

NRC Strategic Sustainability Performance Plan

1. Sustainability and the Agency Mission

“The mission of the NRC is to license and regulate the Nation’s civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promotes the common defense and security, and protect the environment.”

Sustainability is inherent in the NRC’s mission. The agency recognizes that the Earth’s natural resources are not limitless and we must do our part to preserve these resources for future generations. We must act today to maximize the many economic, environmental, and societal benefits that conservation, waste prevention, Greenhouse Gas emissions reductions, recycling, and the purchase of environmentally preferable products can provide. At the NRC, we view sustainability as a long-term business planning and decision-making objective that encompasses our economic, environmental and social responsibilities.

2. Greenhouse Gas Reduction Goals

Pursuant to Executive Order 13514, on January 4, 2010, the U.S. Nuclear Regulatory Commission (NRC) submitted its Greenhouse Gas (GHG) reduction targets for Scope 1 and 2 emissions. NRC committed to a reduction target of 4.4 percent by FY2020. Our scope 3 reduction goal is 5 percent by FY2020.

The FY2020 target reduction is based on NRC’s plan to consolidate from a number of leased facilities that are not part of our current headquarters complex into a new 358,440 square foot Leadership in Energy and Environmental Design (LEED) certified office building. The energy efficiency of the new building, aggressive energy reduction efforts in the existing headquarters facilities and some changes in how we do business will help the NRC meet its FY2020 reduction target.

3. Plan Implementation

The NRC created a sustainability cross-functional team with members from each of the agency’s administrative service providers to coordinate implementation of the agency’s Strategic Sustainability Performance Plan. This team represents all functions that have the authority to affect the procurement or use of outside services such as contracting and procurement, utility services, human resources, IT service equipment, transportation services, and recycling and waste handling. Team meetings are held monthly to evaluate new project initiatives, strategic plans, and the performance of ongoing projects to ensure that our path for meeting the NRC’s GHG reduction targets is appropriate. Team plans and findings are reported to upper management for evaluation, approval and budget considerations.

Building Energy Managers, IT Specialists, Contracting Officers, Human Relations Specialists, members of the Office of Chief Financial Officer and Division of Administrative Services are tasked with the implementation of approved procedures, policies and projects. The Agency Office of Administrative Management is responsible for staff notification, follow-up on implementation, measurement of progress, documentation and reporting the results. Reports are evaluated by the team to ensure the desired results are met and if not, recommend additional actions and forward to management for their approval.

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The following table identifies the coordination between various agency planning reports and sustainability objectives.

Critical Planning Coordination Table

Originating Report / Plan	Scope 1 & 2 GHG Reduction	Scope 3 GHG Reduction	Develop and Maintain Agency Comprehensive GHG Inventory	High-Performance Sustainable Design / Green Buildings	Regional and Local Planning	Water Use Efficiency and Management	Pollution Prevention and Waste Elimination	Sustainable Acquisition	Electronic Stewardship and Data Centers	Agency Specific Innovation
GPRA Strategic Plan	No	No	No	No	n/a	n/a	n/a	Yes	No	No
Agency Capital Plan	No	No	No	n/a	n/a	n/a	n/a	n/a	No	n/a
A-11 300s	No	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Annual Energy Data Report	Yes	Yes	n/a	Yes	n/a	Yes	n/a	n/a	n/a	Yes
EISA Section 432 Facility Evaluations/Project Reporting	Yes	n/a	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Budget	Yes	No	No	No	n/a	Yes	Yes	Yes	Yes	Yes
Asset Management Plan / 3 Year Timeline	No	No	No	No	n/a	No	No	n/a	No	No
Circular A-11 Exhibit 53s	Yes	No	No	No	n/a	n/a	n/a	No	No	No
OMB Scorecards	No	No	No	No	n/a	n/a	n/a	No	No	No
DOE's Annual Federal Fleet Report to Congress and the President ¹	Yes	Yes	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Data Center Consolidation Plan	Yes	Yes	No	Yes	n/a	n/a	n/a	Yes	Yes	Yes
Environmental Management System	Yes	Yes	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a

4. Evaluating Return on Investment

The NRC uses a simplified cost to saving formula with a maximum payback of ten years for building energy savings projects. New procedures, initiatives and strategic plans are evaluated differently. First we look at the desired results and determine if the effort will meet that goal, and compare the cost of the effort to the expected outcome. Then we determine how the procedure, initiative, or plan will affect our staff's ability to perform their work and if it has any negative impacts, such as an effect on the quality of employee work life or the surrounding community. All of these issues are reviewed through our Management and Employee Union before being assessed for return of investment (ROI).

5. Transparency

The NRC has a public and internal web page which will be used to communicate the agency's commitment, goals and progress towards meeting our energy and GHG reduction targets. Internal bulletins and notices are also used to inform staff of new policies, projects and procedures.

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SECTION 2: PERFORMANCE REVIEW AND ANNUAL UPDATE

SUMMARY OF ACCOMPLISHMENTS

During FY2009, the agency implemented a number of energy reduction projects. A Lighting replacement project included installing energy saving lamps, fixtures and motion sensors to reduce electrical usage. Power strips with motion sensors are provided to all employees for their work space to allow lights and monitors to turn off when employees are not at their work station. In addition, the agency has implemented a telework program to allow employees more opportunities to work at home, thereby reducing scope 3 greenhouse gases due to commuting. Currently, the agency is upgrading our energy management system. This system will reduce overall heating and cooling costs by greater than 10 percent, while improving comfort levels in the building. Also, as individual HVAC system components are being replaced due to failure or end of life cycle, we are installing new high efficiency units. Bathroom upgrades are also underway, that have water saving toilets and faucets. Automatic hand drying systems are being installed that generate less waste and are more efficient than conventional systems.

Goal 1 - Scope 1 and 2 Greenhouse Gas Reduction

- a) Goal Description – Reduce energy and electrical usage at the facility. The agency expects to reduce CO₂ generation by 4.4% by 2015.
- b) Agency lead for goal – Kathryn Greene
- c) Implementation methods – Upgrade of existing equipment control systems. The agency is installing a new energy management system (EMS) and variable frequency drives (VFD) on all electric motors in the Two White Flint North (TWFN) building. This project will save the agency an estimated 462,943 kW per year and is expected to be completed in December 2010; the return on investment (ROI) for this project is 1.5 years. Another project that is underway will control garage lighting with timers and motion sensors. This project will save the agency an estimated 59,500 kW per year and will be completed in July 2010 with a ROI of 3.6 years.
- d) Positions – Currently there is no full time person for this activity. These duties are handled as collateral duties.
- e) Planning table – To be provided.
- f) Agency status – The agency has funded and is working on upgrades to the energy management systems. Older equipment is being upgraded as needed to support reduction in energy consumption and use of environmentally friendly refrigerants.

Goal 2 - Scope 3 Greenhouse Gas Reduction

- a) Goal Description – Reduce greenhouse gas generation from employee travel, contracted waste disposal and distribution/transmission losses from purchased energy.
- b) Agency lead for goal – Kathryn Greene

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- c) Implementation methods – Processes must be developed to track employee travel. Currently we do not have this information available for review. Reduction in distribution/transmission losses can be accomplished by reductions in electrical usage and the use of smart grid technology. The percentage of the agency's energy coming from renewable sources will increase from 3% to 20% by 2020 because our energy supplier, Pepco, has committed to increasing the amount of renewable energy sources used to generate electricity for its customers. Additionally, the agency performed a feasibility study to install a 325 kW solar panel system.
The agency intends to use hybrid or electric vehicles when available from GSA for 90% of the agency fleet. Additionally, the number of agency vehicles will be reduced by 15% in 2013, after the opening of our new office building.
- d) Positions – Currently handled as collateral duties.
- e) Planning table – To be provided.
- f) Agency status – Work is just beginning on this goal.

Goal 3 - Develop and Maintain Agency Comprehensive Greenhouse Gas Inventory

- a) Goal Description –The NRC will follow the federal specific guidance and develop methods to manage comprehensive greenhouse gas inventory.
- b) Agency lead for goal – Kathryn O. Greene
- c) Implementation methods – The NRC will follow specific Guidance (Federal Greenhouse Gas Accounting and Reporting) provided by Chair, Council on Environmental Quality (CEQ). The agency expects to use standard methods provided to calculate greenhouse gas generation.
- d) Positions – Only collateral duty at this time.
- e) Planning table – N/A
- f) Agency status – Ongoing.

Goal 4 – High Performance Sustainable Design/Green Buildings

- a) Goal Description – New Three White Flint North (3WFN) building to be either LEED silver or gold certified. Additionally, any major renovations of existing structures will be designed to the GSA "Guiding Principles" standards for high performance and sustainable buildings and apply LEED standards for Existing Buildings.
- b) Agency lead for goal – Kathryn O. Greene
- c) Implementation methods – The Construction project team is working on the LEED certification of our new building. The building will be a minimum of LEED silver and may meet gold certification, if possible. For new projects in the existing buildings, procedures will be developed to highlight the need for green/sustainable designs and construction.
- d) After the completion of the new building, we expect to renovate our oldest building. This structure is over 20 years old and the mechanical systems are in need of upgrade. This will be a floor by floor renovation which will upgrade the energy systems to current

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technology. This would result in substantial energy savings. We will consider LEED, EB certification for the renovation of this structure.

- e) Positions – Only collateral duty at this time.
- f) Planning table – To be developed.
- g) Agency status – 3WFN is in the process of LEED certification. Informal controls are in place for sustainable design for major renovations.

Goal 5 – Regional and Local Planning

- a) Goal Description – Work with local planning groups to incorporate transportation and environmental plans into agency policy and guidance.
- b) Agency lead for goal – Kathryn Greene
- c) Implementation methods – A liaison will work with local government agencies to bring the NRC into these projects and garner support from our agency. In addition, policy and procedures may be considered to support this goal. The agency currently supports the county government's recycling program and is recognized as a major recycler of material in the area. In addition, the agency supports Bike to Work programs, provides bike parking in the garage and shower facilities. The agency is located next to a Metro stop and employee transit fares are subsidized, public transportation is an attractive commuting option for employees.
- d) Positions – None.
- e) Planning table – To be developed.
- f) Agency status – To be developed.

Goal 6 – Water Use Efficiency and Management

- a) Goal Description – Reduce potable water use and implement water reuse programs.
- b) Agency lead for goal – Kathryn Greene
- c) Implementation methods -The current bathroom renovation project includes new technology to reduce water consumption. Renovations involving water-using appliances/fixtures are specified with low consumption equipment. The new building design will incorporate gray water systems to reduce water consumption. In addition, all new landscaping will need minimal irrigation, if any.
- d) Positions - This is considered a collateral duty.
- e) Planning table – To be developed.
- f) Agency status – This activity is ongoing.

Goal 7 – Pollution Prevention and Waste Elimination

- a) Goal Description – Reduce non-hazardous waste, specifically uncoated printing paper, and reduce/eliminate the use of toxic and hazardous chemicals and materials.
- b) Agency lead for goal – Kathryn Greene

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- c) Implementation methods – The current waste contract includes the separation of recyclables from the waste stream. Both the housekeeping and maintenance contractors are directed to use bio-based environmentally friendly chemicals when available. The agency currently recycles over 55% of all waste generated within the agency
- d) Positions – Currently a collateral duty.
- e) Planning table – To be provided.
- f) Agency status – Recycling is available at all headquarters facilities. Agency printers are capable of printing on two sides to reduce paper usage.

Goal 8 - Sustainable Acquisition

- a) Goal Description – Ensure contract activities support the use of energy efficient or environmentally friendly alternatives.
- b) Agency lead for goal – Kathryn Greene
- c) Implementation methods – The agency has an Affirmative Procurement Plan for EPA-designated Recycled Content Products. This program supports the federal requirements for recycled products. Contracting procedures mandate the use of Energy Star equipment and this is reinforced in project manager training classes.
- d) Positions – These tasks are included as part of the contracting process. No full time personnel are assigned to this function.
- e) Planning table – To be developed.
- f) Agency status – The agency has procedural guidance in place for these goals. Both the housekeeping contract and the operations and maintenance contract require the use of green products when available.

Goal 9 – Electronic Stewardship and Data Centers

- a) Goal Description - Develop energy monitoring systems and reduce the energy used in agency data centers. In addition, obsolete or broken equipment shall be disposed of in an environmentally responsible manner.
- b) Agency lead for goal – Kathryn Greene
- c) Implementation methods – Currently the agency does not monitor energy usage specifically in the data centers or its cooling equipment. However, future plans include adding these capabilities to our new Data Center. The NRC donates government-owned equipment to local schools or follows standard federal practices for disposal of excess equipment. The NRC will consolidate our data centers as part of the construction of our new office building and will benefit from new power and cooling technology to reduce the overall energy consumption for our data center needs.
- d) Positions – There are no dedicated positions for this goal.
- e) Planning table – To be developed.
- f) Agency status – The agency has adopted a number of policies to reduce energy consumption. Computer updates to desktop computers can now be accomplished with

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the computer off, whereas previously computers were required to be left on in the evenings to perform updates, wasting considerable amounts of energy. The relocation of the main data center to the new building will allow for consolidation and more energy efficiency through the use of new technologies.

Goal 10 – Agency Innovation

- a) Goal Description – Develop innovative processes and methods to improve the agency's sustainability mission.
 - b) Agency lead for goal – Kathryn Greene
 - c) Implementation methods – The agency implemented a telework program (New Flex) to allow employees to work from home with expanded hours. This program allows many additional employees to take advantage of work at home benefits and reduces the number of commuting trips to work by employees. To complement this program, the agency is also considering the replacement of desktop computers with laptops.
 - d) Positions – None
 - e) Planning table – None
 - f) Agency status – The telework program is implemented and the agency is working towards the issuance of laptops.
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