



**Virginia Department of Environmental Quality
Office of Pollution Prevention**

2023 Pollution Prevention Annual Report

Released December 2023



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FROM THE DIRECTOR

Having spent two years with the Department of Environmental Quality (DEQ), I have continued to see how the work of the Office of Pollution Prevention (OPP) advances the agency's mission to protect and enhance the environment of Virginia. DEQ is responsible for administering laws and regulations related to air quality, water quality, water supply, renewable energy, and land protection. OPP's programs go beyond these regulatory requirements and demonstrate how DEQ can partner with our customers and encourage proactive environmental strategies. Pollution prevention (P2) strategies focus on eliminating or reducing the use, generation, or release of environmental wastes at their source, which can lead to reduced environmental footprints while enhancing bottom lines.

OPP coordinates incentive programs and assistance, as well as internal programs that allow DEQ to lead by example. A few of the program's accomplishments from 2023 are:

- Hosting two regional workshops to share pollution prevention best practices, provide regulatory updates, and support participants of environmental programs with networking opportunities.
- Launching a successful series of educational webinars for the tourism industry through the Virginia Green Travel program.
- Supporting Governor Glenn Youngkin's Executive Order 17 (EO 17), "Recognizing the Value of Recycling and Waste Reduction," by working with other agencies to draft reports on reducing food waste and encouraging the use of post-consumer recycled content materials.

OPP will continue to work to protect Virginia's natural resources through programs that benefit businesses, institutions, communities, and our citizens. With the support of Governor Youngkin, OPP looks forward to continuing to promote programs that divert waste from landfills and increase recycling efforts, especially those included in EO 17.

Michael Rolband
Director, Virginia Department of Environmental Quality



VIRGINIA ENVIRONMENTAL EXCELLENCE PROGRAM



BACKGROUND

The Virginia Environmental Excellence Program (VEEP) recognizes facilities that have demonstrated a commitment to enhanced environmental performance and encourages innovations in environmental performance.

Since 2000, DEQ has promoted the non-regulatory VEEP as a mechanism to encourage “beyond-compliance” environmental results. VEEP provides recognition and incentives to facilities meeting the program requirements. There are two separate and distinct VEEP tracks: Sustainability Partners (SP) and the Environmental Management System (EMS) track.

VEEP SP is designed to encourage organizations to make environmental sustainability part of their culture through leadership, innovation and continual improvement and provides recognition to members. An EMS is not a requirement to be an SP.

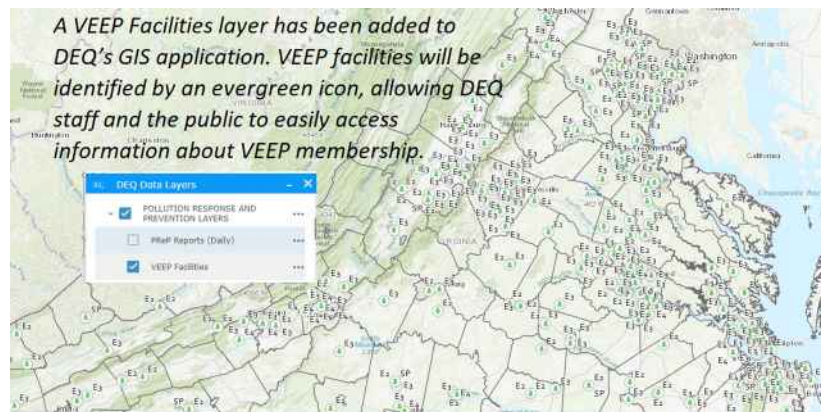
The VEEP EMS track has three levels of participation, all providing recognition and other benefits such as permit fee discounts, a single point of contact at DEQ and, in some cases, the opportunity for regulatory flexibility. Each level of the EMS track builds on the previous level, requiring a more robust system to identify and address environmental risks. The three levels of participation for the VEEP EMS track are:

- **E2** (Environmental Enterprise) for facilities that have made significant progress toward the development of an EMS, have made a commitment to pollution prevention, and have a record of sustained compliance with environmental regulations.
- **E3** (Exemplary Environmental Enterprise) for facilities that have exceeded the E2 requirements and have a fully implemented EMS.
- **E4** (Extraordinary Environmental Enterprise) for facilities that have exceeded the E3 requirements, have completed at least one full cycle of an EMS as verified by a third-party auditor, and have demonstrated a commitment to continuous and sustainable environmental progress and community involvement.

OPP administers VEEP, which includes reviewing applications and renewals, performing site visits, coordinating compliance reviews, organizing recognition events, and providing educational resources. Throughout the year, OPP reviewed and provided comments on approximately 50 EMS track applications and 10 SP applications.

2023 VEEP HIGHLIGHTS

OPP works continuously to support, promote, and improve VEEP and its goals. This includes keeping current program participants up-to-date, reaching out to potential new members, and improving internal systems to provide better support. VEEP has benefited from DEQ’s technological advancements, including providing reporting in the myDEQ Portal. DEQ is currently upgrading its



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mapping and data aggregation capacity. OPP is integrating VEEP into these upgrades and expects improved abilities to map facilities and report data.

POLLUTION PREVENTION RESOURCES

OPP continues to highlight P2 actions that show real world examples and identify successful technologies and techniques. OPP maintains a series of [Case Studies](#) that feature facilities that have implemented these P2 strategies. Additional P2 resources and efforts include:

- Facility-specific P2 guidance to facilities by request and during program-related site visits. Outreach can be done through site visits, virtual meetings, or connecting during in-person events. OPP staff do a variety of these each year, including attending environmental-themed events like the Henrico Energy Fair, the Virginia Clean Cities Rally, and the Resilient Virginia Conference.
- A new press kit for members to promote and celebrate their VEEP membership. The press kit includes a draft press release, plus draft social media posts for Facebook and X (formerly Twitter). It benefits both DEQ and VEEP members when members promote their accomplishments.
- VEEP Workshops:

- Approximately 40 people attended a VEEP Workshop at Reynolds Community College on May 22 in DEQ's Piedmont Region. The workshop included regulatory updates, networking opportunities and sessions on implementing and funding energy efficiency. Attendees also received an update on VEEP, including tips on reporting requirements and EMS development. In a survey following the event, 90% of respondents noted that the content was relevant and that they learned something that would improve their environmental programs.

Dr. Doug McKenzie-Mohr gave a keynote presentation on *Fostering Behavior Change for Health, Safety, and the Environment*, which provided attendees with information on community-based social marketing. This session was presented virtually, allowing an additional 125 people to participate from across the state.

- A second workshop was held Oct. 24 at the Virginia Frontier Culture Museum in DEQ's Valley Region. Approximately 50 people attended to learn about environmental programs, including a panel of VEEP members discussing the value of their EMS, VEEP membership, and successful environmental projects.



Amy Wentz, the co-founder of Southside ReLeaf, described how Southside ReLeaf is working to improve health outcomes and the quality of life for Southside Richmond residents by building green spaces and advocating for people-centered policy during the Piedmont Region VEEP Workshop.

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- At the Environment Virginia Symposium held annually at the Virginia Military Institute, a session showcased VEEP members leading sustainable efforts across the Commonwealth. The session featured four speakers representing three VEEP members: Prince William County, Micron, and the University of Virginia. Speakers discussed how using an EMS advanced their environmental efforts and the value of their VEEP membership.



Meghann Quinn (OPP), Ethan Heil (UVA), Jenny Boeder (Prince William County), and Kyle Malone and Lazaro Gonzalez (Micron) following the VEEP session at the Environment Virginia Symposium.

VEEP Member Highlights

OPP supports the programs of VEEP members and helps members celebrate their successes by participating in events and providing recognition materials.



- **Department of Corrections:** On June 1, OPP staff and Piedmont Regional Director Jerome Brooks participated in the Virginia Department of Corrections (VADOC) Health and Safety Meeting. VADOC spent the past year revitalizing its commitment to VEEP and has reached the milestone of having all correctional facilities either approved or under review for VEEP membership. Director Brooks presented 40 VEEP certificates to recognize the achievement. This included recognizing two new VADOC members to the VEEP EMS Track at the E2 level.



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- **Fairfax County Wastewater Management Program:** DEQ joined over 50 members of the Fairfax County Wastewater Management Program at its Noman M. Cole Jr. Pollution Control Plant in Lorton on Sept. 7 to recognize the Wastewater Management Program for renewing its E4 membership. Fairfax County's Wastewater Management Program has been a VEEP member for the last 20 years, including being an E4 member for the last nine years.

Annual Permit Fee Discounts for VEEP Facilities

When legislation establishing annual permit fees for facilities was enacted, the General Assembly acknowledged that VEEP members “go beyond” compliance and determined that their improved environmental performance merited the following permit fee discounts. The discount varies by permit type and membership level.



Hazardous waste (9VAC20-60-1286)

- Up to 5% for E2 facilities
- Up to 10% for E3 and E4 facilities



Solid waste (9VAC20-90-117)

- Up to 10% for E2 facilities
- Up to 20% for E3 and E4



Water (9VAC25-20-145)

- Up to 2% for E2 facilities
- Up to 5% for E3 and E4 facilities

The total discounts available for each media is capped at a fixed level and the discount received will drop if the total is exceeded. In 2023, VEEP members received discounts on 88 permits. The total member savings was approximately \$141,435.

VIRGINIA ENVIRONMENTAL EXCELLENCE PROGRAM

Environmental Results

To remain in VEEP's EMS track, members must submit an annual progress report including detailed metrics. When applying for and renewing participation, facilities select from a list of more than 40 environmental indicators that they then use as the basis of their VEEP annual reporting. Members report results in both actual and normalized quantities (i.e., results based on product, number of employees, etc.). Normalized results allow facilities to better compare year-to-year performance. In their annual application, VEEP SP members also include quantifiable results using the same indicators.

VEEP EMS track members reported saving \$62.2 million through environmental efforts in 2022. Other environmental results are listed below. Results reported in 2023 are based on calendar year 2022 accomplishments. The overall program results, as presented below, are normalized and should be considered a general indication of VEEP facility performance because: (1) the program is voluntary and data is submitted by the facilities; (2) many facilities still have limited experience tracking environmental results data; and (3) the aggregate results are a snapshot from one year and may not reflect overall reduction trends.

Aggregate Annual VEEP Results



Recycled water use increased by
412,448,940 gallons



Greenhouse gas emissions
reduced by **7,100 tons**



Amount of waste recycled
increased by **120,857 tons**

VIRGINIA GREEN TRAVEL

BACKGROUND

Virginia Green is the Commonwealth's voluntary initiative to promote P2 practices across all sectors of the tourism industry. Participating tourism businesses and organizations voluntarily commit to engage in P2 practices in the areas of waste reduction, water and energy conservation, and in the support of green events and meetings. OPP oversees development of all programmatic guidance and requirements for membership. Coordination of the application review process, marketing, and promotion is done by DEQ's partners: the Virginia Green Travel Alliance (VGTA), the Virginia Tourism Corporation (VTC), Virginia State Parks, and the Virginia Restaurant, Lodging, and Travel Association.



VGTA, a fully-accredited 501(c)(3) non-profit organization, was created in 2014 to help promote Virginia Green and its partners. The VGTA processes all Virginia Green certification applications, promotes program partners on the VGTA website and social media outlets, and administers outreach efforts.

Run by the VGTA, the certification process is fee-based and includes two levels of participation. The fee structure was developed with input from tourism partners to ensure the program's accessibility to the entire travel and tourism sector, while providing the VGTA with funding to offset the cost of processing applications. The Commitment Level, Virginia Green's entry level, requires that a tourism business certify that it has made commitments to implement sustainable practices. Many businesses choose to start at the Commitment Level and work towards being Fully-Certified. Fully-Certified Virginia Green Partners have implemented a required number of sustainable practices in various categories such as recycling and waste reduction, water and energy conservation, and green event management. Fully-Certified Partners undergo an application review that requires the submittal of photographs and additional documentation of the green programs they have implemented.

To help connect members to green products, the Virginia Green Suppliers Network (VGSN) is maintained as a fee-based online directory of green service providers. The directory lists almost 50 suppliers providing green services ranging from composting to transportation. The VGTA oversees the registration process and maintains the online listing of suppliers. VGSN members, in addition to selling green products and services, are required to commit to reducing environmental impacts.

2023 VIRGINIA GREEN HIGHLIGHTS:

OPP has maintained an active role in Virginia Green by continuing to provide technical resources and oversight of the certification standards. In addition, OPP is expanding its ability to provide technical assistance to individual tourism businesses when possible.

VIRGINIA GREEN TRAVEL

Virginia Green Program Updates

OPP supported the VGTA's transition to a new application process. The new applications are meant to streamline the process for both the applicant and the reviewer. OPP worked with VGTA to develop and test the updated online membership management tool, which allows members to submit applications through an online dashboard. In order to accommodate the application, DEQ's Virginia Green webpages were revised to provide a centralized location for potential P2 practices that facilities can implement.

Virginia Green Resources

OPP has continued to work with the VGTA and other partners to develop branded materials to promote the implementation of P2 initiatives and looks for opportunities where providing additional resources would ease implementation of green practices. VGTA and DEQ have hosted regular virtual Virginia Green Tourism Forums. This webinar series has featured environmental issues, opportunities, and success stories that affect Virginia's tourism industry. Topics have ranged from environmental communication, green events, and partnering with Keep Virginia Beautiful, to partner-specific assistance like certification updates and award application information. A full list is below.



- [Virginia Green Travel 101 & the Newly Re-Launched Virginia Green Travel Certification Process](#)
 - Tom Griffin, Virginia Green Travel Alliance
 - Morgan Goodman, Virginia Department of Environmental Quality
- [What is going on with recycling these days?!](#)
 - Kim Hynes, Central Virginia Waste Management Association
 - Teresa Sweeney, Virginia Tech Waste & Recycling Manager
 - Kathy Russell, TFC Recycling
- [How to WIN a Virginia Green Travel Star Award](#)
 - Kimberlee Dobbins, Virginia Beach Convention Center
 - Stephen Story, James River Transportation
- [Partnering to Support Green & Beautiful Communities](#)
 - Cristi Lawton, Keep Virginia Beautiful
- [Environmental Communication 101: Getting Your Message Across](#)
 - Paula Hill Jasinski, Green Fin Studio
- [Making Your Events Green! Simple tips for planning events that are sustainable and will impress attendees.](#)
 - Jenny Elmes, Full Circle Catering
 - Tracey Leverty, Keep Virginia Beautiful

VIRGINIA GREEN TRAVEL

Brewery Outreach

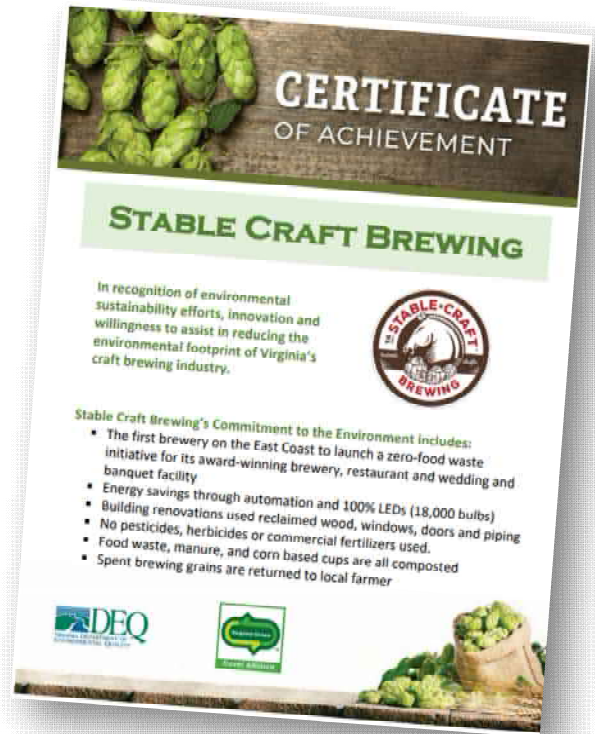
Funded in part by a grant from EPA, OPP has continued its outreach targeted at breweries. This outreach aims to increase recognition of green breweries in Virginia and highlight successful practices that reduce pollution while lowering costs to encourage more breweries to join. OPP has partnered with the VGTA to visit breweries to document best practices and provide feedback on improving environmental performance. To date, OPP has provided recommendations to ten breweries. Below are examples of some of the site-specific recommendations made or observed:

- Install strip curtains on walk-in refrigerators.
- Ensure refrigerator door seals are airtight.
- Install LED lighting.
- Design coolers with insulated floors to increase efficiency.
- Capture CO₂ from fermentation to reduce amount purchased.
- Create a green team to lead environmental initiatives.
- Use Safer Choice certified cleaning products.

For their effort and participation each facility was awarded a certificate from Virginia Green recognizing their commitment to the environment. OPP hopes that the recommendations will be implemented and tracked so that results can be used in future outreach efforts.

Annual Virginia Green Conference and Awards Ceremony

The tenth annual Virginia Green Travel Conference and Travel Star Awards Ceremony was held in Virginia Beach on March 21-22. The event focused on working together to support sustainable travel and green communities. The conference and awards were co-hosted by Keep Virginia Beautiful. Tourism professionals from across the Commonwealth gathered to discuss sustainable solutions that protect Virginia's environment while also being profitable for tourism businesses. Virginia Green Travel partners are ready to help lead the way to a stronger and greener tourism industry. The conference had a keynote speaker each day. The first day Jennifer Lawson, President and CEO of Keep America Beautiful, spoke about their efforts to reduce litter. On the second day of the conference, Erik Hansen with the U.S. Travel Association spoke about their



All breweries that make the commitment to partner with Virginia Green to complete an on-site assessment receive a certificate documenting green practices that they have in place. OPP follows up with additional site-specific recommendations aimed at reducing environmental impacts.



VIRGINIA GREEN TRAVEL

Sustainable Tourism Coalition. OPP staff participated in conference planning and moderated or presented at two conference sessions:

- *Energy Efficiency, Clean Energy, and Free Assistance and Rebate Programs:* Attendees of this session learned about the work OPP has done with breweries. In addition, opportunities for free energy auditing and rebate programs were shared by Ken Previs with Honeywell and Alleyn Harned with Virginia Clean Cities.
- *What Is Up With Recycling and Composting?:* This workshop featured a presentation on designing an effective recycling and waste reduction program for your community as well as a panel discussion by Virginia experts in the areas of recycling and composting.

The Virginia Green Travel Star award winners were announced during the conference. This year, 10 Virginia tourism operations received the program's highest award level, the Virginia Green Travel Star Award. Ten additional tourism businesses were recognized with a Virginia Green Travel Leader Award for their continued environmental stewardship, three individuals received the Green Team All-Star Award for their efforts to lead their organization's green efforts, and two individuals were recognized with awards for Lifetime Achievement & Support.

Planning is underway for the 2024 conference and awards. The awards application will continue to emphasize providing data to document the benefits of the programs being implemented.

HIGHLIGHTS FROM THE VIRGINIA GREEN TRAVEL AWARDS



Virginia Living Museum

KEEP VIRGINIA GREEN

The Virginia Living Museum is located adjacent to Deer Park Lake and Deer Park, a public city park in Newport News. Because of stream runoff, large amounts of litter collect at Deer Park Lake. Volunteers come together multiple times a month to do litter cleanups, putting in 350 hours in 2022 and collecting 903 pounds of litter.



Eco Maniac Company

GREEN SUPPLIER OF THE YEAR

Eco Maniac Company offers eco-friendly custom printed promotions including reusable bags, reusable straws, reusable produce bags, reusable utensil sets and more. They strive to find the most eco-friendly options and have them shipped in the least wasteful manner.

GOVERNOR'S ENVIRONMENTAL EXCELLENCE AWARDS

BACKGROUND

The Governor's Environmental Excellence Awards recognize successful and innovative efforts that improve Virginia's environment. The awards program is run annually by DEQ in partnership with the Department of Conservation and Recreation. There are five broad categories of awards: Sustainability, Environmental Project, Land Conservation, Implementation of the Virginia Outdoors Plan, and Greening of Government.



GOLD MEDAL WINNERS

Canon Virginia

Recycled Toner Pellet Project

Canon's Recycled Toner Pellet Project targeted the waste toner dust that was extracted from toner cartridges as part of the recycling process. The waste toner dust is a combustible substance that Canon Virginia (CVI) was sending to a waste-to-energy processing plant at a high cost. The toner pellet recycling project is a perfect example of CVI's commitment to the preservation of the environment. CVI developed an innovative, proprietary process that results in a safe material that can be used in roadways. The process first sifts out impurities like plastic, foam, and metal from the toner dust. The dust is then melted, cooled, and pelletized. A multi-disciplinary team worked with the Virginia Department of Transportation which approved the toner pellet material for use on roadways. The sale of toner pellets resulted in an annual profit of \$300,000 per year.



GOVERNOR'S ENVIRONMENTAL EXCELLENCE AWARDS

Grenova

Reusable Pipette Tips

Grenova is a Virginia-based sustainable biotech firm that has designed, developed, and manufactured the world's only devices that wash and clean contaminated plastic pipette tips for reuse. Reusable pipette tips address two issues facing labs: supply shortages and an increase in plastic waste. In response, Grenova created a solution by manufacturing the world's only pipette tip washer so that tips can be used again and again in the lab. Today, Grenova's tip washers are used in some of the largest labs around world including within the National Institute of Health, the National Cancer Institute, and the Centers for Disease Control. Labs using Grenova's tip washers report a 90% reduction in the disposal of plastic pipette tips.



HRSD & DCWater

Development of Next Generation Mainstream Nitrogen Removal Technology through Partial Denitrification-Anammox

Hampton Roads Sanitation District (HRSD) provides wastewater treatment in 20 cities and counties in southeastern Virginia. Through a research program they have been able to implement the innovative DETOUR Process for treating wastewater. The partial denitrification-anammox technologies, invented in collaboration between HRSD and DC Water, is a concept of 'DO more, IN less, WITH less'. It removes more nitrogen pollutants, stores more material in less tank space, and uses less chemicals and energy in the process by using more efficient anammox bacteria. This is a revolution for wastewater treatment and a huge benefit for existing plants in the United States. The process helps to achieve sustainable nitrogen removal, energy neutral or energy positive facilities, reductions in treatment costs, capacity benefits, and significant decreases in carbon footprint.



Henrico Doctors' Hospital

Sustainability in Healthcare: Recycling and Low Flow Anesthesia

In 2017, Dr. Varun Dixit educated medical staff, environmental services personnel, and administrators on the need to recycle the facility's waste. A pilot program for recycling waste began, and the hospital now recycles more than 150,000 pounds of waste every year. The success has also led to the program being launched at two other surgery center facilities. Dr. Dixit then embarked on a mission to reduce the total usage of the environmentally harmful inhaled anesthetic agents: desflurane, sevoflurane, and nitrous oxide. Using the low-flow technique reduced the sevoflurane used to administer equivalent hours of anesthesia over a six-month period by 264 bottles. In terms of environmental impact, the EPA compares each bottle of sevoflurane gas to the equivalent of driving roughly 400 miles in a car. Reducing sevoflurane use by 264 bottles over six months equates to saving approximately 200,000 driving miles per year.



GOVERNOR'S ENVIRONMENTAL EXCELLENCE AWARDS

Beechtree Group, LLC, City of Franklin, & the Virginia Outdoors Foundation Blackwater Park

Blackwater Park is a 200-acre park in Franklin that opened in late 2022. The park is the result of a partnership between the Beechtree Group, the City of Franklin, and the Virginia Outdoors Foundation. The team arranged for the installation of an 800-foot boardwalk, two miles of trails, and the construction of parking, roads, a pavilion, and kiosk. Signage and interpretive materials were also designed and installed by Beechtree. A trail constructed through Turkey Island was designed to serve both people and wildlife. It supports the Virginia Outdoors Plan by adding trails, natural area access, and outdoor space.



SILVER MEDAL WINNERS

Hampton City Schools Oyster Restoration Project

The primary function of the Hampton City Schools Oyster Restoration project is to engage educators and learners in grades K-12. The project enlisted the support of many committed community partners. Thousands of students who have participated in this program have learned the benefits of oysters and oyster reefs to water quality in the Hampton and Back Rivers, and subsequently the Chesapeake Bay. This program has had substantial impact on student and teacher environmental footprints.



Roanoke Cement Company, Troutville Plant Sustainability Program

Roanoke Cement Company (RCC) has created long-term alliances with EPA ENERGY STAR, ISO 50001 Energy Management, Green Business Certification's True Zero Waste, and the Portland Cement Association. These alliances have helped develop environmental and energy saving strategies and measure the company's performance. Through RCC's energy initiatives, there has been a 12% reduction in the plant's use of electricity over the past eight years. The facility's energy management accomplishments culminated in the certification to ISO 50001 Energy Management standard, which has delivered results unique for any cement manufacturer. Reducing waste is also a focus, and RCC now diverts almost 95% of waste from landfills and recycles 95% of its water.



GOVERNOR'S ENVIRONMENTAL EXCELLENCE AWARDS

University of Virginia

Greening of Government

The University of Virginia's (UVA) sustainability programs exemplify how Virginia can lead by example to reduce environmental impacts and protect Virginia's natural resources. This is especially evident in how UVA has implemented EO 17. During fall 2022, UVA initiated three pilot programs with the hope of establishing a permanent presence if successful. The pilots prioritized increasing the quantity and access to compost and recycling bins, heightening education around waste sorting practices, and identifying major diversion opportunities. The pilots included creating six publicly accessible zero waste stations at the McIntire Amphitheater and expanding the "Green Game" to all six home football games.



BRONZE MEDAL WINNERS

Fairfax County's Solid Waste Management Program

Purple Can Club Glass Recycling Program

Fairfax County had removed glass from their single-stream recycling program due to issues caused by broken glass pieces, such as contaminating other recyclables and damaging equipment. This led to the creation of the Purple Can Club, which allows customers to drop-off their used glass containers in glass-only recycling containers that are distributed around the county. To date, the Purple Can Club has recycled 45 million pounds of glass. In 2022, the Purple Can Club recovered 10.5 million pounds of glass. The program is already being replicated around Virginia.



The Tides Inn

Shoreline Restoration Project

The Tides Inn is a resort situated on Carter's Creek in the Chesapeake Bay watershed. The Tides chose to invest in a boardwalk as part of the project as a teaching tool. Construction of 18,000 square feet of living shoreline allows for a continuous, natural buffer along the 150 linear feet of shoreline. The project included planting 42 new trees, 10,600 shoreline plants, and 10,900 upland plants. This restoration project provides many environmental benefits, such as erosion control, wetland re-establishment, and habitat increase for aquatic life, including oysters and crabs.



Christopher Newport University & City of Newport News

Town & Gown Partnership: Solving Sustainability Together

For the past three years, the Center for Sustainability in Education at Christopher Newport University (CNU) has partnered with the City of Newport News to address challenges linked to energy use, food scarcity, waste management, and social justice. The partnership implemented waste reduction and pollution prevention initiatives. It also created the Fear to Hope Project, which has experimented with carbon-storing



GOVERNOR'S ENVIRONMENTAL EXCELLENCE AWARDS

trees, reducing the carbon footprint, and studying trees that are resilient to salt water. This intentional partnership with CNU creates a more sustainable city.

University of Virginia Sustainable Labs Program

UVA has a goal of becoming carbon neutral by 2030 and fossil-fuel free by 2050. To help reach this goal, UVA implemented a Sustainable Labs Program. The team has designed and implemented specialized outreach programs, such as the Green Labs Certification, Shut the Sash for chemical fume hoods, and the International Laboratory Freezer Challenge for lab cold storage. These measures resulted in \$635,000 savings and a 23% decrease in carbon dioxide equivalent emissions since November 2021.



Newport News Waterworks Department Grafton Ponds Extension

In 2017 Newport News Waterworks (NNWW) purchased a 197-acre parcel which was one of the last remaining undeveloped properties in the Harwood's Mill Reservoir watershed. The result of this purchase and sale of the conservation easements is the permanent protection of 747-acres of forested watershed in the middle of suburban York County. This contributes to cleaner drinking water, protection of vulnerable species, habitat preservation, and more. The property is open to the public year-round for no fee, sunrise to sunset.



HONORABLE MENTION

UPACO Adhesives – Worthen Industries, Inc. Sustainability Program

UPACO Adhesives is a manufacturer of industrial adhesives and coatings that has a sustainability strategy built upon its ISO 14001 Environmental Management System. Waste reduction efforts have led to the establishment of multiple recycling partnerships that provide outlets for process materials such as low-density and high-density polyethylene plastics, scrap metal, and mixed streams including paper and cardboard.

DEQ LEADING THE GREENING OF STATE GOVERNMENT

DEQ LEADING BY EXAMPLE

DEQ embraces its role as a leader in the greening of state government. By continually looking for ways to reduce our own environmental footprint, we can encourage others to do the same. Continuous environmental improvement is part of our day-to-day decision-making. From the programs OPP runs to the way DEQ does business, protecting and enhancing Virginia's environment is our core mission. OPP leads by example, creates tools for others to use, and actively seeks to provide technical assistance to agencies interested in implementing similar efforts. DEQ uses an EMS to evaluate the environmental impacts of our operations to increase recycling and waste diversion. By understanding our own environmental impacts, we are better equipped to provide outreach to encourage state employees to reduce waste, recycle, and increase their sustainability efforts.

DEQ'S ENVIRONMENTAL MANAGEMENT SYSTEM

Background

OPP is integral in the ongoing implementation of DEQ's EMS; with the goal of not only reducing DEQ's environmental footprint, but also engaging employees in the day-to-day awareness and decision-making that is a cornerstone of environmental management. DEQ is leading by example as it strives to continually improve the EMS and environmental awareness at its facilities across the state.

The Agency-wide EMS Team meets quarterly to discuss ways to enhance environmentally sound practices, increase environmental awareness through annual training, increase communication of mutually beneficial knowledge, and encourage innovative environmental solutions. These efforts go hand-in-hand with our mission of protecting and enhancing Virginia's environment and promoting the health and well-being of the citizens of the Commonwealth.

Objectives & Targets

Since 2014, the EMS Team has implemented numerous objectives and targets to address risks identified by annual reviews of the agency's environmental aspects and impacts. Seventeen of the 18 objectives and targets implemented to date have been completed. Some of these completed objectives remain ongoing to continually improve efforts like reducing energy use, increasing green purchasing, and greening DEQ meetings and events. The EMS Team will continue to implement action plans to maintain these goals.

In addition to these objectives and targets, the Agency and Regional EMS Teams also coordinate awareness events for Earth Day every April and America Recycles Day every November. These awareness events serve as a crucial way to engage with



One activity DEQ's EMS Team does for America Recycles Day is "Ready, Set, Sort," shown above with some items typically found in DEQ office waste and recycling bins. The game challenges players to choose the correct bin to decrease contamination in the recycling stream.

DEQ LEADING THE GREENING OF STATE GOVERNMENT

DEQ staff on the importance of protecting the environment through actions at home as well as at work. In November 2022, DEQ's Central Office hosted an America Recycles Day event that reached tenants throughout the Bank of America building to increase awareness of the importance of recycling correctly. In addition to these two events, the EMS Team provides an annual EMS Awareness Training to all employees about the Agency's priorities and progress on environmental goals. Increasing environmental awareness is an important part of encouraging employees to assess the daily decisions they make that impact the environment.

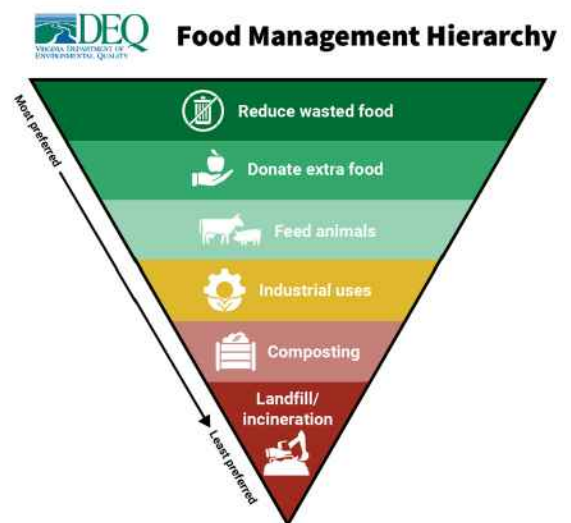
Results

Each year, DEQ's EMS Team compiles an annual report for the DEQ Leadership Team on P2 and EMS efforts. The 2022 report showed that the return to the office led to an increase in purchased electricity, paper use, fleet miles driven, and employee commuting. Beneficial programs like recycling and local cleanups returned after being paused or decreased during the pandemic. The EMS Team is committed to encouraging employees to find ways to reduce their environmental impact and embrace green practices both at the office and at home.

RECOGNIZING THE VALUE OF RECYCLING AND WASTE REDUCTION

OPP continues to support Governor Youngkin's EO 17, which includes three areas for DEQ to encourage recycling: supporting the Department of General Services efforts to encourage recycling at state agencies, coordinating with the Virginia Economic Development Partnership to identify opportunities to attract businesses that use post-consumer recycled content, and partnering with the Department of Agriculture and Consumer Services to identify ways to reduce food waste.

Efforts to reduce food waste follow the food management hierarchy, with the most preferred strategies being to reduce the amount of food waste, donate extra food to feed people, and divert food scraps to animal feed. Additional resources are available on [DEQ's webpage](#).



RESOURCES

General Information

www.deq.virginia.gov/our-programs/pollution-prevention

Virginia Green Tourism Program

www.deq.virginia.gov/our-programs/pollution-prevention/virginia-green

www.virginia.org/green/

www.virginiagreen.net

Governor's Environmental Excellence Awards Program

www.deq.virginia.gov/our-programs/pollution-prevention/governor-s-environmental-excellence-awards

Pollution Prevention Case Studies

www.deq.virginia.gov/our-programs/pollution-prevention/case-studies

Virginia Environmental Excellence Program

www.deq.virginia.gov/our-programs/pollution-prevention/virginia-environmental-excellence-program

Virginia Information Source for Energy

www.deq.virginia.gov/our-programs/pollution-prevention/virginia-information-source-for-energy

Executive Order Seventeen

www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/eo/EO-17-Recognizing-The-Value-of-Recycling-and-Waste-Reduction.pdf

www.deq.virginia.gov/our-programs/pollution-prevention/executive-order-17/stopping-food-waste

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