



Maryland Green Registry MEMBER

The Maryland Green Registry promotes and recognizes sustainable practices at organizations of all types and sizes. Members agree to share at least five environmental practices and one measurable result while striving to continually improve their environmental performance.

Northrop Grumman Corporation, Mission Systems Sector

NORTHROP GRUMMAN

7323 Aviation Blvd
Linthicum, Maryland 21090
(410) 765-7466
Global Security
Member since October 2014

Management and Leadership

Environmental Policy Statement

It is the policy of Northrop Grumman Mission Systems to conduct its operations in an environmentally responsible manner and to protect the health and safety of employees, contractors, customers, visitors, and the public.

The following Environmental, Health, Safety & Fire Protection (EHSFP) Policy Commitment is approved by the highest level site manager and prominently posted throughout each Maryland site.

Environmental, Health, Safety & Fire Protection Policy Commitment

The management of this site is committed to conducting operations in a manner that protects the health and safety of our employees, customers, contractors, visitors, and the public and is environmentally responsible. Meeting this commitment is a management objective and the individual and collective responsibility of all employees. To that end, we commit to:

- *Comply with all applicable environmental, health, safety & fire protection law and regulations and other applicable requirements to which the company is subject.*
- *Reduce the environmental impact of our operations and products by preventing pollution, conserving natural resources, managing energy use, and addressing past environmental contamination as reasonably practicable.*
- *Motivate and prepare employees to take personal accountability for protecting the environmental and creating a safe and healthy workplace.*

- *Continually improve our environmental, health, safety & fire protection programs and performance, as necessary.*

We will periodically review and, as necessary, modify this policy commitment and communicate it to our employees and make it available to the public as requested.

Northrop Grumman's environmental sustainability program is referred to as greeNG. The program aims to:

- *Minimize Northrop Grumman's environmental footprint by reducing resource consumption and increasing efficiency in our operations.*
- *Improve communications of our environmental sustainability efforts and accomplishments to internal and external stakeholders.*
- *Provide opportunities for employees to reduce their environmental footprint, support program initiatives, and learn about environmental sustainability.*



Environmental Team

Northrop Grumman Mission Systems (Northrop Grumman) established a greeNG Leadership Team in 2008 as a result of the implementation of the greeNG Program. The greeNG Leadership Team is comprised of a variety of individuals from different business areas within Northrop Grumman. Although the greeNG Program is managed by the Environmental, Health, Safety & Fire Protection organization, individuals from business management, facilities, manufacturing, maintenance, and real estate are all represented. The greeNG Leadership Team meets on a monthly basis to drive environmental sustainability initiatives.

In addition to the greeNG Leadership Team, an employee resource group (ERG) exists for those who share a common interest in safeguarding the environment. The greeNG ERG is a grassroots group that was formed to help reduce our environmental impacts, both as individuals and as a company. The 350-member team in Maryland alone encourages employees to get involved with employee education seminars, community events, and the overall "greening" of Northrop Grumman.

Employee Training and Communications

Northrop Grumman conducts periodic training for employees to educate them on environmental requirements and their role in supporting environmental sustainability. In addition, in 2017 the company launched a voluntary greeNG training module to further educate and engage employees on environmental stewardship.

Annual Environmental Goals

Northrop Grumman is committed to becoming a leader in environmental sustainability by setting goals designed to reduce the overall impact of company operations. Northrop Grumman's current goals extend to year end 2020 and are to:

- *Reduce absolute GHG emissions (Scope 1 (direct) and Scope 2 (indirect)) by 30% from 2010 levels*
- *Reduce absolute potable water consumption by 20% from 2014 levels and*
- *Achieve a 70% solid waste diversion rate from landfill*

Environmental Restoration or Community Environmental Projects

Northrop Grumman is a proud supporter of National Public Lands Day events throughout Maryland, an annual event focused on improving and enhancing the nation's public lands. In 2012, Northrop Grumman partnered with the Aquarium Conservation Team in support of National Public Lands Day and International Coastal Cleanup. Since then, employees and their loved ones volunteer on an annual basis to clean up the Fort McHenry National Monument and Historic Shrine in Baltimore. Over the past 6 years volunteers have removed thousands of pieces of debris and planted hundreds of native plants around Fort McHenry. In addition, Northrop Grumman hosts annual beach cleanup events at Sandy Point State Park and its Annapolis site.

Northrop Grumman also organizes annual Earth Day celebrations to educate employees about how they can get involved with environmentally-focused initiatives at work, home, and within their communities.

Waste

Solid Waste Reduction and Reuse

Northrop Grumman is committed to minimizing its environmental impact on local landfills. The company is continuously identifying solid waste management solutions to optimize processes, minimize material use, and reduce costs. The greeNG Leadership team and greeNG ERG reinforce the importance of reduce, reuse and recycle through different solid waste reduction initiatives.

At year-end 2017, Northrop Grumman Maryland sites diverted 1,250 tons of solid waste, excluding Construction & Demolition commodities, from the landfill. This equates to a diversion rate of 55%. Including Construction & Demolition, 3,240 tons of waste was diverted from the landfill. This equates to a 74% diversion rate from landfill.

In March 2018, the greeNG ERG launched the Surplus Office Supplies reuse program. The program promotes the reuse of office supplies within Northrop Grumman. This self-sustaining tool extends the lifetime of office supplies, ultimately reducing waste and cutting down costs. In some instances, excess office supplies are donated to local partner schools.

Recycling

In addition to solid waste reduction initiatives, Northrop Grumman puts recycling at the forefront of the company's solid waste diversion efforts. Maryland sites make it a priority to increase recycling rates year-after-year.

Northrop Grumman maintains a recycling program at every Maryland site. The following materials are examples of commodities recycled under this program in 2017:

- *Single-stream recyclables (273.93 tons)*
- *Batteries (rechargeable (1.88 tons) and non-rechargeable (4.01 tons))*
- *Toner cartridges (2.13 tons)*

On a more industrial scale, Maryland sites recycled in 2017:

- *Construction and demolition (C&D) debris (including cardboard, carpet, ceiling tiles, concrete, metals, wood, sheet rock, etc.) (1,990.70 tons)*
- *Scrap electronics (38.22 tons)*

In late 2017, Northrop Grumman's BWI location installed a 30 cubic yard recycling compactor. To keep up with increasing recycling rates, that project was followed with the installation of a second 30 cubic yard recycling compactor in early 2018. These compactors make recycling more easily accessible to the site's janitorial staff. These recycling compactors divert approximately 60 tons of waste from local landfills each year.

In 2018, Northrop Grumman implemented a wood diversion program at two major sites across Maryland. Wooden pallets and crates that used to be considered waste are now diverted to Baltimore Recycling Center to be re-processed into mulch and other consumer products. The program is expected to divert approximately 193 tons of wooden materials from local landfills every year. The program will be expanded to additional qualifying Maryland sites in the future.

Composting

In 2015, Northrop Grumman began its first food waste composting program at the BWI site and in 2017 expanded to the Advanced Technology Laboratories (ATL) site. At these two sites, the back-of-the-house kitchen preparation waste is composted through Veterans Compost. Prior to implementation, it was expected that the composting program would divert approximately 47,000 lbs from landfill per year. In 2017, these two sites composted over 58,000 lbs of kitchen scraps. The success of the composting program has been acknowledged and opportunities to expand the program to employee gathering areas as well as to other sites are being evaluated.

Hazardous Waste/Toxic Use Reduction

Northrop Grumman policies across the enterprise emphasize minimizing hazardous generation through effective pollution prevention programs. This starts with the new material review process which looks at limiting the use of ozone depleting substances, volatile organic compounds, toxic air pollutants, and other regulated chemicals. The company seeks to identify opportunities to replace or substitute chemicals with less hazardous or toxic constituents. In addition, our pollution prevention programs evaluate and implement opportunities to reduce hazardous waste generation.

Energy

Energy Efficiency

Throughout its Maryland sites, Northrop Grumman is committed to energy conservation and energy efficiency. The company has improved building efficiency, information technology infrastructure, and manufacturing processes to reduce its electricity and natural gas usage.

Since 2017, Northrop Grumman has made significant efforts to retrofit the lighting systems across 9 different Maryland sites. Lighting systems in outdoor areas, including parking lots and walking paths, and indoor facilities, including interior office and warehouse space, were replaced with energy efficient LED lighting systems. Since January 2017, completed lighting upgrades have saved approximately 770,700 kWh and nearly \$60,000 in electrical costs.

In an effort to improve the efficiency of building systems throughout the BWI site, Northrop Grumman facilities, maintenance, and environmental engineers with the support of external expertise, performed retrocommissioning of mechanical systems throughout the site. With a systematic evaluation of the

heating, ventilation, and air conditioning (HVAC) and mechanical systems, the retrocommissioning program ensures building systems are performing within the design specification. During the first phase of evaluation, energy efficiency opportunities discovered and implemented resulted in an estimated 1,488,900 kWh and \$112,000 cost savings.

In addition, Northrop Grumman integrates innovative energy solutions into its everyday operations. At year-end 2015, the BWI site placed PVC strip curtains at the entrance to one of its high energy-requiring systems. The “air curtains” reduced the need for make-up air flow and saved approximately 222,400 kWh of energy with a cost savings of \$16,680.

Transportation



Employee Commute

Northrop Grumman offers a number of opportunities to reduce Scope 3 greenhouse gas emissions. The company offers a variety of well-established “Alternative Work Arrangements.” Each agreement is designed to help employees maintain the flexibility of work and life needs, but also contributes to reducing the sector’s carbon footprint. Northrop Grumman offers a “9/80 Program”, which allows employees to work 80 hours in nine days rather than ten. A “Compressed Work-Week” is also available and allows employees to work four 10-hour days. Often times, an employee can work with his or her manager to implement a telecommuting or hoteling schedule. Telecommuting or hoteling allows an employee to work at a location closer to their home without requiring the employee to be at his or her designated work location. While many “Alternative Work Arrangements” are geared toward enhancing employee work and life needs, there is also an environmental benefit associated with the arrangement. Approximately 70 percent of Northrop Grumman employees take advantage of “Alternative Work Arrangements,” ultimately reducing the company’s Scope 3 carbon footprint.

In 2016, Northrop Grumman implemented a sector-wide electric vehicle charging program. The company partnered with ChargePoint, Inc. to install electric vehicle charging stations on Northrop Grumman sites, giving employees with electric vehicles the option to charge their vehicle at work. This program supports the growing number of employees who use low/no emissions vehicles to commute. As of September 2018, Northrop Grumman offers 7 dual-port stations at 6 different Maryland sites. The stations are available exclusively to Northrop Grumman personnel and since its installation, the program has avoided 7,305 metric tons of Scope 3 carbon dioxide emissions across the sector.

Efficient Business Travel

Northrop Grumman is a supporter of efficient business travel. One example is through the ability to teleconference. Many employees utilize this technology on a daily basis to meet with coworkers across not only Maryland, but the nation. Microsoft Lync allows all employees to share material from their computer with their coworkers, regardless of their location. This technology both improves business efficiency and is beneficial to the environment.

Additionally, employees often travel between sites together. While there is no policy that enforces this practice, a variety of awareness bulletins are posted on the company intranet.

Water

Water Conservation

Northrop Grumman recognizes the importance of water conservation and continuously looks for solutions to reduce and reuse water usage. The company has implemented a number of different best management practices (BMPs) aimed at reducing water. These BMPs include the installation of low-flow fixtures and closed-loop systems and the establishment of practices to conserve water such as repairing leaks, creating a leakage hotline, and preventing the use of water for outdoor surface cleaning.

Throughout 2017, Northrop Grumman reduced the amount of water needed in its industrial cooling towers at 6 different sites across the state. At each of these sites, the facilities maintenance staff worked with their water treatment provider to increase the cooling tower's cycles of concentration (COC) to a factor of 10. The increased COC decreased the required amount of make-up water and blowdown needed for the system to perform. The project will save about 4 million gallons per year and \$28,000 in operational costs.

Stormwater Management and Site Design

Northrop Grumman is committed to finding solutions to minimize the exposure of industrial activities to stormwater and to reduce contaminant runoff. Examples of these solutions include re-routing industrial discharges to the sanitary sewer system, installing oil booms for parking lot runoff, and constructing stormwater management ponds to reduce sediment, nutrient, and contaminant entry into the local waterways.

As part of the Chesapeake Bay Restoration requirements, Northrop Grumman's BWI site parking lot was selected as an area to implement stormwater best management practices. In 2014, the project took off with site design planning, permitting, and procurement of seven low impact development (LID) projects. In 2016, 5.78 acres of impervious cover was restored. The LID projects to achieve this included the construction of permeable pavement providing 5.28 acres of restoration, a grassed bioswale providing 0.37 acres of restoration, and a landscaped area providing 0.13 acres of restoration.

Northrop Grumman is also investigating other opportunities to retain and infiltrate stormwater so that we further reduce the impact of our operations on receiving water bodies.

Green Building

LEED Silver

Northrop Grumman Mission Systems was awarded LEED Silver Core and Shell for the recently constructed West Quest C office building. The office, located in Linthicum, Maryland, was the first LEED Certified building in the Mission Systems sector.

Environmental Certifications, Awards and Other Activities

Environmental Achievements

In August 2013, the Northrop Grumman Sykesville site joined the Carroll County Green Business Network. The Carroll County Green Business Network encourages small businesses to incorporate sustainability into daily business operations.

Environmental Awards



In 2009, the Carroll County Board of Commissioners and the Carroll County Environmental Advisory Council awarded the Northrop Grumman Sykesville site the Environmental Awareness Honorable Mention award for its efforts to reduce energy consumption, decrease carbon footprint and solid waste, and increase water conservation efforts.

In 2011, the collective actions and programs at Northrop Grumman Mission Systems Maryland sites earned the 2011 Outstanding Corporate Leadership Award from the Maryland Recycling Network for success in recycling and waste reduction efforts.

In 2012, the Northrop Grumman Sykesville site was selected as the winner for the 2012 Carroll County Environmental Awareness Award - Business category. The Carroll County Commissioners presented the award to the site for its efforts in promoting environmental awareness and in recognition of its valuable contributions to conserving and protecting environmental resources.

In 2015, Northrop Grumman Electronic Systems (now known as Northrop Grumman Mission Systems), was selected as the winner for The Maryland Green Registry Leadership Award for the company's commitment to sustainable practices and the protection of Maryland's natural resources and environment.

Profile Updated October 2018



Help build a greener, more sustainable Maryland through voluntary practices that reduce environmental impacts and save money.

Learn more at green.maryland.gov

