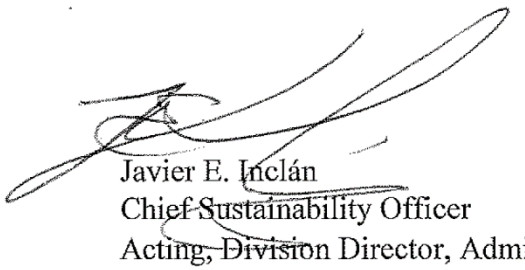
Policy Statement

The National Science Foundation is an independent federal agency created by the National Science Foundation Act of 1950 to promote the progress of science, advance national health, prosperity, and welfare, and secure the national defense. The Foundation is committed to sustainability, including complying with Executive Order 13693 and all other applicable sustainability statutes and regulations for federal agencies. Improving sustainability supports our mission by making us more efficient, allowing more resources to be applied to science rather than operational costs. In concert with our mission of advancing science in the service of the nation, the Foundation commits to improving resiliency against extreme weather events. Our fiscal year 2018 Sustainability Implementation Plan (SIP) is a sign of our commitment to realize the many benefits sustainability offers.



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National Science Foundation
FY 2018 Sustainability Implementation Plan

Executive Summary

The National Science Foundation (NSF) is an independent federal agency created by the National Science Foundation Act of 1950 to promote the progress of science, advance national health, prosperity, and welfare, and secure the national defense. The Foundation fulfills its mission primarily by issuing limited-term competitive grants and by sponsoring awardee organizations that conduct basic scientific research. Improving sustainability supports the NSF mission by making better use of Foundation resources, including energy, supplies, and personnel.

The most significant advancement in the Foundation's sustainability comes from the new headquarters (HQ) lease through the General Services Administration (GSA), which provides NSF with a higher performing and more sustainable space. The building achieved a Silver rating by the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Core and Shell program. With the many facets of sustainability embodied in a higher performing building, the building will reduce the Foundation's environmental footprint and operating costs while providing a healthier environment for employees through features such as the use of building materials with low levels of volatile organic compounds. The Foundation began occupying the new HQ in August of 2017.

NSF continues to make sustainability a part of its day-to-day operations. For the near future, the Foundation plans to accomplish this by focusing on sustainability measures that reduce expenses.

Implementation Summary

1. Facility Management:

FACILITY ENERGY EFFICIENCY

Status FY 2017: This information is not relevant due to overlapping data for two facilities caused by the relocation
Projected Progress FY 2018: To establish new greenhouse gas targets
Target FY 2019: To be determined. Will be available by February 2019

Implementation Status	*Operational Context*	*Priority Strategies & Planned Actions*
NSF began occupying the new HQ in August of 2017.Therefore all previous goals are not applicable, and NSF needs to re-establish new greenhouse gas revised targets.	*NSF needs a full 12 months of data to re-establish new greenhouse gas revised targets.*	*Invest in renewable energy credits (RECS) and obtain LEED O+M and interiors gold rating.* *The new building is equipped with an energy management system and zoned meters, which will eventually allow staff to optimize and regulate energy and water consumption.*

EFFICIENCY MEASURES, INVESTMENT, AND PERFORMANCE CONTRACTING

ESPC and UESC investment / number of projects FY 2017: N/A
Projected investment / number of projects FY 2018: N/A
Target investment / number of projects FY 2019: N/A

Implementation Status	*Operational Context*	*Priority Strategies & Planned Actions*
Not feasible at this time.	*NSF is not required to make commitments under the President's Performance Contracting Challenge. These goals are not applicable to a small leased building.*	*The new GSA-leased building NSF occupied starting in FY 2017 is relatively high performing—with a LEED Core and Shell: Silver rating—but NSF will investigate the feasibility of a performance contract once it has determined new greenhouse gas revised targets for its operations.*

RENEWABLE ENERGY

Status FY 2017: 6,000 megawatts purchased
Projected Progress FY 2018: To be determined
Target FY 2019: To be determined

Implementation Status	*Operational Context*	*Priority Strategies & Planned Actions*
In 2016, NSF began purchasing RECs to meet its requirements for the use of renewable sources of energy each year. NSF continued purchasing RECs in 2017 to meet renewable energy requirements.	*NSF began occupying the new HQ in August of 2017.*	*In FY 2018, NSF purchased RECs beyond those needed for compliance with EO 13693 to achieve and maintain the LEED Core and Shell: Silver rating.*

WATER EFFICIENCY

Status FY 2017: 27% reduction in potable water intensity from the FY 2007 baseline
Projected Progress FY 2018: To be determined
Target FY 2019: To be determined

Implementation Status	*Operational Context*	*Priority Strategies & Planned Actions*
NSF began occupying the new HQ in Alexandria, VA in August of 2017. Therefore FY 15 targets do not apply to the new building.	*NSF needs a full 12 months of data to re-establish new greenhouse gas revised targets.*	*The Foundation's performance on water continues to improve since the new building is equipped with high-efficiency, low-flow fixtures throughout. Consumption will be metered with advanced water meters.*

HIGH PERFORMANCE SUSTAINABLE BUILDINGS

Status FY 2017: Energy intensity has increased in 2017 reflecting an overlap in occupancy between the old and new buildings
Projected Progress FY 2018: Energy intensity in FY 2018 (the first full year of occupancy in the new facility) 7.5% lower than the FY 2015 baseline
Target FY 2019: The National Science Foundation's 2025 target is net zero solid waste for its one building

Implementation Status	*Operational Context*	*Priority Strategies & Planned Actions*
NSF began occupying the new HQ in Alexandria, VA in August of 2017. Therefore, the targets from 2015 do not apply to the new building.	*NSF needs a full 12 months of data to re-establish new greenhouse gas revised targets.*	*The new building is equipped with an energy management system and zoned meters, which will allow staff to optimize and regulate energy and water consumption. In addition, the space is certified as LEED Core and Shell Silver, a designation that symbolizes NSF's commitment to high performance buildings in line with our stated sustainability policy.*

WASTE MANAGEMENT AND DIVERSION

Status FY 2017: Weight of solid waste declined by 48% since FY 2010

Implementation Status	*Operational Context*	*Priority Strategies & Planned Actions*
Working on a waste management implementation plan. The ARCHIBUS environmental management model has the capability to accurately calculate diversion of nonhazardous solid waste once it is fully loaded.	*NSF began occupying the new HQ in August of 2017. Therefore, all previous targets are not applicable, and NSF needs to re-establish new greenhouse gas revised targets.*	*The agency will continue to have a single-stream recycling program in the new facility, and it will continue its outreach to improve source reduction and recycling. The agency will work toward a manual loading of ARCHIBUS with this information.*

2. Fleet Management:

TRANSPORTATION / FLEET MANAGEMENT

Status FY 2017: 7% increase from the FY 2014 baseline for FY 2016
Projected Progress FY 2018: To be determined
Target FY 2019: *To be determined*

Implementation Status	*Operational Context*	*Priority Strategies & Planned Actions*

NSF HQ vehicle fleet consists of only two leased vehicles, and so is not formally reportable.	*NSF began occupying the new HQ in August of 2017. Therefore, all previous emission targets are not applicable, and NSF needs to re-establish new greenhouse gas revised targets.*	*NSF will continue checking on the availability of suitable hybrid options through GSA to replace one of the vehicles, especially given that the new HQ facility has electric vehicle charging stations installed.*

3. Cross-Cutting:

SUSTAINABLE ACQUISITION / PROCUREMENT

Status FY 2017: All relevant NSF purchasing conforms to sustainability requirements
Projected Progress FY 2018: 100% of relevant purchasing conforms to sustainability requirements
Target FY 2019: 100% of relevant purchasing conforms to sustainability requirements

Implementation Status	*Operational Context*	*Priority Strategies & Planned Actions*
100% of relevant purchasing conforms to sustainability requirements.	*NSF is not a Scorecard agency, and therefore does not conduct a review of 5% of its contract actions for compliance with sustainable acquisition requirements.*	*Broad bio-based purchasing goals are not appropriate for NSF given the type of acquisitions we make.*

ELECTRONICS STEWARDSHIP

Status FY 2017: Environmentally sound disposition 100% of excess electronic products

Implementation Status	*Operational Context*	*Priority Strategies & Planned Actions*
NSF uses Blanket Purchase Agreements to ensure that 100% of its computers, laptops, and monitors comply with the requirements of the Electronic Product Environmental Assessment Tool (EPEAT) and EPA's ENERGY STAR rating.	*NSF began occupying the new HQ in August of 2017. Therefore, all previous targets are not applicable, and NSF needs to re-establish new greenhouse gas revised targets.*	*NSF will track performance for the power management target and central printing power management as part of each Directorate/Office's sub metered energy usage. NSF will closely track its power usage effectiveness to ensure the new facility operates at a high level.*

GREENHOUSE GAS EMISSIONS

Status FY 2017: Emissions from Scope 1 and 2 sources were 27% lower in FY 2016 than the FY 2008 baseline.

Implementation Status	*Operational Context*	*Priority Strategies & Planned Actions*

NSF began occupying the new HQ in Alexandria, VA in August of 2017. Therefore, the emissions targets from 2015 do not apply to the new building.	*NSF began occupying the new HQ in August of 2017. Therefore, all previous targets are not applicable, and the NSF needs to re-establish new greenhouse gas revised targets.*	*NSF needs a full 12 months of data to re-establish new greenhouse gas revised targets.*

4. Agency-Specific Priorities:

The Foundation plans to focus on sustainability measures that reduce expenses. Examples include the acquisition of only energy-efficient electronic products and pursuing LEED gold rating in operations and maintenance. NSF has seen great success in further reducing energy, water, and travel usage and costs through its virtual panel program. Instead of traveling to the NSF facility to participate in panels, experts across the country connect remotely with each other. In FY18, NSF conducted a total of 11,579 WebEx meetings with 83,241 participants.

Notable Projects and Highlights

NSF's new headquarters building achieved a Silver rating by the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Core and Shell program. With the many facets of sustainability embodied in a higher performing building, the building will reduce NSF's environmental footprint and operating costs while providing a healthier environment for employees through features such as the use of building materials with low levels of volatile organic compounds.

Narrative on Government-Wide and Cross-Agency Initiatives
NSF actively participates in the United States Postal Service's Blue Earth Recycling Program. The program helps NSF achieve its net zero waste goals, provides detailed metrics, and improves recycling and reuse of rare earth materials.

Electric and Zero Emission Vehicles
NSF has no plans to add more vehicles of any type to its fleet of two GSA-leased vehicles, although, NSF will continue checking on the availability of suitable hybrid options through GSA to replace one or both of the vehicles. For employee vehicles, the garage of the new NSF facility has four chargers for electric vehicles and plug-in hybrids. It is too early to assess the demand for additional charging infrastructure in the new facility.