

## Smithsonian Institution

### 2016 Scorecard on Sustainability and Energy Performance

In October 2009 President Obama issued Executive Order 13514 – Federal Leadership in Environmental, Energy, and Economic Performance. It established goals and priorities towards sustainability in the Federal government, and specified use of scorecards for periodic evaluation of performance in implementing the order. While the Smithsonian is a trust instrumentality of the United States<sup>[1]</sup>, and not an executive branch agency, we are committed to the strategic objectives of the order. Our January 2016 Sustainability/Energy scorecard is provided below.

The Smithsonian's mission is the increase and diffusion of knowledge. This public mission includes resource-intensive activities such as providing and maintaining environments suitable for storing and preserving collections and historic buildings; operating food service, museum shops, theaters, and other services for visitors; hosting hundreds of special events each year; and conducting scientific research. In 2016 the Smithsonian had more than 26 million visits to facilities, exhibits and lectures.

Green ratings on the scorecard indicate that the Smithsonian is on-track towards meeting goals including scope 1, 2 and 3 greenhouse gas emission reductions, use of renewable energy, reduction in potable water intensity, and reduction in fleet petroleum use. In fiscal year 2016, to support additional progress on energy use intensity, the Smithsonian completed the investment grade audit for the Zoo ESPC project, identified low-cost/no-cost measures that saved over \$250,000 in energy costs. The Smithsonian Institution also continued participation in the PJM Emergency Demand Response program.

Red ratings indicate room for improvement, and in fiscal year 2016 the Smithsonian continued to work on reducing energy intensity and greening buildings. Reducing energy to the level required to meet the Federal High Performance Building standard continues to be a challenge for our facilities that require 24/7 operation to protect collections. In September 2011, the National Museum of the American Indian became the first LEED certified Smithsonian museum, achieving certification at the silver level in the Existing Buildings rating system. Improvements

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<sup>[1]</sup> Recognized as a tax-exempt organization under Section 501(cc)(3) of the Internal Revenue Code

in energy efficiency, water efficiency, indoor environmental quality and sustainable site management were core elements of this multi-year effort at the museum. Smithsonian is working toward recertifying NMAI and identifying other buildings where LEED certification may be feasible. Also in fiscal year 2016, the Smithsonian continued construction for the comprehensive energy and water conservation project for the Suitland, Maryland facilities. This included the installation of 312 kW of on-site solar at the Mathias Lab building in Edgewater, MD. The Smithsonian also completed the Preliminary Assessment for the National Zoo Energy Performance Contract. The Zoo project is budgeted for \$20 million of energy and water conservation measures.

For more information on the Smithsonian Institution, including sustainability-related programs, please visit our website at: [www.si.edu](http://www.si.edu).



**Scope 1&2 GHG Emission Reduction Target**

For Scope 1&2 GHG Reduction Target of 32% by 2020:  
21% reduction in 2015 and on track



Score: **GREEN**



**Scope 3 GHG Emission Reduction Target**

For Scope 3 GHG Reduction Target of 11% by 2020:  
8% reduction in 2015 and on track



Score: **GREEN**



**Reduction in Energy Intensity**

Reduction in energy intensity in goal-subject facilities compared with 2003:  
17% and not on track



Score: **RED**



**Use of Renewable Energy**

Use of renewable energy as a percent of facility electricity use:  
Total of 14.3% from renewable electricity sources including at least 3.75% from new sources  
(thermal, mechanical, or electric)



Score: **GREEN**



**Reduction in Potable Water Intensity**

Reduction in potable water intensity compared with 2007:  
55% and on track for 26% in 2020



Score: **GREEN**

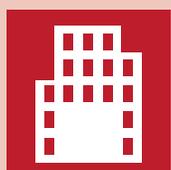


**Reduction in Fleet Petroleum Use**

Reduction in fleet petroleum use compared to 2005:  
80% and on track



Score: **GREEN**



**Green Buildings**

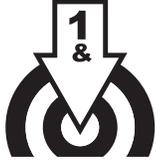
Sustainable green buildings:  
0.9% of buildings sustainable



Score: **RED**

# Standards for Success — *Red Standard, Yellow Standard, Green Standard*

## Scope 1&2 GHG Emission Reduction Target



**GREEN:** On track to achieve agency's proposed 2020 GHG Scopes 1&2 emissions reduction target.



**YELLOW:** Less than a year behind glide path to achieve agency's 2020 target for GHG Scopes 1&2.



**RED:** More than a year behind glide path to achieve agency's 2020 target for GHG Scopes 1&2.

## Scope 3 GHG Emission Reduction Target



**GREEN:** On track to achieve agency's proposed 2020 GHG Scope 3 emissions reduction target.



**YELLOW:** Less than a year behind glide path to achieve agency's 2020 target for GHG Scope 3.



**RED:** More than a year behind glide path to achieve agency's 2020 target for GHG Scope 3.

## Reduction in Energy Intensity



**GREEN:** Reduced energy intensity (Btu/GSF\*) in EISA goal-subject facilities by at least 30 percent compared with 2003.



**YELLOW:** Reduced energy intensity (Btu/GSF) in EISA goal-subject facilities by at least 27 percent compared with 2003.



**RED:** Did not reduce energy intensity (Btu/GSF) in EISA goal-subject facilities by at least 27 percent compared with 2003.

## Use of Renewable Energy



**GREEN:** Uses at least 7.5 percent electricity from renewable sources as a percentage of facility electricity use & at least 3.75 percent of facility electricity use comes from new sources (post-1999). (Thermal and mechanical renewable can be included in the 3.75 percent new requirement, but not the 7.5 percent goal; i.e., an agency meets all new sources requirement with thermal or mechanical energy (3.75 percent) but would still need an additional 7.5 percent from renewable electricity sources.)

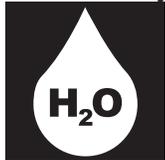


**YELLOW:** Uses at least 7.5 percent renewable energy from electric, thermal or mechanical sources to power facilities and equipment; but less than half was obtained from new sources (post-1999) or part of the requirement was met with thermal and mechanical renewable energy.



**RED:** Did not use at least 7.5 percent renewable energy from electric, thermal or mechanical sources to power facilities and equipment.

## Reduction in Potable Water Intensity



**GREEN:** Reduced water intensity by at least 16 percent from final approved 2007 baseline and is on track for 26 percent reduction by 2020.



**YELLOW:** Reduced water intensity by at least 14 percent from final approved 2007 baseline.



**RED:** Did not reduce water intensity by at least 14 percent from final approved 2007 baseline.

## Reduction in Fleet Petroleum Use



**GREEN:** Achieved a 20 percent reduction in petroleum use in its entire vehicle fleet compared to 2005.



**YELLOW:** Achieved at least 18 percent reduction in petroleum use in the entire vehicle fleet compared to 2005.



**RED:** Did not achieve at least 18 percent reduction in petroleum use in its entire vehicle fleet since 2005.

## Green Buildings



**GREEN:** Demonstrates implementation of Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings (GP) for new, existing and leased buildings; and reported that at least 15% of buildings >5,000 GSF meet GP as reported in the Federal Real Property Profile (FRPP).



**YELLOW:** Incorporates Guiding Principles into all new design contracts for construction, major renovations and leases and at least 15 percent of GSF of its building inventory over 5,000 GSF meets GP as reported in FRPP.



**RED:** Cannot demonstrate compliance with GP on new construction, major renovations, or leases; and/or less than 15 percent of building inventory, either by number of buildings or GSF, over 5,000 GSF meets GP as reported in FRPP.

\*GSF = Gross Square Footage