the People's Garden. The landscape at USDA Headquarters will serve as a living exhibit of the many ways USDA provides a safe and nutritious food supply while protecting and conserving the land. The Garden serves as a model to teach others how to nurture, maintain and protect a healthy landscape by demonstrating sustainable practices to improve soil, air and water quality.

255 gardens have been established by USDA workers worldwide, including an indoor lettuce garden in North Carolina and a vegetable garden on the grounds of the U.S. Embassy in South Korea. All of the food grown at these gardens—29,656 pounds last year– is donated to food pantries and soup kitchens. The garden at USDA headquarters last year

yielded more than 300 pounds of peas, peppers, tomatoes, eggplants, and other produce, which was given to D.C. Central Kitchen.

In 2009, volunteers and USDA staffers planted the vegetable garden, the first component of the sustainable landscape to be installed. The garden includes organic raised vegetable beds and transition plots and is expected to be fully certified organic within three years. USDA's vegetable garden provides a great variety and amount of organic produce, which is donated to D.C. Central Kitchen, a local non-profit organization that provides food and culinary training for those in need. The gardens also include a native plant pollinator garden and green roofs. There are plans to install rain gardens later in FY 2010. Information is made available to the public at www.usda.gov/peoplesgarden.

Examples of Flagship Facilities Leading the Way in Sustainable Practices
The Agricultural Research Service (ARS) has an agency-wide policy to use green cleaning products exclusively including janitorial, and EPEAT for all computer purchases (exceptions are allowed only for conflicts with mission requirements such as needs for specific scientific equipment). The ARS National Center for Agricultural Utilization Research in Peoria, Illinois, is an example of agency policy implementation, transitioning to nearly 100 percent purchasing of green cleaning products used for the operations and maintenance of the facility. This facility also installed automatic paper towel dispensers in the restrooms throughout the facility, reducing the paper consumption by approximately 18 percent. In addition, this facility has standardized computer purchases to be ENERGY STAR compliant. The facility's computers meet the Gold performance rating. The CPU's and monitors in the Gold class are 88 percent efficient. For additional savings, the facility has completed bulk purchases of these standardized units, roughly 25 each, three to four times per year. This facility is working on virtualizing its server room. This practice will lead to an 80 percent reduction on servers.

Know Your Farmer, Know Your Food
'Know Your Farmer, Know Your Food' is a USDA-wide effort to create new economic opportunities by better connecting consumers with local producers. 'The Know Your Farmer, Know Your Food' initiative emphasizes the need for a fundamental and critical reconnection between producers and consumers. This innovative program establishes closer links between local producers and consumers and thus promotes sustainable agriculture by conserving the energy used to transport food long distances.

The effort builds on the 2008 Farm Bill, which provides for increases and flexibility for USDA programs in an effort to promote local foods. Consumer demand for locally grown food in the United States is expected to rise from an estimated $4 billion in 2002 to as much as $7 billion by 2012.

The 'Know Your Farmer, Know Your Food' initiative includes such major agricultural topics as supporting local farmers and community food groups; strengthening rural communities; enhancing direct marketing and farmers' promotion programs; promoting healthy eating; protecting natural resources; and helping schools connect with locally grown foods. USDA also began a pilot program aimed at improving the health and wellness of federal employees by serving local, nutritious food at USDA cafeterias. The initiative thus bridges internal USDA efforts to improve sustainable operations with USDA's mission to promote sustainable agriculture across the country.

Section III Self Evaluation

I.   Evaluation Determination

Does your plan provide/consider overarching strategies and approaches for achieving long-term sustainability goals?	Y
Does your plan identify milestones and resources needed for implementation?	Y
Does your plan align with your agency's 2011 budget submission?	Y
Is your plan consistent with your agency's FY 2011 budget and appropriately aligned to reflect your agency's planned FY 2012 budget submission?	Y
Does your plan integrate existing EO and statutory requirements into a single framework and align with other existing mission and management related goals to make the best use of available resources?	Y
Does your plan provide methods for obtaining data needed to measure progress, evaluate results, and improve performance?	Y

II.   Description

The following tables describe USDA's completed and planned actions to achieve the sustainability and energy standards for success on the OMB Scorecard.

Status of Current Scorecard Items

Category	Planned Actions for OMB Scorecard Jan 2010 – Jun 2010	Target Completion
Environmental	Tracking number of people taking green purchasing training on AgLearn.	June 30, 2010
	Provided access to critical HQ and Forest Service (FS) environmental management system (EMS) documents on USDA and FS internet sites as evidence of HQ and FS EMS	Complete
	Providing 12 contracts containing the 6 green designated product/services & representing all USDA agencies.	June 30, 2010
	Implementing required SBIP milestones	June 30, 2010
	Implementing Electronic Stewardship plan milestones • Big Fix deployed to additional 20,000 workstations, for a total of 70,000 workstations • Obtaining baseline power usage thru Big Fix • Piloting scripts for power management	June 30
	Implementing OMB data center consolidation plans and implementing milestones outlined in OMB Passback • Submitted Preliminary Plan to OMB on April 30 • Inserted Data figures into SSPP consistent with Passback	June 30
	Agencies continue to buy EPEAT products from our Blanket Purchase Agreement, helping to meet 95% procurement target	Ongoing
Energy	Updated USDA Water Conservation and Renewable Energy Guidance to include provisions of EO 13514.	June 4, 2010
	Submitted GHG emission reduction goal for Scope 3 and Strategic Sustainability Performance Plan.	June 2, 2010

Category	Planned Actions for OMB Scorecard Jan 2010 – Jun 2010	Target Completion
Energy (cont'd.)	Perform EISA Sec 432 Energy Evaluations at 25% of USDA covered facilities	June 18, 2010
Transportation	Identify alternative fuel vehicles (AFVs) traveling near alternative fuel (AF) stations when performing mission and instruct drivers to use AF.	June 30, 2010
	Develop Fleet Handbook for HQ and field offices.	June 30, 2010
	Complete Fleet Trend Analysis Review and develop specific initiatives to increase AF use.	Completed
	Develop site-specific fleet efficiency and petroleum reduction report strategies geared to increase AF use and decrease waivers.	June 30, 2010
	Conduct inventory to identify waivered AFVs that can immediately be relocated to locations with AF availability.	June 30, 2010
	Ensure Forest Service reports to USDA HQ detailing progress of B20 diesel tank conversion analysis.	June 30, 2010
	Partner with VA in South Dakota to develop initiatives to increase AF use.	June 30, 2010
	Coordinate with other agencies and DOE's Clean Cities program to increase AF use in areas with high AFVs that in close proximity to USDA.	June 30, 2010
	Work with FEMP to identify further actions to improve compliance.	Completed

2010 Planned Scorecard Action Items

Category	Planned Actions for OMB Scorecard July 2010 – Dec 2010	Target Completion
Environmental	Revise green purchasing training to include EO 13514 requirements	Dec 2010
	Provide 10 contracts containing six designated products/services representing all USDA agencies	Dec 2010
	Revise Green Purchasing Affirmative Procurement Plan to include EO 13514 requirements	Dec 2010
	Begin formulating preliminary baseline for 6 green product categories based on contract survey	Dec 2010
	Implement ES plan milestones • Deploy Big Fix on remaining USDA computers • Obtain USDA baseline power usage with Big Fix • Enable CPM on most workstations using Big Fix agents, network applications, and workstation re-imaging • Deploy scripts for timed standby and wakeup on targeted agency workstations	Dec 2010
	Continue to buy EPEAT products from the blanket purchase agreement, helping to meet our 95 percent procurement target	Dec 2010

Category	Planned Actions for OMB Scorecard July 2010 – Dec 2010	Target Completion
Environmental (cont'd.)	Implement OMB data center consolidation plans and implement milestones outlined in OMB Passback • Finalize Data Center Plan based on OMB feedback • Begin implementing milestones in OMB Passback	Dec 2010
	Implement SBIP milestones	Dec 2010
	Track incorporation of sustainability practices into existing EMS(s)	Dec 2010
Energy	Complete comprehensive GHG inventory	Dec 2010
	Provide energy auditing training to USDA energy/facility managers	Dec 2010
	Prepare draft of Guidebook for Development of Wind Energy on National Forest Service lands	Dec 2010
	Establish the USDA industrial, landscaping, and agricultural irrigation water use baseline for 2010	Dec 2010
	Establish the USDA industrial, landscaping, and agricultural irrigation water use baseline for 2010	Dec 2010
Transportation	Perform analysis of AFVs in close proximity to alternative fueling sites and report all impediments and barriers to AF use. List recommendations to resolve and/or eliminate all fuel use obstacles and prepare plan to use AF.	Dec 2010
	Conduct pilot project with USDA agencies to increase overall fleet efficiency through increased AF use strategies, fuel economic vehicle acquisition strategies, and petroleum reduction initiatives	Dec 2010
	Provide training to USDA motor vehicle fleet managers and budget representatives on Federal goals and requirements related to AFV and Fuel Economic Vehicle acquisition, increased fuel use within the Department, and best practices for fleet efficiency	Dec 2010
	Develop implementation plan to use AF in selected waivered AFV locations. Report alternative fuel use in the first quarter of FY 2011	Dec 2010
	Establish partnership with Department of Homeland Security to perform initiative to increase AF use in locations in close proximity to alternative fueling facilities	Dec 2010
	Continue coordination effort with DOE's Clean Cities program and FEMP to increase AF use within USDA	Dec 2010
	Utilize USDA Internal AFV Tool to develop informative managerial and decision making reports relative to AFV and fuel economic vehicle replacement and vehicle exchange programs geared towards exchanging AFVs in rural locations with petroleum vehicles in close proximity to alternative fueling facilities	Dec 2010

2011 Planned Scorecard Action Items

Category	Planned Actions for OMB Scorecard Jan 2010 – Jun 2011	Target Completion
Environmental	Coordinate with AgLearn to test revised training	June 2011
	Provide 10 contracts containing six designated products/services representing all USDA agencies	June 2011
	Obtain preliminary baseline of 6 green product categories	June 2011
	Implement ES plan milestones targeted by July 2011 • Enable CPM on remaining workstations using Big Fix agents, network applications, and workstation re-imaging • Deploy scripts for timed standby and wakeup on targeted agency workstations	June 2011
	Continue to buy EPEAT products from the blanket purchase agreement, helping to meet our 95 percent procurement target	June 2011
	Implement OMB data center consolidation plan and implement milestones outlined in OMB Passback	June 2011
	Implement SBIP milestones	June 2011
	Track incorporation of sustainability practices into existing EMS(s)	June 2011
Energy	Perform EISA Sec 432 energy evaluations at 25% of USDA covered facilities	June 2011
	Update USDA Advanced Metering Guidance to include natural gas, steam, and water	June 2011
	Develop USDA agency scorecards for energy and water management	June 2011
	Conduct surveys for potential renewable energy use at select USDA sites	June 2011
Transportation	Reevaluate USDA critical mission areas nationwide to determine locations where critical masses (≥ 50) of USDA vehicles operate. The goal is to reduce petroleum consumption and increase AF use by possible infrastructure development of partnership with other Federal, state, local, and private entities	June 2011
	Develop USDA internal petroleum reduction procedures such as the use of mass transit, video conferencing, and other petroleum reduction initiatives associated with Scope 3 greenhouse gas reductions.	June 2011
	Work with Clean Cities of DOE and FEMP to identify high density USDA AFV areas to increase the use of alternative fuel	June 2011
	Develop guidance document to assist USA fleets with regulatory compliance, effective motor vehicle fleet efficiency processes, petroleum reduction, and alternative fuel increases	June 2011

Category	Planned Actions for OMB Scorecard Jan 2010 – Jun 2011	Target Completion
Transportation (cont'd.)	Begin development of a comprehensive USDA petroleum reduction strategy based on agency specific petroleum reduction initiatives. Strategy will be accomplished in the first quarter of FY 2012	June 2011
	Develop Forest Service plan to convert diesel tanks to tanks capable of using B20 biodiesel. Plan is based on FS tank reduction analysis	June 2011
	Evaluate Natural Resource Conservation Service and Agricultural Research Service diesel tanks to determine the number of tanks feasible for B20 biodiesel conversion	June 2011

Appendix A: Acronyms

Acronym	Description
A-E	Architectural and Engineering
AFV	Alternative Fuel Vehicle
AMS	Agricultural Marketing Service
APHIS	Animal Plant and Health Inspection Service
ARRA	American Recovery and Reinvestment Act of 2009
ARS	Agricultural Research Service
BARC	Agricultural Research Center
BPA	Bonneville Power Administration
BPAs	Blanket Purchase Agreements
BTU or Btu	British Thermal Unit
C&D	Construction and Demolition
CCPI	Cooperative Conservation Partnership Initiative
CEQ	Council on Environmental Quality
CMAVE	Agricultural and Veterinary Entomology
CPU	Central Processing Unit
CRAC	Computer Room Air Conditioning
D.C.	District of Columbia
DM	Departmental Manual
DOE	Department of Energy
DoN	Department of the Navy
DR	Departmental Regulation
EDCs	Enterprise Data Centers
EISA	Energy Independence and Security Act
EISA	Energy Independence Security Act
EMS	Environmental Management System
EO	Executive Order
EPAct	Energy Policy Act
EPCRA	Emergency Planning and Community Right-to-Know Act
EPEAT	Electronic Product Environmental Assessment Tool
ESPC	Energy Savings Performance Contract
EUI	Energy Use Index
EUL	Enhanced Use Lease
FEMP	Federal Energy Management Program
FPDS	Federal Procurement Data System
FS	Forest Service
FSA	Farm Service Agency
FY	Fiscal Year
gal	gallon
GGE	Gasoline Gallon Equivalents
GHG	Greenhouse Gas
GIPSA	Grain Inspection, Packers, & Stockyards Administration
GPAPP	Green Purchasing Affirmative Procurement Plan
GPRA	Government Performance and Results Act

Acronym	Description
GSA	General Services Administration
GSF	Gross Square Feet
GWCC	George Washington Carver Center
GYA	Greater Yellowstone Area
HQ	Headquarters
HVAC	heating, ventilating, and air conditioning
IT	Information Technology
LCCA	Life Cycle Cost Analysis
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
MOU	Memorandum of Understanding
mpg	miles per gallon
MRP	Marketing & Regulatory Programs
MWA	Megawatt-hours
NADC	National Animal Disease Center
NAL	National Agricultural Library
NEPA	National Environmental Policy Act
NRCS	National Resource Conservation Service
O&M	Operations and Maintenance
O&M	Operations and Maintenance
OCE	Office of the Chief Economist
OCIO	Office of the Chief Information Officer
OMB	Office of Management and Budget
PPA	Power Purchase Agreement
PUE	Power Usage Efficiency
REAP	Rural Energy for America Program
RECs	Renewable Energy Certificates
RIA	Regulatory Impact Analysis
ROI	Return on Investment
RPO	Real Property Officer
RSS	Really Simple Syndication
SF	Square Feet or Square Footage
SNAP	Significant New Alternatives Policy
SOC	Sustainable Operations Council
SSO	Senior Sustainability Officer
SSPP	Strategic Sustainability Performance Plan
TRI	Toxics Release Inventory
UESC	Utility Energy Services Contract
UPS	Uninterruptible Power Supply
USDA	United States Department of Agriculture
USGBC	United States Green Building Council
WGES	Washington Gas Energy Services

Appendix B: Agency Specific Sustainable Building Policies

In the USDA mission areas for Natural Resources and Environment and for Marketing and Regulatory Programs (MRP)[1], agencies include the Forest Service (FS), the Natural Resources Conservation Service (NRCS), the Animal and Plant Health Inspection Service (APHIS), and the Grain Inspection, Packers, and Stockyards Administration (GIPSA.) The USDA Research, Education and Economics mission area includes the Agricultural Research Service (ARS). Two of these five USDA land-holding agencies design and construct buildings to meet a minimum Silver certification level under the Leadership in Energy and Environmental Design (LEED) metric, and the other three design and construct buildings to meet the *Guiding Principles*. All five follow the *Guiding Principles* and LEED for Existing Buildings (LEED-EB) for existing building sustainability. The Agricultural Marketing Service (AMS) another Marketing and Regulatory Programs agency occupies only leased buildings.

NRCS uses a voluntary, cooperative approach to address environmental challenges. The "conservation partnership" includes groups, agencies, and individuals, from State and Tribal governments to local watershed councils; NRCS works with many partners to achieve conservation goals. NRCS is currently updating its sustainable policies and practices, including those for leased assets. These sustainable policies include the use of renewable energy and EnergyStar products, smart meters, water conservation, recycling of construction waste, and the use of biobased products. Planning for new leases and contracts for janitorial services include green cleaning provisions.

The **FS** mission is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations. The FS uses integrated building concepts and high performance green building standards, and strives to enhance occupant welfare and protect mission critical assets. New building construction projects, 10,000 gross square feet or greater must be registered and certified under the LEED rating system at a minimum Silver certification level, for FS regional offices, supervisor's offices, district offices, visitor centers, and research offices/labs, must be registered and certified under the LEED rating system at a minimum Silver certification level. All new construction or major renovation projects are designed to incorporate the sustainable principles of the most recent LEED rating system into the appropriate building systems and components.

The FS follows its Sustainable Buildings policy, Forest Service Handbook 7309.11 – Buildings and Related Facilities Handbook, Chapter 70, to include using The Guiding Principles and practices when designing, constructing, or conducting major renovations of certain types[1] of FS-owned administrative buildings. The FS has also updated Forest Service Manual (FSM) 1300 to include FSM 1313, "Sustainable Operations – Managing the Forest Service Environmental Footprint," which directs leadership to implement sustainable practices in order to reduce resource consumption, minimize waste, use sustainable acquisition methods, and meet high performance standards for building construction, lease, operation, and maintenance.

The **APHIS** complies with the *Guiding Principles* in all new construction, major renovation or repair and alteration. These agencies are working to ensure that all new owned facilities and major renovation projects implement design, construction, and operations and maintenance practices in support of the sustainable design/high-performance buildings regulatory requirements. The APHIS sustainable building strategies address the *Guiding Principles* in all building life cycle stages, including siting, design, and construction of new buildings, and renovation, operation and maintenance of existing owned buildings, and disposal and deconstruction. Specific goals include the USDA goal four targets above.

MRP agencies, including **APHIS AMS and GIPSA,** strategize to support and mirror the Department's sustainability goals and objectives in all leasing activities. The MRP agency leases over 5,000 square feet presently total 80, 58 for APHIS, 20 for AMS, and 2 for GIPSA. MRP agencies must re-compete approximately 53 of these leases by 2015; in renewing or replacing leases, MRS agencies plan to actively solicit for green buildings and incorporate green provisions into the government lease[1] that support the *Guiding Principles*. The MRP agency realty office is using the GSA green leasing solicitations[1]. All leases will at a minimum have the GSA minimum green leasing provisions regarding green products and green building materials, i.e. paints, wall board, carpet, etc. These guidelines are incorporated across USDA agency lines and are part of the GSA "Delegated Authority" guidelines[1]. The MRP agency realty office plans to incorporate a rating system in its Access database system that will actively track which buildings have met the sustainability minimum of 40%.

ARS Policy
Agricultural Research Service facilities are designed based on Design Manual 242.1, continually updated to comply with the energy, water, and sustainability requirements of the current legislation and executive orders and their guidance. Manual 242.1 requires the design of sustainable high performance buildings.

Current APHIS six-month accomplishments:

1. updated the APHIS standard design guide, to include the *Guiding Principles* in design, construction, or major renovations of owned facilities. Specific changes include:
   i. facilities must achieve the USGBC LEED-Silver rating, or meet the criteria of the USGBC LEED-Silver rating system;
   ii. facilities must use solar hot-water heating where life cycle cost effective;
   iii. construction contracts must require green purchasing of materials and systems, where cost effective; and
   iv. facilities must use advanced meters, for all utilities.
2. nine agency-owned buildings that meet the internal USDA sustainability standard, and, this fiscal year, APHIS starts a program to survey all facilities over 5,000 gsf by a third party to determine the measure sustainability and to find possible green initiatives; eighteen facilities are surveyed to date;
3. demolished five owned, but obsolete, buildings at the Moore Air Base in Texas;
4. completed an energy savings project at the APHIS Pink Bollworm Rearing Facility in Phoenix, Arizona, replacing all T-12 fluorescent fixtures with T-8 fluorescent fixtures.

Planned APHIS accomplishments, July 1, 2010 through December 31, 2010:

1. continuously update the Standard Design Guideline as more sustainable requirements are identified;
2. assess 22 facilities over 5,000 gsf, using a third party, to determine the existing state of sustainability and to find possible green initiatives to make the facilities more sustainable;
3. demolish a large excess building in Waimanalo HI; and
4. start a program to add smart meters to all owned buildings over 5,000 gsf with high energy intensive use. Fifteen facilities should be completed.

Planned APHIS accomplishments, January 1, 2011 through June 30, 2011:
1. continuously update the Standard Design Guideline as more sustainable requirements are identified; and
2. assess the four final facilities, using a third party, to determine the existing state of sustainability and to discover green initiatives to make the facilities more sustainable.

Current FS six-month accomplishments:

1. issuing Chapter 70 - Sustainable Buildings FS Handbook chapter;
2. completing, in Jan 2010, an initial survey to score sustainability of some FS buildings over 5,000 gsf in size; and
3. identifying the highest electrical energy consuming buildings for installation of advanced meters for all utilities.

Planned FS accomplishments, July 1, 2010 through December 31, 2010:

1. develop program requirements, specifications, and procurement requirements for installation of advanced meters at highest electrical energy consuming buildings.
2. continue to develop inventory capability to measure and reduce green house gas emissions.
3. further sustainable buildings surveys, for facilities over 5,000 gsf in size.

Planned FS accomplishment, January 1, 2011 through June 30, 2011:

1. initiate advanced meter installation at highest electrical energy consuming buildings;
2. develop and test capability to report sustainable building accomplishments into the DOE/FEMP High Performance Buildings Database;
3. continue to develop inventory capability to measure and reduce green house gas emissions; and
4. further sustainable buildings surveys, for facilities over 5,000 gsf in size.

Current ARS six-month accomplishments:

1. incorporating a requirement into its design standards in Manual 242.1 that all new building designs begun after 2020 must produce zero net energy buildings by 2030;
2. requiring that all building designs follow the *Guiding Principles*, by incorporating the requirement into Design Manual 242.1 and P&P 134.2 Energy, Water and Sustainability policy;
3. using cost effective strategies to minimize energy water and materials consumption in buildings, by following requirements in P&P 134.2;
4. using existing facility evaluations -- from a survey conducted in November 2009 -- to identify buildings that can be made sustainable, and continue progress towards the goal of 15% sustainable by 2015;
5. appointing facility energy managers, for each covered facility, responsible for conducting energy, water and recommissioning surveys;
6. issuing a new O&M policy and aims to manage buildings to reduce agency deferred maintenance costs -- ARS was appropriated $176,000,000 in ARRA finds for critical deferred maintenance --
7. working to reduce the inventory of inefficient buildings in its inventory that are not cost effective to operate; specifically, completed a BARC consolidation study;
8. committing to the green house gas (GHG) reduction goal, to reduce scope 1 and scope 2 GHG by 20.5% by FY2020 from a baseline year of FY 2008; setting strategies to reduce energy consumption and use renewable energy in buildings;
9. planning to reduce scope 3 GHG emissions by 6.5% by FY 2020 from a baseline year of 2008; strategies include waste diversion/reduction in building construction;
10. communicating within and outside the agency, utilizing intranet and internet websites, other electronic communication, formal and informal training, and other outreach;

11. maintaining an intranet energy awareness Sharepoint site that contains announcements, information, links, and training opportunities that is regularly updated; and
12. in following the NEPA process, assessing and addressing the impact of projects on local resources, interacting with local regulatory groups to comply with state and local laws, EPA regulations, building codes, energy codes and other requirements; soliciting public comment as described at 7 CFR 520, and completing NEPA evaluations to evaluate construction projects and consider the environmental effects of proposed construction actions; and
13. planning for historic building utilization, specifically -
    - planning for utilizing the US National Arboretum;
    - renegotiating a programmatic agreement with the State Historic Preservation Office for El Reno OK;
    - consulting the Maryland Historic Trust and other cultural resources organizations.

Planned ARS accomplishments, July 1, 2010 through December 31, 2010:

1. incorporate energy, GHG emissions and climate change considerations when the pending NEPA guidance is finalized in accordance with its direction.
2. planning to continue to make progress towards the goal of 100% sustainability.

Current NRCS six-month accomplishments:

1. updating sustainable policies and practices, including those for leased assets; policies include the use of renewable energy and EnergyStar products, smart meters, water conservation, recycling of construction waste, and the use of biobased products.
2. planning for new leases and contracts for janitorial services include green cleaning provisions;
3. accelerating voluntary efforts toward a healthy and restored Chesapeake Bay, through its Cooperative Conservation Partnership Initiative (CCPI), a USDA Natural Resources Conservation Service (NRCS) initiative using existing conservation programs. The CCPI projects improve water quality in six states by working with landowners and operators to reduce sediments and nutrients, increase carbon sequestration and contribute to a healthy Chesapeake Bay; planning at least $5 million in financial assistance from two programs, the Environmental Quality Incentives Program and the Wildlife Habitat Incentive Program, to carry out CCPI in the Chesapeake Bay Watershed in fiscal year 2010, available for single-state and multi-state partnership projects that address natural resource concerns within six Chesapeake Bay Watershed states, New York, Delaware, Maryland, Pennsylvania, Virginia, and West Virginia; and
4. developing the Mississippi River Basin Healthy Watersheds Initiative (MRBI) to help producers in selected watersheds in the Mississippi River Basin voluntarily implement conservation practices that avoid, control, and trap nutrient runoff; improve wildlife habitat; and maintain agricultural productivity.

Section 1: Agency Policy and Strategy

I.   Agency Policy Statement

The Agricultural Research Service has adopted Policy and Procedure 134.2 Energy, Water and Sustainability. It states that, consistent with REE's mission and without compromising health and safety, it is REE policy to give energy and water conservation as well as sustainability, prime consideration in the acquisition, use, and disposal of all property and in the performance of all functions. This action will reduce the impact of our activities on the environment and help conserve resources. Efficiency and conservation shall be integrated into the core activities of the Agency. It shall be every employee's responsibility to ensure that every reasonable effort is made to reduce operating costs and conserve energy, water, and resources.

II.   Sustainability and the Agency mission

The Agricultural Research Service conducts research to develop and transfer solutions to agricultural problems of high national priority and provides information access and dissemination to

- ensure high-quality, safe food and other agricultural products,
- assess the nutritional needs of Americans,
- sustain a competitive agricultural economy,
- enhance the natural resource base and the environment, and
- provide economic opportunities for rural citizens, communities and society as a whole.

III.   The Agricultural Research Service is committed to the goal to reduce scope 1 and scope 2 green house gases by 20.5% by FY2020 from a baseline year of FY 2008. It plans to reduce scope 3 green house gas emissions by 6.5% by FY 2020 from a baseline year of 2008. Reductions in scope 1 and scope 2 emissions will be accomplished by reductions in energy consumption and the use of alternative fuels and renewable energy. Scope 3 emissions will be reduced by the expansion of telecommuting and alternative work schedules, by the use of electronic communications in lieu of travel such as teleconferencing, netconferencing and videoconferencing, by waste diversion/reduction, and by the incorporation of more fuel efficient vehicles due to the changes in the CAFE standards.

IV.   Plan Implementation

The Agricultural Research Service will use its standard organizational structure of Headquarters, Areas and locations to achieve the goals of the plan. Administrative and Financial Management

(AFM) has the overall responsibility for policy, planning, and evaluation for the implementation of the Agency's energy water and sustainability program. The Facilities Division (FD) and Acquisition and Property Division (APD), AFM, provide inter- and intra-Agency liaison respectively on energy water and sustainability matters involving facilities management and procurement/property management programs. The Facilities Energy Manager coordinates the efforts of FD.

FD is responsible for implementing policies to achieve energy-efficient facilities design, construction and operations, and utilizing Energy Savings Performance Contracting (ESPC), or Utility Energy Service Contracts (UESC) as appropriate. APD is responsible for implementing policies for green purchasing; procurement of energy-efficient products; achieving energy efficiency in motor vehicles through reduction of gasoline and diesel fuel consumption; use of alternative fuels, and acquisition of Alternative Fuel Vehicles (AFV).

ARS Areas and field locations, in concert with FD and APD, are responsible for field administration and management of the energy, water and sustainability program within their respective organization. The Area and Location Administrative Officers are responsible for identification of appropriate energy conservation actions and the planning, programming, budgeting, reporting, and implementing the Agency's plan to achieve the goals of the plan.

The Agricultural Research Service has implemented an Environmental Management system at each appropriate location. This structure will be utilized to evaluate progress in concert with the annual reporting process. Based on this, and when new legislation and executive orders or their guidance are issued plans and policies are reviewed and, if necessary, updated.

Agricultural Research Service facilities are designed based on Design Manual 242.1 which is updated to comply with the energy, water, and sustainability requirements of the current legislation and executive orders and their guidance. Manual 242.1 requires the design of sustainable high performance buildings.

V.   Evaluating Return on Investment

Agricultural Research Service utilizes life cycle cost analysis in decision making about energy efficient designs, energy and water conservation measures and renewable energy investments, The life cycle cost analysis must include investment costs, energy and water costs, non fuel operation and maintenance costs, repair and replacement costs, and salvage values.

Agricultural Research Service NEPA evaluations are described by the regulation at 7 CFR 520. Evaluation of construction projects consider if the proposed construction action will:
      (1)   Cause or contribute to soil erosion by wind or water?
      (2)   Affect soil surface stability?
      (3)   Degrade water quality in a sole source aquifer?
      (4)   Decrease aquifer yield or affect water rights?

(5)   Affect aquatic life?

(6)   Cause or contribute flow variation in a stream or spring?

(7)   Degrade the aesthetic properties and/or potential uses of either ground or surface waters?

(8)   Affect chemical quality of ground or surface waters (pH, dissolved oxygen, nutrients, dissolved solids, pesticides, etc.)?

(9)   Affect physical quality of ground or surface waters (suspended solids, turbidity, color, oil, temperature, etc.)?

(10) Cause odors or release odoriferous substances to air or water?

(11) Release toxic substances to the air in quantities that could affect human health or safety, or environmental quality?

(12) Release particulate matter to the air?

(13) Change local meteorological conditions or air movement patterns?

(14) Release substances for which there is a National Ambient Air Quality Standard (i.e., sulfur oxides, nitrogen oxides, carbon monoxide, lead, particulate matter, etc.)?

(15) Affect undisturbed natural areas or a wild and scenic river?

(16) Affect game animals or fish or their taking?

(17) Affect rare, threatened, or endangered species, or a critical habitat? (A consultation with U.S. Fish & Wildlife Service under Section 7 of the Endangered Species Act may be required).

(18) Affect species balance, especially among predators?

(19) Involve special hazards, such as radioactivity or electromagnetic radiation?

(20) Affect or to be located in a wetland, flood plain, or the coastal zone?

(21) Affect a known or potential cultural, historical, or archaeological site, district, or area? (A consultation with the State Historical Preservation Officer is required).

(22) Affect local or regional systems related to:
    (a)   Transportation?
    (b)   Water supply?
    (c)   Power and heating?
    (d)   Solid waste management?
    (e)   Sewer or storm drainage?

(23) Affect local land use through effects on:
    (a)   Flood plains or wetlands?
    (b)   Location land use?
    (c)   Aesthetics?
    (d)   Access to minerals?

(24) Affect socioeconomic aspects of an area including:
    (a)   Population?
    (b)   Housing supply or demand?

(c)   Employment?

(d)   Commercial activities?

(e)   Industrial activities?

(f)   Cultural patterns?

(g)   Environmental justice?

(25)   Cause or contribute to unacceptable noise level?

(26)   Affect public health or safety?

(27)   Cause public reaction or controversy?

Agricultural Research Service will incorporate energy, greenhouse gas emissions and climate change considerations when the pending NEPA guidance is finalized in accordance with its direction.

VI   Transparency

ARS communicates within and outside the agency utilizing intranet and internet websites, other electronic communication, formal and informal training, and other outreach. ARS maintains an intranet energy awareness Sharepoint site that contains announcements, information, links, and training opportunities that is regularly updated.

Pursuant to EISA section 432, ARS has appointed facility energy managers for each covered facility. These individuals are responsible for conducting energy, water and recommissioning surveys. When the web based DOE Compliance Tracking System is implemented, survey data will be posted on this public facing web site.

Section 2: Performance Review and Annual Update

I.   Summary of Accomplishments during the previous year

a. According to the NFC data furnished by CRI, between FY 2008 and FY 2009, ARS reduced electricity 15.9 percent, and natural gas by 3.7 percent.

b. ARS purchased 3% of its annual electrical energy consumption in RECs and generated 55 MWH of electrical energy with wind and 21.6 million BTUs of energy from solar hot water panels.

c. ARS completed a 621,000 SF laboratory building in Ames IA that has been submitted to the USGBC for LEED Certification.

d. ARS invested $4.9 million in energy efficiency projects. In addition, ARS was appropriated $176,000,000 by ARRA for "critical deferred maintenance." While not directed at energy by Congress this will result in energy improvements because equipment will be replaced with updated items.

e. ARS awarded two financed ESPCs and three unfinanced UESCs. One ESPC covered the entire state of Texas. One of the UESCs was an interagency agreement with Bonneville Power Administration to do energy upgrades at 5 locations.

f. ARS has evaluated all of its facilities for sustainability.

g. In previous years ARS did a water use survey and an electric, natural gas and steam meter survey of all facilities. ARS is on track towards having advanced electric meters in all energy intensive buildings over 10,000 SF by the end of FY 2012 and similarly natural gas and steam meters by FY 2016.

h. ARS completed a greenhouse gas inventory for scope 1, 2 and 3 emissions as part of the Road Test of the Public Sector Protocol.

i. ARS performed 29 energy audits of facilities in FY 2009, or 40% of covered facilities by number.

j. ARS implemented a program to transition to all green cleaning products at ARS locations by the end of FY 2010.

k. ARS has updated all of its applicable policies, standards, and contracts to incorporate the requirements of EO 13423, EO 13514, EPACT 2005 and EISA.

l. ARS has received technical assistance from DOE as part of their ARRA funds to perform training, energy audits, and re-/retro-commissioning.

1. Goal: Scope 1 & 2 Greenhouse Gas Reduction

a. Buildings
    1) Reduce facility energy intensity

ARS will continue to reduce the energy consumption of buildings by implementing energy improvement projects and energy awareness programs.

ARS is incorporating the energy efficiency requirements of EO 13423, EO 13514, EPACT 2005 and EISA into all new design and construction projects. This is being accomplished by incorporating the requirements into all applicable policies, standards and contracts.

ARS will continue installing advanced meters in all energy intensive buildings over 10,000 SF where cost effective and is on track to meet the requirements of EPACT 2005 and EISA.

ARS will continue to use appropriated funds to perform cost effective energy efficiency projects where funds are available.

ARS will continue to use UESCs to identify and implement energy conservation measures in buildings where they are available and feasible. At other locations ARS will use ESPCs.

2) Renewable electricity installation and use
ARS will continue to purchase RECs to meet its statutory requirements for purchase and generation of renewable energy.

ARS will continue to produce renewable energy at its location in Bushland TX and Honolulu HI. ARS will also continue to produce renewable energy for small projects such as USNA, Morris MN, University Park PA, Boise ID, Watkinsville GA, and Las Cruces NM. ARS is installing a geothermal energy system at Morris MN, and photovoltaics at Tucson AZ in FY 2010.

ARS includes cost effective renewable energy installation as a goal in all UESCs and ESPCs.

ARS requires all new designs to consider cost effective renewable energy installations.

ARS is performing renewable energy studies at several locations with the assistance of the Department of Energy. ARS plans to act on the cost effective recommendations of those studies.

b. Fleet

1) ARS will continue to reduce petroleum consumption in fleet vehicles through purchase and use policies.

2) ARS will continue to increase purchase of AFVs and use Alternative Fuels. Encouraging area offices to establish infrastructure for storing and delivering alternative fuels. South Atlantic Area is increasing use of biodiesel. BARC continues to use biodiesel (B20) in all diesel vehicles and equipment. Midwest Area will continue to store and dispense E85 in their Peoria fueling station.

3) ARS is replacing larger SUVs and pick up trucks, with smaller vehicles as part of the ARRA fleet purchase. Of the 700 vehicles replaced, 220 were hybrid vehicles and 250 were E85 vehicles. This includes sedans, SUVs, and pick up trucks.

4) ARS is purchasing hybrid vehicles, which increase fuel economy but cost more than equivalent non-hybrid vehicles. Light duty pick up trucks cost nearly twice as much as non-hybrid models. ARS is implementing a policy that purchases of vehicles must

be fuel efficient, including Hybrid or AFV where AF is available, or the functional need must be justified.

c. Other

ARS is exploring better ways to track bulk fuel consumption of fleet vehicles and equipment not captured in FAST.

ARS is developing a FMS BETA tool to capture and synthesize location energy consumption data.

ARS is moving from TUMs to SureTrack and will be capturing more utility accounts improving the accuracy of energy reporting.

2. Goal: Scope 3 Greenhouse Gas Reduction
   a. Federal Employee Travel
      ARS will explore opportunities to replace a percentage of business travel with conference calls, net conferencing and video conferencing.
      ARS will encourage the use of rail in lieu of air travel.
      ARS will explore opportunities to expand telecommuting and alternative work schedules to reduce commuter emissions.
      ARS will explore other opportunities to encourage commuter efficiency such as public transportation subsidies, car pooling or van pooling.
      ARS will encourage the use of fuel efficient rental cars, trucks and equipment.

   b. Contracted waste disposal
      ARS is encouraging increased recycling.
      ARS is encouraging the reduction in waste by using duplex printing.
      ARS is operating composting facilities and accepting waste from USDA HQ and the US Capitol.

   c. T&D losses from purchase electricity
      ARS will continue to reduce facility energy intensity and work to increase use of renewable energy.

   d. Other
      ARS is exploring other opportunities to monitor and reduce scope 3 emissions within our contractors and programs.

   e. Planned activity or policy implementation to improve accuracy and overall data collection analysis methods related to scope 3.

3. Goal: Develop and maintain agency comprehensive greenhouse gas inventory

    ARS participated in the Road Test of the Greenhouse Gas Public Sector Protocol. Sources of data were explored and calculations were performed for Scope 1, Scope 2 and Scope 3 emissions. We expect to refine our data collection during the data call for the next annual energy report with additional surveys. Scope 1 and scope 2 emissions for utilities were calculated using the data from the FY 2008 annual energy report. Scope 3 was calculated using a combination of data from FY 2008 and FY 2009 where FY 2008 was not available. For instance, business travel data was incomplete for FY 2008 because travel agency vendors changed mid-year in FY 2008. Air travel emissions were calculated based on a FY 2009 report from Travel Trax. POV business travel was calculated from mileage shown on an ad hoc FY 2009 report from Northrop Grumman. The split between cars and light trucks/SUVs/vans was estimated from a sample parking lot for a 1200 employee ARS building in Beltsville MD and found to be 57% and 43% respectively. Commuting was based on averages in national commuting studies compared to data from the USFS road test. As recommended by CEQ, 230 work days per year was used. Rental car, taxi and rail emissions were calculated from a representative sample of 62 travel vouchers and scaled up by the total number of trips in the ad hoc Northrop Grumman report. Scope 3 ARS emissions were also scaled up to USDA by a ratio of number of employees. Greenhouse gas emissions reduction requirements will be incorporated into all relevant policies and standards.

4. Goal: High Performance sustainable design/green buildings
    a. ARS has incorporated a requirement into its design standards in Manual 242.1 that all new building designs begun after 2020 must be zero net energy buildings by 2030.
    b. ARS has required that all buildings incorporate the 5 guiding principles by incorporating the requirement into Design Manual 242.1 and P&P 134.2 Energy, Water and Sustainability policy.
    c. ARS has evaluated all existing facilities for sustainability in a survey conducted in November 2009. This data will be used to identify buildings that can be made sustainable. ARS is making progress towards the goal of 15% sustainable by 2015.
    d. ARS intends to continue to make progress towards the goal of 100% sustainability.
    e. ARS uses cost effective strategies to minimize energy water and materials consumption in buildings. Requirements are in P&P 134.2
    f. ARS has just issued a new O&M policy and aims to manage buildings to reduce agency deferred maintenance costs. ARS was appropriated $176,000,000 in ARRA finds for critical deferred maintenance.
    g. ARS is working to reduce the inventory of inefficient buildings in its inventory that are not cost effective to operate. For example a consolidation study was just performed at BARC.

h. ARS looks at historic buildings within its programs to utilize them responsibly. The US National Arboretum is one of its historic facilities. ARS is renegotiating a programmatic agreement with the State Historic Preservation Office for El Reno OK. ARS consults with organizations such as the Maryland Historic Trust and is sensitive to the historic character of its buildings.

5. Goal: Regional and local planning

Lease acquisition requirements are based on the program request and established need. If there is a need for major construction, a feasibility study is performed to determine if there is available Federally-owned land prior to leasing land. Many ARS land and space leases are obtained from universities with a collaborative research program. These leases are typically obtained for nominal rent. ARS leases are typically for university-owned land or space classified as laboratory or greenhouse. Often on University campuses a Master Plan exists and building siting and orientation along with other building characteristics are dictated by others. ARS must follow the requirements of public bodies established to coordinate land use, development and utilities. ARS assesses and addresses the impact of Federal projects on local resources. Interaction with local regulatory groups includes compliance with state and local laws, EPA regulations, building codes, energy codes and other requirements. Agricultural Research Service also solicits public comment in its NEPA process as described at 7 CFR 520.

6. Goal: Water efficiency and Management
    a. ARS will continue to make progress towards reductions in potable water use intensity. ARS P&P 134.2 Energy Water and Sustainability policy requires locations to reduce potable water use. ARS, in conformance with USDA decisions has included landscaping water associated with buildings in the FY 2007 baseline. Agricultural irrigation was not included. ARS has performed a water use survey of all of its facilities to determine its position with regards to these water reduction requirements.
    b. ARS is working with its scientific programs, which are the mission of the agency, on the requirements of EO 13514 for reductions in agricultural uses of water. This impacts aquaculture, livestock and agricultural irrigation. Where efficiencies are cost effectively possible without compromising the mission of the agency they will be undertaken. In mission-driven agricultural research studies where cost effective efficiency measures will not be effective or will impact scientific approaches and objectives, exceptions will be sought. Where animal health and welfare are at risk, exceptions also will be sought. ARS is committed to the humane treatment of animals.
    c. ARS will continue to seek cost effective water reuse strategies that comply with code.
    d. ARS design standards incorporate the requirement that pre development hydrology must be restored for projects with a footprint of 5,000 SF or more.

7. Goal: Pollution prevention and waste elimination

a. ARS has a chemical hygiene program and follows EPA requirements. Requirements are in Manual 230.

b. ARS will make progress towards diverting at least 50% of non-hazardous (and non C&D) solid waste by FY 2015.

c. ARS has incorporated the requirement to divert at least 50% of construction and demolition waste by FY 2015. Due to the long life cycle of a construction project, it will be approximately 5 years before the results of this are manifest. Projects must pass through the planning, design, bid and construction phases and these are subject to the appropriation of funds for each phase among other causes of delay.

d. ARS OCIO has issued a Bulletin on Electronics Stewardship that requires printers to be capable of printing on both sides (duplex) and enabled to do so.

e. The Electronics Stewardship Bulletin also requires 30% post consumer recycled content paper and recycled toner cartridges.

f. ARS requires compliance with the Solid Waste Act in Manual 230 and ARS acquisition policies. ARS has a chemical inventory program and a chemical hygiene plan. ARS has implemented a program to transition to all green cleaning products by the end of FY 2010 including in custodial contracts.

g. ARS composts waste at our locations. BARC composts waste from the USDA headquarters and US Capitol Buildings.

h. ARS will continue to use integrated pest management and landscape management systems.

i. ARS receives new MSDS sheets which contain information about alternative chemicals.

j. ARS plans to develop a method of identifying the use of chemicals that emit greenhouse gases.

k. ARS participates in emergency planning and community right to know act activities. It provides plans to police, fire and rescue squads with building schematics, chemical inventories and information about fume hoods, explosives, chemical storage, etc.

8. Goal: Sustainable Acquisition

a. ARS will require that in FY 2011, 95% of new contract actions will be for energy efficient, biobased, environmentally preferable, non ozone depleting, recycled and less toxic. Biobased and recycled content product will be used if they are comparable in price, performance and availability.

b. There requirements are being incorporated into Manual 242.1, P&P 134.2, various acquisition policies and the FAR.

9. Goal Electronics Stewardship and data centers

a. ARS has issued an electronics stewardship bulletin that requires responsible purchase, use and disposal of electronics. It requires:

- Desktop computers, laptops and monitors must be listed on the Electronics Product Environmental Assessment Tool (EPEAT) website.
- Printers must be capable of printing on both sides of the sheet (duplex).

- Purchase electronics that consume no more than 1 Watt of stand-by power, or if impracticable, purchase items with the lowest stand-by power possible.
- Purchase electronics that bear the Energy Star label or are FEMP designated
- Paper must be 30% post consumer recycled content.
- Purchase recycled ink and toner cartridges.

b. The electronics stewardship bulletin requires the use of sound disposition practices. Donate usable electronics to qualified organizations, such as public schools. Sell usable or refurbishable equipment to the public. Recycle unusable, unsold equipment using sustainable environmental practices that help keep components out of the landfill and recover materials for use in the manufacture of new products. It refers to the USDA Electronics Stewardship Plan Appendix K for electronics recycling and repurposing options.

c. The electronics stewardship bulletin includes the FEMP Best Practices Guide for Energy Efficient Data Center Design.

d. ARS does not have data centers.

e. ARS does not have data centers.

f. The electronics stewardship bulletin requires the use of sound disposition practices. Donate usable electronics to qualified organizations, such as public schools. Sell usable or refurbishable equipment to the public. Recycle unusable, unsold equipment using sustainable environmental practices that help keep components out of the landfill and recover materials for use in the manufacture of new products. It refers to the USDA Electronics Stewardship Plan Appendix K for electronics recycling and repurposing options.

10. Goal: Agency Innovation
- ARS has implemented a plan to do UESCs wherever they are available and ESPCs elsewhere where they are cost effective. ARS bundled 12 locations into an ESPC in the state of Texas.
- ARS is working with USDA to install photovoltaic panels at the George Washington Carver Center in Beltsville MD.