

U.S. Nuclear Regulatory Commission

2015 Strategic Sustainability Performance Plan

June 30, 2015



Agency Contact

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 30, 2015

U.S. NUCLEAR REGULATORY COMMISSION
CLIMATE CHANGE ADAPTATION POLICY STATEMENT

The U.S. Nuclear Regulatory Commission's (NRC) mission 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, to promote the common defense and security, and to protect the environment.

It is the policy of the NRC to carry out its operations in such a way as to maintain a safe and healthy work environment for building occupants. The NRC will ensure that adequate building services are provided to maintain optimum operational readiness to conduct our mission. The NRC recognizes that planning for climate change in conjunction with meeting energy usage and greenhouse gas reduction targets will aid the Federal government in reducing the consequences of climate changes caused by our operations.

The NRC adaptation, planning, and implementation resources are integrated into the mission of the Office of Administration and will be directed through the Division of Facilities and Security. Actions taken will be done in coordination with other Federal agencies.

Sincerely,

A handwritten signature in blue ink that reads "Cynthia Carpenter".

Cynthia A. Carpenter
Chief Sustainability Officer
Office of Administration

EXECUTIVE SUMMARY

Sustainability is inherently integrated into the mission of the U.S. Nuclear Regulatory Commission (NRC). “The NRC licenses and regulates the Nation’s civilian use of radioactive materials to protect public health and safety, promote the common defense and security, and protect the environment.” The commitment to sustainability is not only present in the agency’s mission, but also in its operations. The NRC strives to conduct its operations and activities in an environmentally responsible and sustainable manner. The NRC recognizes that reducing and, where possible, eliminating the environmental impacts of business activities is an important part of its mission as stewards of public health and safety. The agency views sustainability as a long-term approach to business planning and decision-making that balances the NRC’s economic, environmental, and social responsibilities.

Vision for the Upcoming Fiscal Year

The NRC will continue to work on meeting and exceeding the goals set forth by Executive Order (EO) 13693, “Planning for Federal Sustainability in the Next Decade.” The NRC understands the importance of incorporating sustainability within its business operations and will continue to build on successful sustainability efforts as well as initiate new efforts to reduce its environmental impacts.

Greenhouse Gas Reductions and Sustainable Buildings

The NRC is pleased to have exceeded its initial fiscal year (FY) 2020 reduction target goals for Scope 1 and Scope 2 greenhouse gas (GHG) emissions. The FY 2014 GHG accounting for Scope 1 and Scope 2 emissions indicated a 50 percent decrease from the FY 2008 baseline. This decrease significantly exceeds initial agency reduction targets of 4.4 percent by FY 2020. The significant decrease in Scope 1 and Scope 2 GHG emissions is a direct result of the NRC’s aggressive energy savings program. The NRC has invested significant time and resources in evaluating agency energy usage and identifying potential reduction measures. By integrating the energy savings program, the NRC was able to seamlessly introduce energy saving measures into its daily operations.

The NRC is also pleased to report a significant reduction in Scope 3 GHG emissions. In the agency’s FY 2014 GHG accounting for Scope 3 emissions, the NRC reported a 14.6 percent decrease, compared to the FY 2008 baseline. This reduction in Scope 3 emissions significantly exceeds the agency’s original target of 5 percent by FY 2020. Despite the agency’s success in reducing Scope 3 emissions, the NRC has found it challenging to generate and implement reduction plans for this category. Because Scope 3 emissions are primarily associated with employee commuting and employee business travel using transportation services outside of the agency’s control, the NRC has fewer options available to it for reduction strategies. The NRC plans to continue reducing its Scope 3 emissions by increasing employee awareness of teleconferencing abilities, teleworking options, flexible work schedules, and transit subsidies.

The NRC has also been successful in meeting its reduction target for sustainable buildings. The NRC had a reduction target of 30 percent for facility energy intensity by FY 2015. In the agencies FY 2014 GHG accounting report, the NRC reported a 53.5 percent decrease in energy intensity.

Fleet Management

The NRC continuously measures and evaluates various approaches for the Sustainability Plan. In June 2015, the NRC completed its consolidation of interim facilities to the headquarters complex, eliminating the need to transport staff between its interim locations. Therefore, the NRC is eliminating all NRC-provided shuttle services that were needed to transport the NRC staff to and from the former interim locations.

Water Use Efficiency and Management and Renewable Energy

The NRC is finding it challenging to meet reduction targets for water use efficiency and management. The NRC has completed energy and water audits in both buildings located at its headquarters. It has identified very few areas in which agency water usage can be reduced. One of the areas of water usage is wastewater associated with employee use of restrooms. To reduce the amount of water usage associated with wastewater, the NRC has focused on upgrading high-flow restroom fixtures with more efficient low-flow fixtures.

The NRC is also focused on heating, ventilation, and air conditioning (HVAC) operation. The NRC sub-meters and monitors the water usage associated with its HVAC system, and it has adjusted some of its operations in an effort to reduce any excessive water usage. The agency continues to monitor water usage associated with the HVAC system and will remain proactive in identifying excessive water usage in system operation.

Another area the NRC has identified for possible water-use reductions is facility irrigation. The NRC sub-meters and monitors water usage associated with irrigation. This allows the agency to detect leaks within the irrigation system as well as broken sprinkler heads and system malfunctions. The NRC has also worked with its landscape contractor to determine the best irrigation practices to avoid excessive water usage. The NRC will continue to evaluate the implementation of water management technologies and research best operating practices in an effort to meet water use efficiency targets for FY 2015 as well as FY 2020.

The NRC is limited in its approach to meeting its renewable energy goal. The NRC has previously researched installing a photovoltaic (PV) system at its facilities. The NRC found that the space it had available for a PV system and the projected payback of the system was less than ideal. Currently, the NRC purchases its electricity utilizing a General Services Administration (GSA) area-wide contract. Through this agreement, 7.5 percent of the electricity that the NRC uses comes from renewable energy sources.

Pollution Prevention and Waste Reduction

The NRC continues to benefit from the robust recycling and waste diversion program implemented at its facilities. The agency educates its staff on the recycling program throughout the year using posters, bulletins, and recycling events. It also strives to make the recycling process as simple as possible for employees to encourage participation. In FY 2014, the Pollution Prevention and Waste Reduction Program recorded a 63.9 percent recycling and waste diversion rate, significantly exceeding the original recycling and waste diversion target of at least 50 percent by the end of FY 2015. The NRC plans to continue educating its staff on its recycling and waste diversion program and to continue simplifying the recycling process to keep the program successful.

Sustainable Acquisition

The NRC is committed to meeting the Sustainable Acquisition mandates set forth in EO 13693. To facilitate the purchasing of green products and services, the NRC issued a **Green Purchasing Plan (GPP)** in September 2012 to serve as official agency policy. The agency added an environmental clause to its contract writing system (Strategic Acquisition System) to promote green purchasing by prime contractors and subcontractors. The agency incorporated consideration for green purchasing into its market research checklist and narrative template to increase awareness and usage of green products and services. Finally, the agency developed an online course in its iLearn training system to help educate acquisition professionals about the NRC's GPP and GSA's Green Products Compilation Website.

The agency accomplished the following in 2014: (1) reviewed compliance with green purchasing clauses as part of larger post-award quality assurance reviews, (2) increased agency standardization for acquisition documents and processes, and (3) facilitated annual sustainability training for all acquisition professionals.

Electronic Stewardship and Data Centers

The NRC has made significant improvement toward increasing energy efficiency and reducing the information technology footprint. The NRC has implemented blade technology in the core data center and has virtualized more than 85 percent of the servers. This exceeds the Office of Management and Budget (OMB) target of 75 percent specified in the Federal Data Center Consolidation Initiative. The NRC has excelled in the core to non-core operating system ratio category improving from 38 percent to 66 percent which exceeds the OMB target of 65 percent. The NRC has made modest improvements in the core to non-core physical server category improving to 33 percent, well short of the 65 percent target; however, expectations are that this percentage will continue to grow with the planned closure of non-core data centers. The NRC is scheduled to close three of its nine data centers within the next 2 years, with High Performance Computing and One White Flint North data centers closing by the end of FY 2015, and the Two White Flint North data center closing by the end of FY 2016.

Also, the NRC has connected all racks, power distribution units, breaker panels, switch gear, uninterruptible power supply units, and building management system towards the goal of creating a metered data center. Completion of the metered data center is scheduled for FY 2018. The NRC plans to use this solution to improve reporting on Power Usage Effectiveness.

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Size & Scope of Agency Operation – Table 1: Agency Size & Scope

Agency Size and Scope	FY 2013	FY 2014
Total Number of Employees as Reported in the President's Budget	3,830	3,845
Total Acres of Land Managed	5.2	5.2
Total Number of Buildings Owned ¹	0	0
Total Number of Buildings Leased (GSA and Non-GSA Lease)	2	2
Total Building Gross Square Feet (GSF)	998,000	998,000
Operates in Number of Locations Throughout U.S.	6	6
Operates in Number of Locations Outside of U.S.	0	0
Total Number of Fleet Vehicles Owned	1	1
Total Number of Fleet Vehicles Leased	36	30
Total Number of Exempted-Fleet Vehicles (Tactical, Law Enforcement, Emergency, Etc.)	1	1
Total Amount Contracts Awarded as Reported in FPDS (\$Millions)	209.4	218.9

¹ Building information should be consistent with FY 2013 and FY 2014 data submitted into the Federal Real Property Profile (FRPP).

Agency Progress toward (Prior) Sustainability Goals in E.O. 13514 and E.O. 13423

This section provides an overview of agency progress towards the sustainability goals established in E.O. 13514 and E.O. 13423. The subject of many of these goals has been carried over into E.O. 13693 and a review of past performance is useful to determine program effectiveness and development of strategies for future implementation.

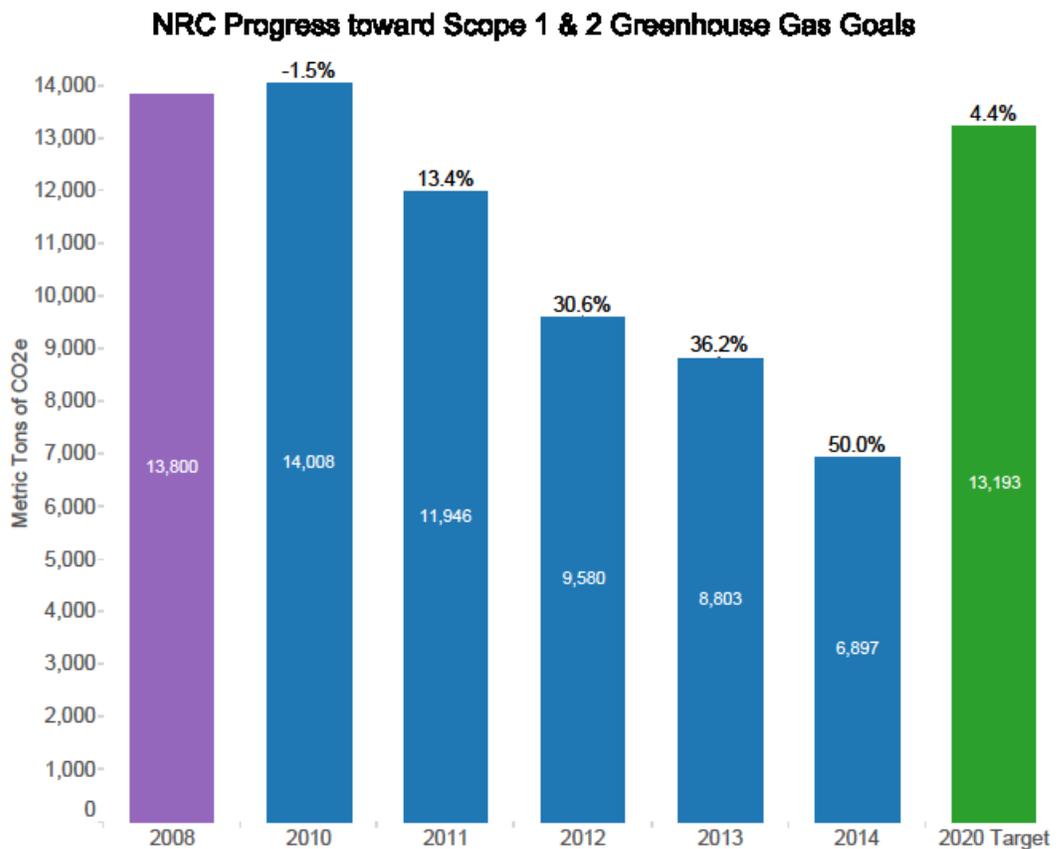
Goal 1: Greenhouse Gas (GHG) Reduction

Agency Progress toward Scope 1 & 2 GHG Goal

E.O. 13514 required each agency establish a Scope 1 & 2 GHG emission reduction target to be achieved by FY 2020. The red bar represents the agency's FY 2008 baseline. The green bar represents the FY 2020 target reduction. The blue bars represent annual agency progress towards achieving this target. The percentage at the top of each bar represents the reduction or increase from the FY 2008 baseline. A negative percentage value indicates that the emissions have decreased compared to the 2008 baseline.

Figure 1-1

Instructions: Agencies should not amend or edit this figure. If changes are necessary, contact CEQ.

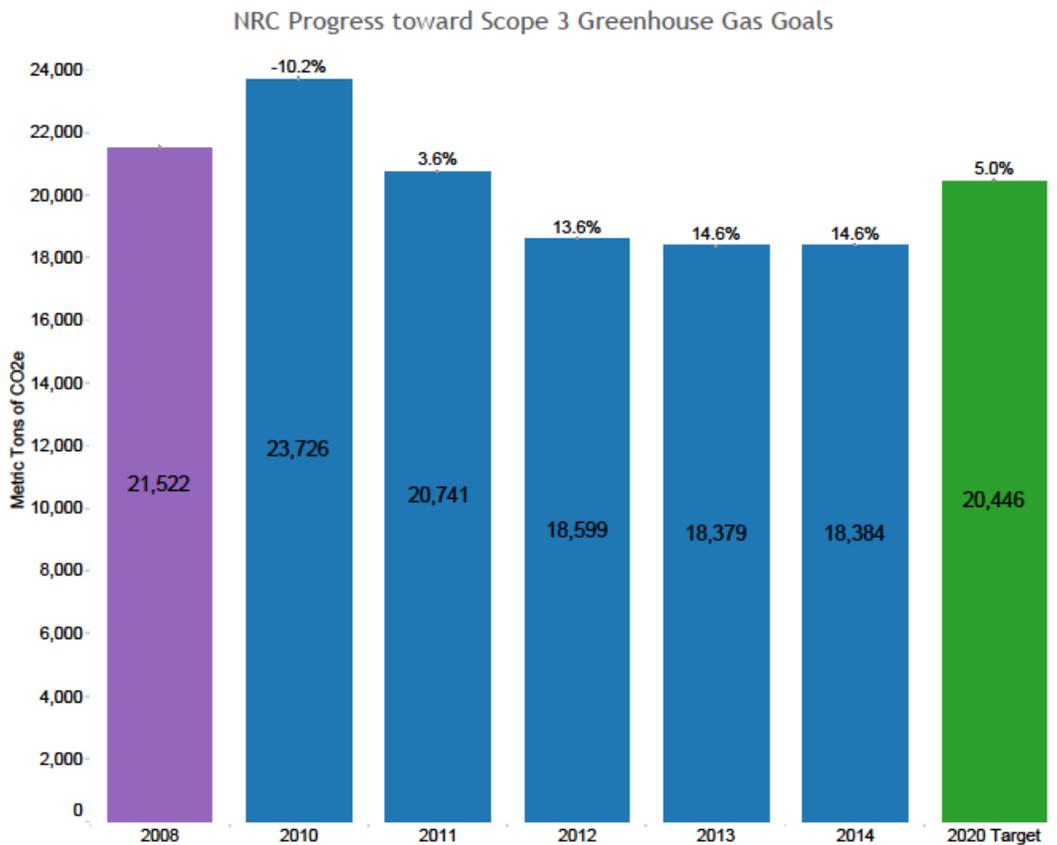


Agency Progress toward Scope 3 GHG Goal

E.O. 13514 required each agency establish a Scope 3 GHG emission reduction target to be achieved by FY 2020. The red bar represents the agency's FY 2008 baseline. The green bar represents the FY 2020 reduction target. The blue bars represent annual agency progress on achieving this target. The percentage at the top of each bar represents the reduction or increase from the FY 2008 baseline. A negative percentage value indicates that the emissions have decreased compared to the FY 2008 baseline.

Figure 1-2 (EXAMPLE)

Instructions: Agencies should not amend or edit this figure. If changes are necessary, contact CEQ.



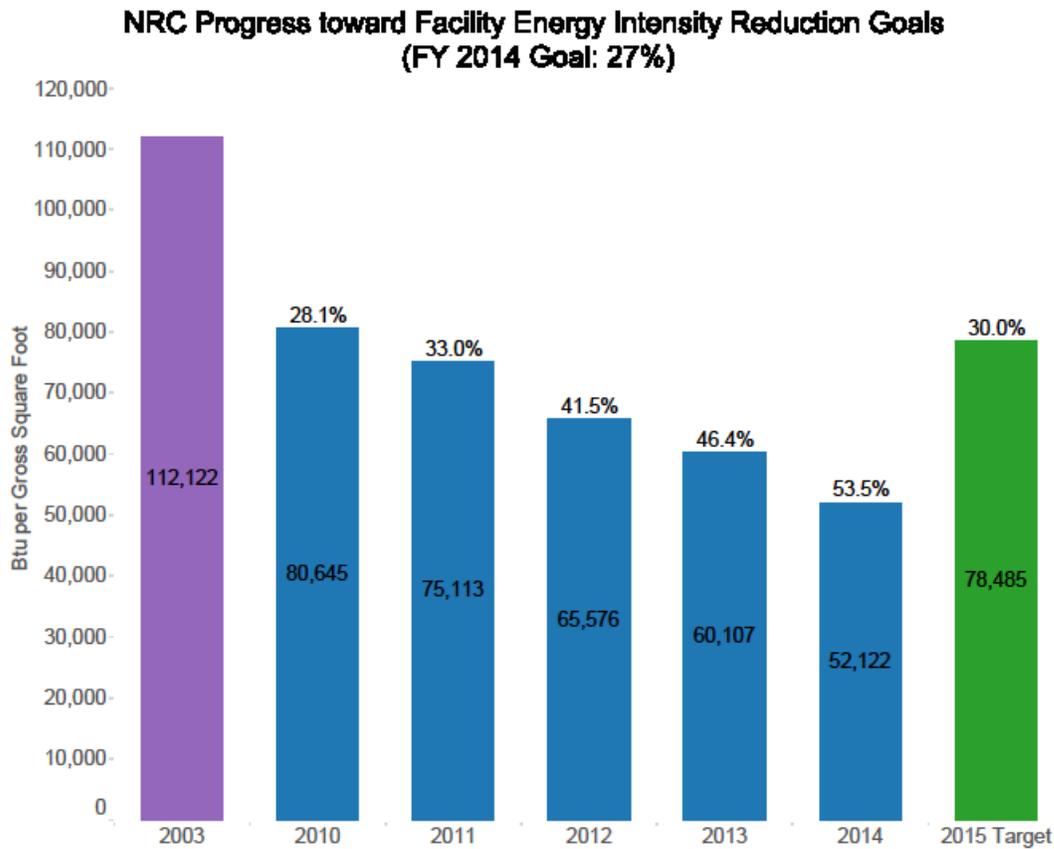
Goal 2: Sustainable Buildings

Agency Progress toward Facility Energy Intensity Reduction Goal

E.O. 13514 section 2 required that agencies consider building energy intensity reductions. Further, the Energy Independence and Security Act of 2007 (EISA) requires each agency to reduce energy intensity 30 percent by FY 2015 as compared to the FY 2003 baseline. Agencies are expected to reduce energy intensity by 3 percent annually through FY 2015 to meet the goal. The red bar represents the agency's FY 2003 baseline. The green bar represents the FY 2015 target reduction. The blue bars show annual agency progress on achieving this target. The percentage at the top of each bar represents the reduction or increase from the FY 2003 baseline. A negative percentage value indicates that the energy intensity has decreased compared to the FY 2003 baseline.

Figure 2-1 (EXAMPLE)

Instructions: Agencies should not amend or edit this figure. If changes are necessary, contact CEQ.



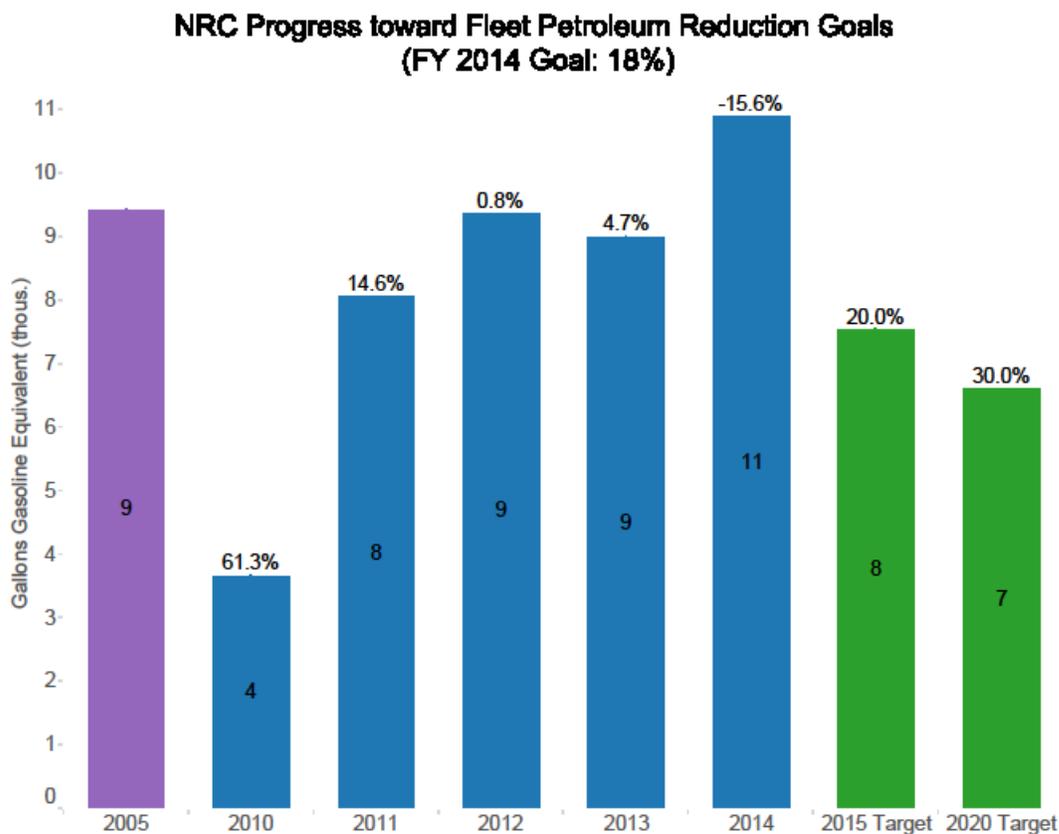
Goal 3: Fleet Management

Agency Progress toward Fleet Petroleum Use Reduction Goal

E.O. 13514 required and the Energy Independence and Security Act of 2007 (EISA) requires that by FY 2015 agencies reduce fleet petroleum use by 20 percent compared to a FY 2005 baseline. Agencies were expected to achieve at least a 2 percent annual reduction. The red bar represents the agency's FY 2005 baseline. The green bars represent the FY 2015 target reduction. The blue bars represent annual agency progress on achieving these targets. The percentage at the top of each bar represents the reduction or increase from the FY 2005 baseline. A negative percentage indicates a decrease in fleet petroleum use.

Figure 3-1 (EXAMPLE)

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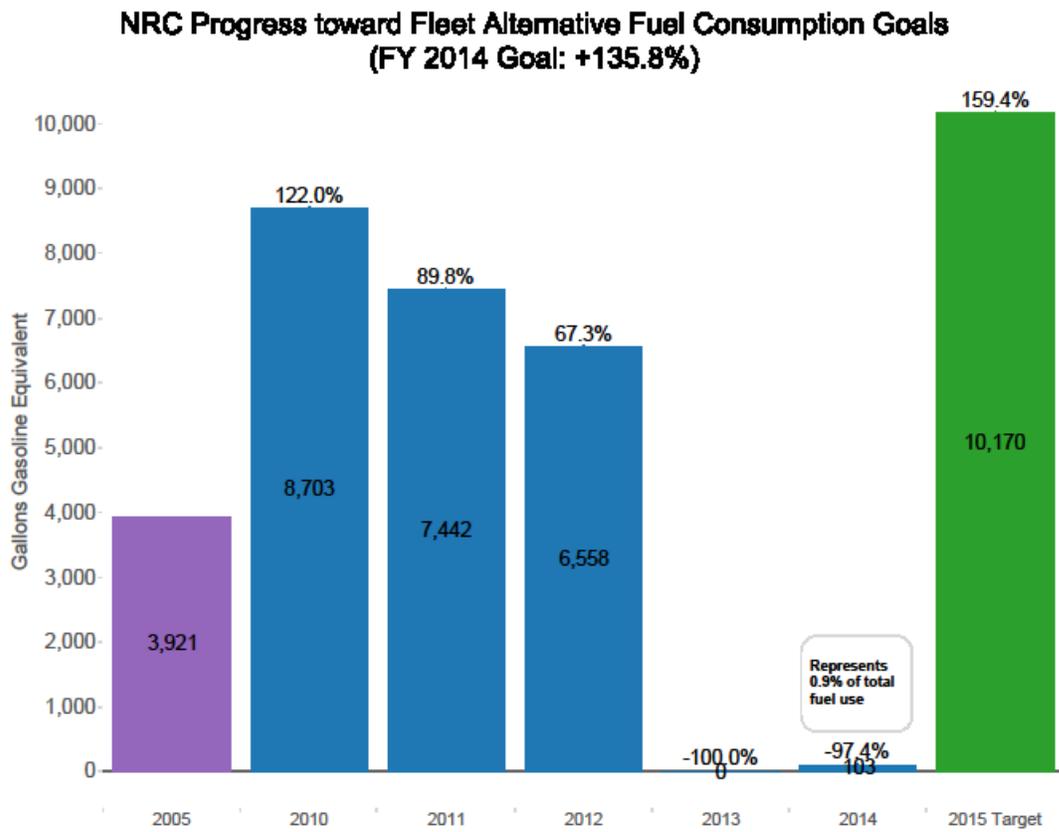
Agency Progress toward Fleet Alternative Fuel Consumption Goal

E.O. 13423 required that agencies increase total alternative fuel consumption by 10 percent annually from the prior year starting in FY 2005. By FY 2015, agencies must have increased alternative fuel use by 159.4 percent, relative to FY 2005. The red bar represents the agency's FY 2005 baseline. The green bar represents the FY 2015 target. The blue bars represent annual agency progress on achieving this

target. The percentage at the top of each bar represents the reduction or increase from the FY 2005 baseline. A negative percentage indicates a decrease in fleet alternative fuel use.

Figure 3-2 (EXAMPLE)

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Goal 4: Water Use Efficiency & Management

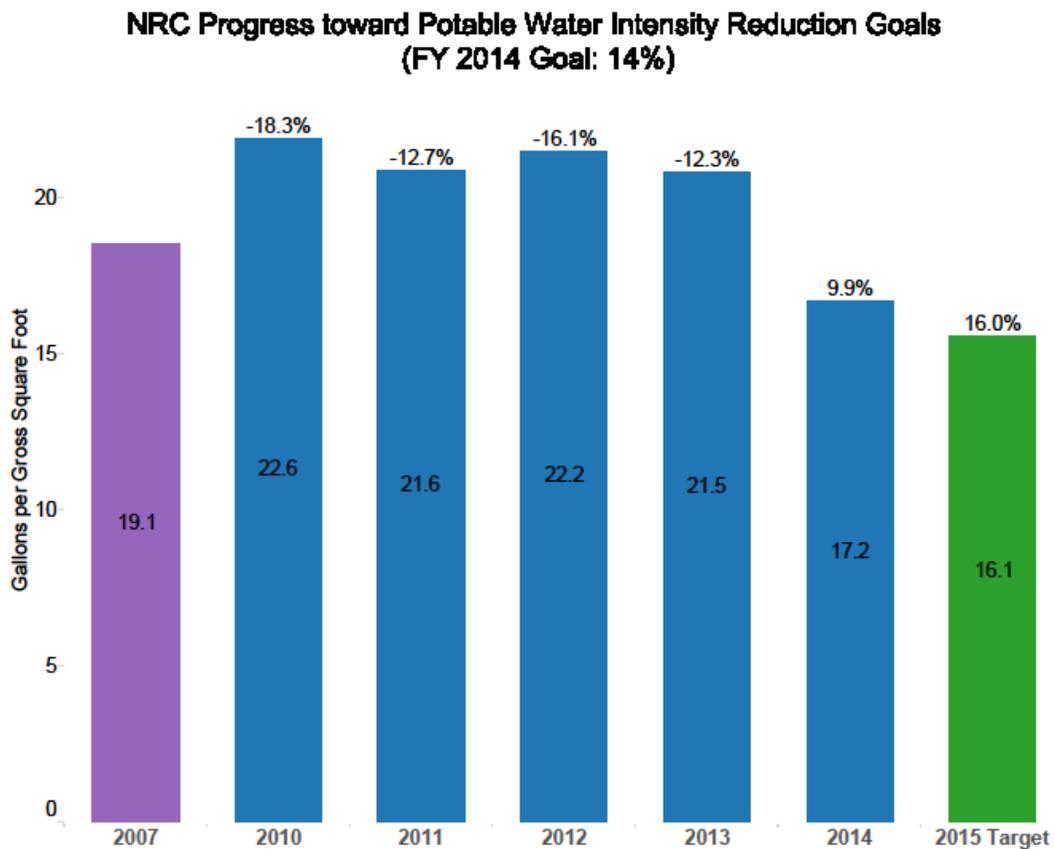
Agency Progress toward Potable Water Intensity Reduction Goal

E.O. 13514 required agencies to reduce potable water intensity by 2 percent annually through FY 2020 compared to an FY 2007 baseline. A 16 percent reduction was required by FY 2015 and a 26 percent reduction was required by FY 2020. The red bar represents the agency's FY 2007 baseline. The green bars represent the FY 2015 and FY 2020 target reductions. The blue bars represent annual agency progress on achieving these targets. The percentage at the top of each bar represents the reduction or increase from the FY 2007 baseline. A negative percentage value indicates that potable water use intensity decreased compared to the FY 2007 baseline.

Agency data for progress towards the industrial, landscaping and agricultural water use reduction target is not available.

Figure 4-1 (EXAMPLE)

Instructions: Agencies should not amend or edit this figure. If changes are necessary, contact CEQ.



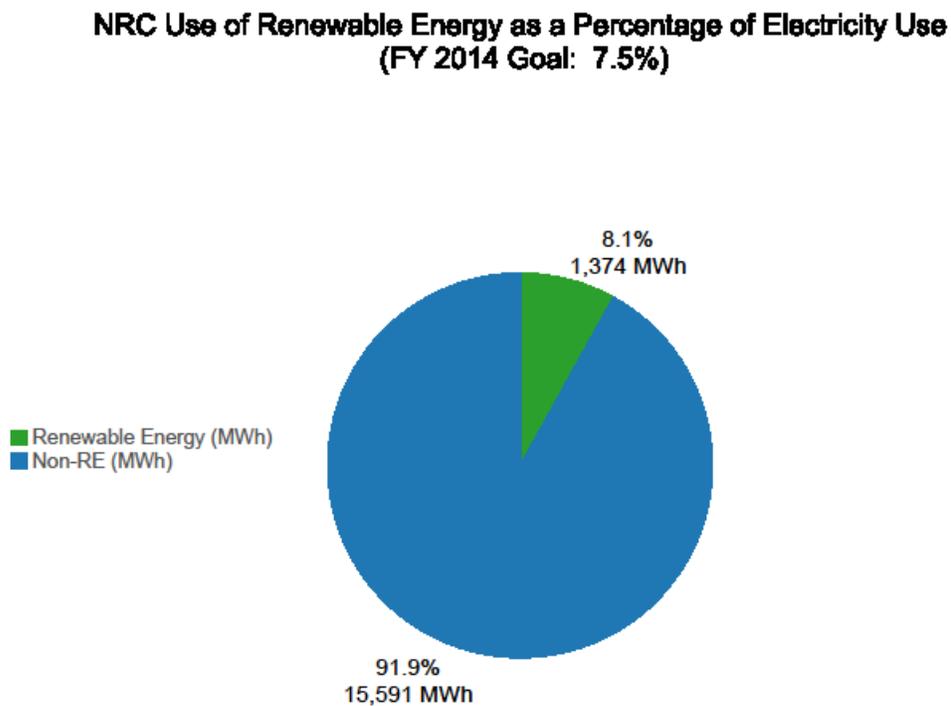
Goal 8: Renewable Energy

Agency Renewable Energy Percentage of Total Electricity Usage

E.O. 13514 requires that agencies increase use of renewable energy. Further, EPACK 2005 requires agencies to increase renewable energy use such that 7.5 percent of the agency's total electricity consumption is generated by renewable energy sources for FY 2014 and beyond. For FY 2012, the required target was 5 percent of an agency's total electricity consumption. In 2013, a Presidential Memorandum entitled *Federal Leadership on Energy Management* revised the Federal agency target for agency renewable energy percentage of total electricity usage to reflect a goal of 20% by 2020.

Figure 8-1 (EXAMPLE)

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U.S. NUCLEAR REGULATORY COMMISSION CLIMATE CHANGE ADAPTATION PLAN

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is committed to achieving its mission for many years to come. To ensure the NRC will remain effective in current and future climate conditions, the agency has established a Climate Adaptation Plan to help identify, reduce, and mitigate potential disruptions to its operations, policies, and programs resulting from the negative effects of climate change.

Agency Mission

The NRC licenses and regulates the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment.

Preparedness, Adaptation, and Resilience

The NRC believes that the effects of climate change will have little to no impact on how the agency fulfills its mission to license and regulate nuclear materials. The NRC recognizes that climate change could have an adverse impact on its daily operations if the environment in which its offices are located experiences negative effects that impact normal building services such as water and electricity. To successfully mitigate any adverse climate change effects, the agency will monitor any changes to the environment that may affect the reliability or availability of adequate building services. If the NRC identifies any changes in the environment that could affect these services, the NRC would request the General Services Administration to identify and procure office space in a new location that would be better suited for the agency to carry out its regulatory mission.

The NRC is committed to reducing the effects that its own operations have on the environment. The agency will continue to look for ways to reduce energy consumption and greenhouse gas emissions associated with its operations. This reduction will help reduce the negative impact that agency operations may have on the environment. The NRC will continue to evaluate its efforts toward climate adaptation and resilience. The NRC will remain vigilant to new developments relating to climate change and will work collaboratively, as needed, with other agencies to address them. The NRC's adaptation planning is integrated into the mission of the Office of Administration and will be directed through the Division of Facilities and Security.