



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.

AstraZeneca



Frederick Manufacturing Center and Gaithersburg R&D Site
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Pharmaceutical Biotech
Member since June 2013

Management and Leadership

Environmental Policy Statement

See AstraZeneca's Global Policy on Safety, Health and Environment [here](#).

Environmental Teams

Our Frederick, MD and Gaithersburg, MD sites have active Green Teams that meet regularly to address environmental sustainability issues. Each team consists of a team chair, employee volunteers from various departments and an executive sponsor. Green Teams coordinate our annual Earth Week celebration, as well as several smaller events throughout the year. Engaging employees in environmental sustainability is an important aspect of our commitment to responsible business practices.

The main goals for the Frederick Green Team are to "educate the site about environmental sustainability and manage our site's carbon footprint." In observance of Earth Day, starting in 2015, a week-long event is held that includes Earth Day-related activities such as electronic recycling, lunch and learn meetings and an Earth Day vendor show and plant raffle.

The Gaithersburg Green Team is a multi-departmental group of employees promoting green initiatives and sustainability, as well as striving to reduce the environmental impact of site operations. The mission of the Green

Team is “to work with all departments and functional groups to identify opportunities and drive implementation of sustainability programs”. The goals are to reduce waste generation through recycling and/or reuse, to decrease water and energy consumption, thus reducing our environmental footprint.

The Gaithersburg and Frederick Green Teams meets monthly to discuss and plan environmental sustainability opportunities, activities, and events for the site. Some of the Green Team activities include:

- *Recycling awareness campaigns*
- *Office supply swaps*
- *Green vendor showcases*
- *Battery and electronics recycling events*
- *Blanket and towel drive for homeless cats and dogs*
- *Used sneaker drives for recycle*
- *Prescription eye wear collection drives for re-use*
- *CD/DVD recycle drive*
- *Ideas for greening your workspace*

In addition to the Green Team, the Gaithersburg site has a dedicated Sustainability Team within the Safety, Health, and Environment function to advance the site’s sustainability practices and strategy. The Sustainability Team developed a 2015 Environmental Sustainability Plan which includes strategic projects within the domains of waste, water, and energy reduction, biodiversity protection, performance measurement, and employee engagement. One of the highlights from the Environmental Sustainability Plan is a Sustainability Communications Calendar, which includes monthly communication packages focusing on different topics to highlight sustainability goals and accomplishments for the company, site, and individual employees.

It takes conscious effort from every employee to achieve our sustainability goals, so we leverage multiple channels of communication to reach them. In addition to new hire training, we communicate our goals, progress, and programs to all campus employees through our company-wide social network Facebook Workplace, frequent articles on our intranet Nucleus, a prominent and dynamic Sustainability Wall in our cafeteria, and pertinent site operations communications by email. Our Green Team members represent all parts of the campus and can act as Sustainability ambassadors in their work areas. The Sustainability team works with the Green Team to coordinate events for Earth Week and throughout the year to increase employee awareness of our Sustainability goals.

Annual Environmental Goals

AstraZeneca pledged in 2010 to reduce our energy intensity by 25% by 2020 through the US Department of Energy's (DOE) Better Plants® program.

As one of AstraZeneca's largest sites and its US Center of Excellence for R&D, we support AstraZeneca's 10-year Sustainability Strategy for protection of Natural Resources, which includes the following global commitments:

- *Limit our 2025 extended operational GHG footprint to 2015 levels.*
- *10% absolute reduction in energy consumption against a 2015 baseline by 2025*
- *10% absolute reduction in waste generation against a 2015 baseline by 2025*
- *Maintain water usage at 2015 levels as our business grows by 2025*
<https://www.astrazeneca.com/sustainability.html>

Environmentally Preferable Purchasing

AstraZeneca has a global policy that defines supplier expectations with respect to Responsible Procurement. The policy applies to safety, health and environment.

<https://www.astrazeneca.com/content/dam/az/our-company/Sustainability/ethical-business-practices/Working-with-suppliers---May-2015.pdf>

In 2011, AstraZeneca created a formal process for employees to select recycled office supplies through an in-house office supplies depot and during bi-annual office supplies swap days. Through the supply swap program, employees can drop off new or used items that are then made available to other employees. In addition to the swap program, our office supply provider has offered "green" office supplies through our electronic punch-out catalog since 2010. Items containing recycled content are highlighted in the system providing an avenue for our employees to make environmentally responsible selections while purchasing materials for their offices.

Environmental Restoration or Community Environmental Projects

The Frederick Manufacturing Center (FMC) Green Team volunteers annually at local parks to remove invasive species, plant trees and perform necessary mulching.

Independently-Audited Environmental Management System

Using a third party, AstraZeneca conducts integrated audits that cover safety, health and environment (SHE) in addition to aspects of the Code of Conduct. The audits examine the effectiveness of a site's SHE management system and how SHE risks are managed. The audits are also designed to encourage sharing of best practices between facilities, marketing companies and functions.

AstraZeneca's SHE management system is based on key elements of ISO 14001 and has both a local and global dimension that covers:

- *SHE Policy, Standards, Guidelines*
- *Corporate SHE Goals & Targets*
- *Corporate Auditing*
- *Reporting System*
- *Management Review*
- *Communication*
- *Local Implementation (i.e., all sites are required to maintain a well-performing SHE management system with commitment and support at all levels in the organization)*

Facilities are typically audited on a 3- to 5-year rolling cycle based on their risk profile.

As of 2017, AstraZeneca's Gaithersburg Site Operations achieved the DoE's Superior Energy Performance certification from silver to gold by demonstrating an advanced level of energy management practices and improving energy performance by 8.9% over 3 years.

Waste

Solid Waste Reduction and Reuse

We have established routes of re-use for items such as furniture, office supplies, laboratory equipment, pallets, and drums. In 2017, we switched our printers to include a "badge swipe" to access print jobs. This resulted in over 12,000 pounds of paper saved from overprinting within the first quarter of 2018. We donate unserved cafeteria food to our neighbors through Nourish Now. Both sites also host a CSA pick-up from a local farm on campus for employees to utilize.

Recycling

The Frederick and Gaithersburg sites have implemented robust waste recycling programs for paper, cardboard, cans, glass, and scrap metal. Frederick also recycles batteries, light bulbs and wood pallets while Gaithersburg and Frederick recycle construction/demolition materials, batteries, light bulbs, toner cartridges, electronic components, metals, used oil, grease, wood pallets and reusable lab equipment.

The Gaithersburg site has recently procured an expanded polystyrene compactor to densify and recycle polystyrene waste generated on site.

Business recycling in Montgomery County (where the Gaithersburg site is located) became mandatory in 1993 with the passage of Executive Regulation (ER) 109-92. Since then the County has increased its recycling goal to 70 percent by 2020. In response to the ordinance, Gaithersburg's 2017 recycling rate has increased to 64 percent.

Frederick's recycling rate has increased as well and exceeded 70% percent in the last quarter of 2018. This number was achieved by recycling our medical waste stream through a company called Triumvirate Environmental. The material is treated and goes through an extrusion process and is molded into industrial decking boards, park benches, pallets and many other products. FMC removed individual trash/recycling cans from all office areas and implemented shared waste stations.

We continue to search for ways to move our waste streams "up the waste hierarchy" to the most environmentally-preferable manner of disposal. Not only do we recycle typical items such as paper, cardboard, bottles and cans, glass, used oil and yard debris, we also recycle ink cartridges, batteries, light bulbs, self-serve coffee machine packets, cafeteria grease, electronics, and nearly all construction debris. We have established routes of re-use for items such as furniture, office supplies, laboratory equipment, pallets, and drums.

Composting

In September 2016, Gaithersburg launched a Zero Waste Café program to include composting in our main cafeteria. We contract recyclers who reprocess our waste directly into a usable product, such as composting our food prep, plates, cups and utensils from our Zero Waste café. In August 2017, we expanded our compost program to all our pantry and town hall (lunch break rooms) areas and restrooms. Our cafeteria, pantry and town halls now have the potential to produce virtually little to no waste, if items are discarded in the appropriate bins.

In 2018 we expanded compost to three additional buildings on campus and now have compost in every conference room, pantry, and restroom onsite with the goal of becoming a Zero Waste Campus.

Hazardous Waste/Toxic Use Reduction

In 2016, we started a Lab Chemical Share (ChemShare) and Chemical Container Recycle and Reuse program, which has helped reduced the amount of lab chemicals purchased and eliminated one-time use of chemical container drums. Starting in 2017, we partnered with Triumvirate to reprocess our laboratory plastics and biohazardous laboratory waste into plastic lumber through their “Red2Green” program. We have a mechanism for our scientists to share chemicals rather than buying excess.

Energy

Energy Efficiency

The Gaithersburg campus led the way in energy conservation and carbon emissions reduction at AstraZeneca. In 2010, we pledged to reduce our energy intensity by 25% by 2020 through the US Department of Energy’s (DOE) Better Plants® program and are currently on target to meet that goal. A cross-functional team monitors energy performance and regularly reports progress to senior management to ensure resources are available to achieve this aggressive target. In 2014, we were the first biotech company to receive certification under DOE’s Superior Energy Performance® program, and we were re-certified to the program at the Gold level for 2017-2020. We were the first biotech laboratory facility registered to the ISO 50001 Energy Management standard and were re-registered in 2017 for the 3-year period through 2020.

In 2018, we increased the time and extent of building HVAC optimization with setbacks in two campus buildings and more in progress saving over 2,000 MWh annually. A lighting study was conducted in which the lighting around campus was evaluated against the recommended lighting standards. Several projects are in place to address areas that are above lighting standard recommendations.

Renewable Energy

Since the end of 2015, 100% of our purchased electricity has been backed by renewable wind energy. In 2016, we installed a Combined Heat and Power (CHP) plant to reduce our carbon footprint. By capturing and using heat from electricity generated by the CHP, we reduce carbon emissions by over 30%

when compared to using the conventional electric utility grid. Our CHP enables reduction of over 7500 metric tons of carbon per year, equivalent to taking over 1600 passenger vehicles off the road! A second CHP plant is planned for 2019. In 2017, 243KW photovoltaic solar carport was installed at one of our buildings, allowing employees to park under the solar panels. Our campus has 35 readily available electric vehicle charging stations in the parking lots for employee use.

Two solar arrays were installed with 211kW Solar PV Carports which began generating electricity this past August.

Frederick location also offers several electric vehicle charging stations in the parking lots. In March of 2018, a new solar field was activated and will offset the electric needs for a newly renovated warehouse. When the solar array is producing power, it will reduce electrical costs and lower our electrical demand from the utility grid during peak demand hours. The renewable electricity generation is estimated to be 3205 MW per year with a carbon savings of 1248 metric tons CO₂ equivalents per year.

Transportation

Employee Commute

Our Gaithersburg site implemented an Electric Vehicle (EV) Charging Station Program in January 2011. Using a federal grant offered by the “Charge Point America Program,” Gaithersburg installed 5 of 8 charging units free, saving the company \$50,000 in equipment costs. The grant was made possible by the American Recovery and Reinvestment Act through the Transportation Electrification Initiative administered by the Department of Energy.

The intent of the program is to encourage employees to use electric vehicles, reducing gas consumption and greenhouse gas (GHG) emissions. Charging is free to registered employees and visitors. Participating employees become members of the ChargePoint Network with more than 50,500 stations in the United States.

In 2017, Gaithersburg further expanded site EV charging capabilities by adding 24 new SemaConnect stations. This new Charging Network has shown favorable results from on-site users, whose numbers continue to grow each year. These SemaConnect stations are free for all registered employees and visitors as well.

Gaithersburg also sponsors a commuter van service between its campus and the Shady Grove Metro station. This allows employees to ride the Metro and avoid car travel commuting to work. The van service also provides

transportation between the Gaithersburg Marriott Hotel and the campus for employees and visitors. An estimated 200 people use this service each week.



Efficient Business Travel

AstraZeneca is a global company with operations in 100 countries. While business travel is necessary, according to our Global Business Travel Policy “virtual meetings (web meetings, tele- and video-conferencing) are effective alternatives to travel that not only support better work/life balance but also represent an opportunity to significantly reduce travel costs as well as having a positive impact on the environment.” Onsite conference rooms are equipped with various presentation support technologies. The company also supports flexible work arrangements, like telecommuting, which allows employees to work remotely depending on business needs.



Fleet Vehicles

In 2010, AstraZeneca conducted a feasibility study to determine if its sales fleet could conserve more fuel and reduce CO₂ emissions to help meet the company’s 2015 greenhouse gas reduction target of 20 percent. At that time, the fleet consisted of 415 vehicles with each averaging 1,933 miles per month. The average miles per gallon (mpg) were 20.5. Additionally, 67 percent of the fleet consisted of low mpg vehicles such as:

- *SUVs (37.5%) – 18.7 mpg*
- *Minivan (15.5%) – 18.6 mpg*
- *Regular Sedan (14%) – 19.6 mpg*

Vehicles were typically replaced at 36 months or 65,000 miles. As a result, approximately 1/3 of the sales fleet (or 135 vehicles) were replaced each year.

To support CO₂ emission goals, the Team recommended the following:

- *Set minimum mpg threshold for new fleet vehicles at 22.5*
- *Establish a 3-year CO₂ reduction target for the sales fleet*
- *Establish new fleet selection criteria*

By Sept 2013, the Team accomplished the following:

- *Reduced annual CO₂ emissions by 32% since 2010.*
- *Improved the average miles per gallon for the fleet by 21.5% to 24.9 mpg*
- *Achieved both CO₂ and mpg goals 2 years ahead of schedule*

The team continues to look for opportunities to improve both CO₂ and mpg averages as vehicle technology options continue to advance.

Water



Water Conservation

AstraZeneca has made a public commitment to reduce water use by 25 percent based on its 2010 baseline. To meet that 2015 target, facilities located in water-stressed areas or considered significant water users (greater than 2% of the company's total water consumption) must implement Water Conservation Plans (WCP). The Frederick and Gaithersburg sites are among the top 10 users of water among company facilities, primarily due to the nature of the biologics R&D and manufacturing process. These facilities are also experiencing substantial growth and increased production.

In 2013, Gaithersburg completed its WCP and identified several potential opportunities for water reduction. Current projects from the WCP include:

- 1. Re-using gray water sources for our cooling towers, resulting in up to 6% potable water reduction*
- 2. Replacing manual and battery-operated plumbing fixtures (656 faucets, urinals, and commodes) with motion sensor devices*
- 3. Installing soil-moisture sensors in our irrigation system that automatically shut-off when the moisture is adequate and reduce unnecessary watering*

In 2018 we optimized our irrigation water by reducing 30% of the water needed to water the grass with a Rainbird system which will not irrigate if the soil is already saturated. Concurrently we are 8 months into a yearlong pilot reducing 80% of the water needed in our cooling towers.

Frederick also completed its WCP in 2013; however, due to an efficient site design, the plan revealed few opportunities to significantly improve water consumption. For example, Frederick already uses recycled process water from operations. It has an 80,000-gallon grey water collection tank that is used for cooling tower make-up. Water is collected from roof drains and water treatment reject; however, the main source of grey water comes from the site's Water For Injection (WFI) system. Depending upon manufacturing demand, the WFI system produces 7,500 gal/day (on average) of reject water that is collected in the grey water tank. In the winter months, the grey water collection system can supply all the cooling tower demand. In the summer months, when there is a greater cooling demand, the grey water system significantly reduces consumption of city water. A water energy kaizen [continuous improvement project] performed at the Frederick site in June 2018, identified the opportunity for additional water

metering in order to monitor triggers for unusual water usage patterns. It is estimated that upon completion this project has the potential to save 4,500 gal/day (on average).

Low-flow fixtures and smart irrigation sensors help conserve water on campus. Additionally, we capture usable “reject” water for use in cooling towers, lowering our fresh water consumption. Our childcare center building harvests and conditions roof runoff rainwater for use in toilet flushing and captures additional runoff for manual watering of gardens. In 2017, we began a robust assessment of the amount of water we use in manufacturing with a goal of reducing unnecessary water use in the production of biologic medicines.

Stormwater Management and Site Design

The Gaithersburg site is not regulated by industrial storm water laws because of its operations. Nonetheless, the site has established Best Management Practices (BMPs) to minimize any potential runoff concerns. Specifically,

- The site has no manufacturing machinery, equipment, or raw material storage areas located outside of buildings.*
- There are no vehicle fleets or other mobile equipment (i.e. fork lift trucks) located permanently onsite that could release motor oil, require outdoor battery collection, or require water for detergent cleaning.*
- Bulk chemical, fuel storage tanks, and emergency generators are enclosed or have containment around them to prevent potential releases to the ground.*
- Most of our employee parking is under three large covered garages. At these locations, any motor oil leaked from vehicles can be cleaned up without incident, or if oil were to become entrained in storm water, the storm water would flow into one of several oil/water separators before discharging clean storm water to the city’s system.*
- Trash and recycled materials are collected in covered non-leaking containers that are emptied several times a week.*
- Tree limbs and leaves are collected and recycled.*
- All sanitary, process, and utility wastewater discharges (including roof-top cooling towers) go directly to the sanitary sewer system for treatment.*
- Shipping and receiving of goods are conducted under a roof.*
- Cafeteria grease is collected for recycling.*
- All non-hazardous and hazardous wastes (including used oils) are properly labeled and stored indoors until a licensed waste management company disposes/recycles them.*

- *Erosion and sediment controls are developed and implemented for major construction activities. Additionally, non-structural spill control measures are in place. In 2018 we reduced water used in irrigation by 30%.*

The Frederick site currently does not have any materials that are treated, stored or disposed onsite which are exposed to storm water runoff. Any materials that are stored on site are contained within secondary containment or are stored within closed structures. Storm water management practices include but are not limited to: preventive maintenance, good housekeeping, spill prevention response and weekly visual inspections of equipment and plant areas. Due to these measures, storm water pollution risks associated with Frederick are low.

Green Building



LEED

For significant capital projects like new builds and major renovations, AstraZeneca's Global Engineering conducts a Sustainability Review to minimize a project's environmental impacts and assure considerations to save energy, recycle resources and minimize waste are evaluated during the conceptual phase.

Two facilities located on the Gaithersburg campus were awarded LEED Gold certification in August 2012. The Area 6 308,000 ft² R&D laboratory was recognized for its low use of energy, lighting, water and material as well as incorporating a variety of other sustainable strategies including:

- *Heat recovery system*
- *High-efficiency chilled water and laboratory lighting systems*
- *High-efficiency, low-emission boilers and emergency generators*
- *Glass; approximately 44% of the building envelope is made of glass, which provides natural light to perimeter laboratories*
- *Less water use; the building uses 40% less water than the established sustainable design baseline*

The 800 ft² employee fitness center was awarded LEED certification for recycling construction waste and the use of product made from recyclable materials. HVAC and lighting design incorporated energy efficiency practices.

The Gaithersburg laboratory and fitness center join three other AstraZeneca facilities in the US that have achieved LEED Gold certification.

Sustainability is a consideration in every construction and renovation project on our campus. The site Sustainability Manager is involved in planning

and status meetings. Major construction projects are designed to US Green Building Council Leadership in Energy & Environmental Design (LEED®) Gold or better. Our newest building, a Childcare Center opened in late 2017, has submitted for LEED Platinum certification. Renovation projects include high efficiency LED lighting and occupancy sensors for all office areas, conference rooms, open areas, and garages; automated window shades are used in key areas to provide sun or shade as needed to moderate temperature; low-flow fixtures.

Environmental Certification Programs, Awards, and Other Activities



AstraZeneca is a global, science-led biopharmaceutical company that focuses on the discovery, development and commercialisation of prescription medicines, primarily for the treatment of diseases in three therapy areas - Oncology, Cardiovascular, Renal & Metabolism and Respiratory. AstraZeneca operates in over 100 countries and its innovative medicines are used by millions of patients worldwide. For more information, please visit astrazeneca.com.

As of 2017, AstraZeneca's Gaithersburg Site Operations achieved the DoE's Superior Energy Performance certification from silver to gold by demonstrating an advanced level of energy management practices and improving energy performance by 8.9% over 3 years.

In 2016, the Frederick County Sustainability Commission recognized FMC for their outstanding service in furthering the goals of a Sustainable Frederick by awarding FMC the Frederick County Leadership in Sustainability.



View our video

Profile Updated May 2019



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

Learn more at green.maryland.gov

