

# Pollution Prevention 2011



Office of Pollution Prevention  
629 East Main Street  
Richmond, Virginia 23219  
804-698-4344

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## From the Director

For more than twenty-five years, pollution prevention has played a key role in the Department of Environmental Quality's (DEQ) mission to protect and enhance Virginia's environment. DEQ's Office of Pollution Prevention (OPP) hosts a number of programs and initiatives that serve as a conduit for non-regulatory assistance to businesses, institutions, and communities. These efforts are aimed at motivating Virginia facilities to minimize their environmental footprint through actions that often exceed requirements while enhancing their bottom line. A few of the highlights from 2011 are:



- Significantly expanding membership in the Virginia Green tourism program, including meeting the target of 1,000 members and presenting the first ever Virginia Green Travel Stars awards;
- Awarding 26 Governor's Environmental Excellence Awards to manufacturing facilities, government agencies, and partnerships for their environmental stewardship accomplishments; and,
- Completing the stakeholder engagement process for the Virginia Environmental Excellence Program, which resulted in a series of recommendations to enhance and grow the program.

DEQ's reputation both nationally and regionally as a leader in promoting collaborative partnerships and engaging audiences through non-regulatory environmental programs continues. I am confident that pollution prevention and environmental sustainability will continue to be an important strategy for the Commonwealth.

David K. Paylor



## Virginia Green Tourism

Virginia Green is the Commonwealth's voluntary initiative to promote pollution prevention practices across all sectors of the tourism industry. Participating tourism businesses and organizations voluntarily commit to requirements, including recycling programs and waste reduction, water and energy conservation, and green conferences and events.

The program, which was launched as a pilot project in 2006, is structured to encompass the entire travel and tourism sector, and includes lodging, restaurants, attractions, conference facilities, convention centers, campgrounds, events, visitor centers, wineries, golf courses and supporting organizations.

OPP oversees development of all programmatic guidance and reviews each of the submitted applications, while DEQ's partners, the Virginia Tourism Corporation (VTC) and the Virginia Hospitality and Travel Association (VHTA), coordinate marketing and promotion of the program.

### 2011 Virginia Green Highlights:

- Achieving 1,000 Participants.** Spurred by various regional efforts and several added categories of participation, the number of Virginia Green participants has continued to grow. Work to transition additional category applications to our automated system has continued. This June, Virginia Green recognized its 1,000th participant through a partnership with supporting organization Keep Virginia Beautiful, who has committed to co-market and promote Virginia Green throughout the Commonwealth and offer additional recognition opportunities, resources, and support for VG participants and events. As of the end of September membership is nearing 1,100.
- Virginia Green Featured at State Welcome Centers.** September marked the beginning of Virginia's Welcome Centers endorsement of Virginia Green. Each Virginia Welcome Center was supplied with a promotional kit including Virginia Green placards, posters, flags and the "Ask Me About Virginia Green" pins pictured at left. Two larger Virginia Green displays were rotated between Welcome Centers throughout the Commonwealth. Promotional kits are also being offered to local and regional Visitor Centers.
- Virginia Green Challenge to Virginia State Parks.** In honor of the 75th anniversary of Virginia's State Parks, the Virginia Green tourism program launched an effort to register all 35 State Parks as Virginia Green attractions. To assist the Virginia State Parks, many technical assistance visits have been conducted. Through Virginia Green's partnership with Keep Virginia Beautiful, the State Parks were awarded a Keep Virginia Beautiful grant to purchase 275 recycling bins to increase visitors' access to recycling receptacles. The State Parks have taken on Virginia Green's challenge and gone beyond Virginia Green attractions, by committing to Virginia Green's core requirements for lodging and conference centers when applicable.
- Virginia Green Suppliers Network.** The Virginia Green Suppliers Network (VGSN) was established in 2010 and has grown to over 100 members. It was created to assist Virginia Green participants connect with companies that provide green products and services, such as recycling vendors, grease filtering companies, and solar panel installers.
- Virginia Green at the 2011 State Fair.** Virginia Green was represented for the first time with a booth at the State Fair October 7 – 9. Volunteers from both DEQ and Virginia Green facilities reached out to over 1,500 people over the course of three days, receiving positive feedback from fair goers.
- Promotion.** DEQ works with the Virginia Tourism Corporation to promote the program. New marketing efforts include an overhaul of the website, posters featuring a Quick Response (QR) code, window placards, and flags. In addition, 2011 saw a significant increase in the use of social media to promote the program to both potential members and consumers; by the end of the year, Virginia Green's Facebook page had grown in popularity to almost 2,000 fans.



Solar panels at VG member Cooper Vineyards.



Pictured at the State Fair are DEQ's Sharon Baxter, Miss Virginia Association of Fairs Katie Grace Yankey, and member Suzanne Dezern of Ivy Cottage in Middlesex County.

• **Green Travel Stars Awards Presented.** On October 18, the inaugural Green Travel Stars Awards were presented at the VA-1 Tourism Summit in Richmond. Four awards were presented:

- **Green Facility Program of the Year (Large-Scale)** to **BF Saul Company**, which owns twelve hotels in Virginia, all of which are in the program. The company initiated its own “Our Big Green” program several years ago focused on continuous environmental improvement.
- **Green Facility Program of the Year (Small-Scale)** to **The Inn at Tabbs Creek** in Haywood, whose owners strive to be as eco-sensitive as possible through efficiency improvements to the building, sustainable building materials, organic gardening, composting, recycling and oyster gardening.
- **Most Innovative Green Project** to **The Virginia Aquarium and Marine Science Center’s E-cycling Program** in Virginia Beach, which has run two events each year for the last three years, collecting more than 130 tons of electronic waste for recycling overall.
- **Best Green Supplier** to **Virginia Linen Service** of Petersburg, which provides environmentally conscious products and services to Virginia Green members.



Pictured above with the award winners are DEQ’s Meghann Slattery (left) and Virginia Green consultant Tom Griffin (right). In addition to the four awards presented, the following organizations were recognized as “**Green Travel Leaders**” for their outstanding efforts:

Cooper Vineyards of Louisa  
 Croc’s Eco-Bistro of Virginia Beach  
 DuCard Vineyards of Etlan  
 Full Circle Catering of Rockbridge  
 George Washington’s Mount Vernon  
 Great Wolf Lodge of Williamsburg  
 Hilton Garden Inn - Downtown Richmond  
 Kimpton Hotels of Virginia  
 Montrose Bed and Breakfast  
 Poplar Springs Inn and Spa, Casanova  
 Roanoke Civic Center  
 Shadow Mountain Escape of Luray  
 Sports for Nature  
 Starboards Coffee of Portsmouth  
 Stonewall Jackson Hotel and Conference Center of Staunton  
 The National Conference Center of Leesburg  
 The Westin Richmond  
 Virginia Beach Convention and Visitors Bureau  
 Wingate by Wyndham of Lynchburg

## Governor's Environmental Excellence Awards



On April 6th, the winners of the 2011 Governor's Environmental Excellence Awards were announced at the Environment Virginia Symposium in Lexington. The awards program was co-sponsored by DEQ, the Virginia Department of Conservation and Recreation (DCR), Dominion, and Smithfield Foods. Twenty-six entries were recognized with awards in the categories of Environmental Program, Environmental Project and Land Conservation. Gold medal winners are highlighted below.

**Kimpton Hotels & Restaurants of Virginia: Earthcare Program.** Kimpton Hotels and Restaurants is a collection of boutique hotels and chef-driven restaurants located throughout the country, with four hotels, four restaurants, and one gourmet food shop in the Northern Virginia Region. The company is an acknowledged industry pioneer and was the first to bring the boutique hotel concept to the U.S. Kimpton leads the hospitality industry in environmentally-focused practices through its innovative Earthcare program, which dates back to the company's inception in 1981 and has the distinction of being the luxury-and-boutique hotel industry's first and largest nationwide sustainability plan. It is designed to incorporate non-intrusive, "bottom-line friendly," sustainable business practices. In the past year, all of the company's Virginia hotels, which participate in the Commonwealth's Virginia Green tourism program, have completed the comprehensive, independent Green Seal certification process. Environmental results for 2010 include the conservation of approximately 187,000 gallons of water and 6,000 Kilowatts of energy, as well as the composting of more than 225,000 pounds of food waste.

**MillerCoors Shenandoah Brewery, Elkton: "Green Team".** Launched in 2007, the facility's cross-functional "Green Team" has led to a renewed focus on the plant's recycling and sustainability efforts. After establishing a "zero to landfill" goal, the team quantified waste streams, conducted audits, and upgraded equipment. Since then, the facility has partnered with James Madison University to send compacted waste to be converted into steam, conducted "recycling blitzes" in different parts of the plant, and implemented employee outreach programs. The overall results at the facility are impressive – eliminating 375 tons of waste formerly sent to a landfill and achieving 100% recycling. Pictured at right are Secretary of Natural Resources Doug Domenech, Lesa Duncan and Abby Griffin of Miller Coors, DEQ Director David Paylor, and DCR Director David Johnson.



**U.S. Army Fort Monroe Public Works.** Fort Monroe is a 565-acre installation located along the Chesapeake Bay in Hampton built between 1818 and 1834, designated a National Historic Landmark in 1960, and put on the National Register of Historic Places in 1966. It has been an E2 member of the Virginia Environmental Excellence Program since 2004. The installation transferred out of Army control in September, 2011, as part of the Base Realignment and Closure Act. To help preserve Fort Monroe for future generations, an extensive natural resources program has been implemented, including environmentally beneficial projects such as Bayscape landscaping, low impact development, rain gardens, and flora and fauna surveys. The site is home to the northernmost, largest native collection of southern live oaks, the oldest of which is estimated to be 467 years old. The comprehensive pollution prevention program achieved a solid waste diversion rate of 41% in 2010, resulting in a cost avoidance of just over \$63,000, as well as a 97% reduction in the use of pesticides based on a 2002 baseline. The installation has also made a significant commitment to public outreach, hosting annual Arbor Day and Earth Day celebrations as well as several community-wide tree planting and exchange events.

**Virginia Master Naturalist Program.** The Virginia Master Naturalist program is a volunteer training and service program that is focused on natural resources. First launched in 2006, it has grown to include 30 local chapters, covering most of the Commonwealth. The local chapters recruit and train volunteers who then act as volunteer educators, citizen scientists, and stewards focused on Virginia's natural resources. To become Certified Virginia Master Naturalists, volunteers must complete 40 hours of basic training, 8 hours of advanced training, and 40 hours of volunteer service, which may be with a state agency or with one of the more than 300 local partner organizations as long as it relates to natural resource education, citizen science, or stewardship. The program now has more than 1,200 active volunteers who have provided more than 140,000 hours of service, reaching more than 100,000 Virginians and positively impacting more than 5,500 acres of land.

**Virginia Tech: Sustainability Plan Implementation.** In 2009, state agencies were challenged to reduce their environmental footprints and become more sustainable. Virginia Tech's response was unique: the university created its own "Green Campus Challenge" modeled after the larger state initiative. All Blacksburg campus departments with ten employees or more were eligible to compete during the six-week Challenge period in the spring of 2010. Points were earned for policies and practices for reducing energy and waste, maximizing recycling, and avoiding transportation impacts related to meetings and commuting. The primary aim was to educate and prompt action by providing the departments with an opportunity to adopt policies and practices as well as spur participation in a cross-campus sustainability dialogue. As a show of his support for the Challenge, President Charles W. Steger offered to invite a representative from each of the top four scoring departments to accompany him in the President's Suite at Lane Stadium for a fall 2010 home football game. Winning departments were Facilities Services, Materials Science and Engineering, Military Affairs/Virginia Tech Corps of Cadets, and University Scholarships and Financial Aid. Examples of outstanding sustainability policies and practices emerging from the Challenge are: better metering and monitoring of energy use; greater use of motion sensors and timers, motion activated, low-flow faucets and toilets; recycling in residence halls; replacing print materials,



especially mass campus mailings, with electronic media; instituting a campus-wide Sustainability Forum every two years; and, expanding campus transport options to include scooters, mopeds, and golf carts. Pictured above with Secretary Domenech, David Paylor and David Johnson are (left to right) Virginia Tech's Rob Lowe, Angie De Soto, Professor John Randolph, Fred Selby, Denny Cochrane, and Michael Coleman.

**Town of Purcellville: "Go Green Purcellville".** The Town of Purcellville, a small independent town of about 7,000 people in Loudoun County, has adopted an environmental policy to plan, operate, and maintain its equipment, facilities, and services in a manner that protects and strives to enhance the environment. The Town's comprehensive environmental program includes water conservation, water quality preservation, land conservation, tree preservation, energy conservation, solid waste management, and recycling. The water conservation plan has saved an estimated 3 million gallons of drinking water over the last two years through rebates for clothes washers, toilets, and rain barrels, as well as the distribution of low-flow shower heads and faucet aerators. Three properties totaling 1,465 acres were placed into conservation easements during 2009-2010, the majority of which are around the Town reservoir, springs, and wells. A large recreation center was remodeled with many green features, including a geothermal HVAC system, a metal roof made from recycled materials, LED and high-efficiency lighting, and water-conserving fixtures. The Arbor Day Foundation recently recognized the Town for the fourth time as a Tree City USA community. Other initiatives include adopting a sustainable procurement policy and community wide electronics recycling, paper shred, drug recycling, and tire inflation events.

**Chesapeake Bay Foundation: Environmental Education Program.** The Chesapeake Bay Foundation (CBF) is the largest and only not-for-profit conservation organization existing solely to restore the Chesapeake Bay. Through hands-on field experiences and sustained training programs, CBF is connecting students, teachers, and interested citizens throughout the watershed to the Bay in order to heighten awareness, increase knowledge, and encourage stewardship actions to protect and restore the Bay and its local rivers and streams. The multi-faceted education program is one of the largest of its kind in the country, offering structured field investigations that are integrated into classroom curricula, accredited professional development, hands-on community based projects, curriculum materials, volunteer resources, and leadership development programs. Throughout the years, CBF's environmental education program has trained one million students and teachers throughout the watershed. During the last year in Virginia, CBF served over 8,800 students and 850 teachers and school administrators on field experiences and professional development trainings. Pictured at right are CBF's Bill Portlock and Cindy Duncan accepting their award.



**Thomas Jefferson National Accelerator Facility: Sulfur Hexafluoride Management.** The Thomas Jefferson National Accelerator Facility (Jefferson Lab) is a national U.S. Department of Energy laboratory in Newport News. Since 1995, this unique electron-beam facility has been used to investigate the structure of nuclei and nucleons. The Lab's Free Electron Laser is currently the fastest of its type in the world. The Lab has pioneered innovative, cost-effective engineering strategies to prevent sulfur hexafluoride (SF<sub>6</sub>) fugitive emissions. SF<sub>6</sub> is the most dangerous of the greenhouse gases in its negative effect on the atmosphere. The Lab's recovery system conserves and recycles the gas rather than releasing it into the atmosphere, preventing the release of 900,000 tons of CO<sub>2</sub> equivalent and saving more than \$1,500,000.

**James River Association: Extreme Stream Makeover Initiative.** The James River Association (JRA) is the only organization in Virginia working solely to protect and enhance the river and the 15,000 miles of tributaries that flow throughout its 10,000 square mile watershed. JRA operates four core programs: watershed restoration, education and outreach, river advocacy, and its riverkeeper program. JRA partners with corporations, local governments, farmers, landowners, individuals, and state and national agencies. The Extreme Stream Makeover is a watershed restoration initiative that empowers local citizens to become active stakeholders in their local waterways. Structured after the successful TV series Extreme Makeover: Home Edition, the initiative engages an entire community in an intense, week-long effort to restore a local degraded stream. At the same time, the participants learn how their individual actions can improve water quality and enhance their community. In conducting a stream makeover, JRA partners with local government, soil and water districts, area businesses, universities, schools, and professional, social, and civic organizations. The makeover may involve conducting a stream and watershed survey; designing rain gardens, BayScapes, buffers, stabilization efforts; and native plant selection. Professionals complete the initial planning work, volunteers of all ages carry it out. To help other groups learn from the Association's experience, JRA has developed a manual, which is available for free to other organizations.

**The Nature Conservancy: Dragon Run Conservation Area.** The Nature Conservancy (TNC), working in partnership with the Virginia Department of Forestry, protected 21,500 acres of more than 60 parcels on the Middle Peninsula in 2010. Part of the protected area is a conservation easement on 13,500 acres, the largest on record in the Commonwealth. The project exemplifies an effective public-private partnership, which resulted in a "once-in-a-lifetime" opportunity to protect over 34 square miles of lands important to the Chesapeake Bay. The project protects working forests, water quality, important natural communities, and aquatic habitat in the Dragon Run and Mattaponi watersheds, including over 80 miles of streams, more than 3,000 acres of wetlands, 5 rare natural communities, and 25 state and globally rare plant and animal species. TNC is working to restore up to 15,000 acres of the working forests of the region to a mature mixed pine and hardwood forest. These forests are not only the basis of the local economy, but they also provide natural filtering functions, reducing nutrient and sediment pollution in the Chesapeake Bay. Pictured at left with David Paylor and Secretary Domenech is TNC's Linda Crowe.



### Other winners recognized were:

#### Silver:

Augusta County, Woodrow Wilson Complex Recycling Program  
 Covanta of Alexandria/Arlington, Inc., Environmental Management System  
 DuPont Spruance Plant, Richmond, Waste Reduction Initiative  
 DuPont Teijin Plant, Richmond, Elimination of Toluene Waste Stream  
 GearClean, Inc., Winchester, Dry Ice Blasting Vessel Decontamination  
 Hampton Roads Sanitation District Nansemond Treatment Plant, Nutrient Recovery Program  
 Masco Cabinetry, Mount Jackson, Environmental Management System  
 Virginia Army National Guard, Fort Pickett Compatible Use Buffer  
 VCU Inger and Walter Rice Center for Environmental Life Sciences  
 Virginia Department of Corrections, Water Conservation Initiative

#### Bronze:

Blackwater/Nottoway Riverkeeper Program  
 Dave's Taverna, Harrisonburg, Innovative Waste Oil Reuse  
 Fairfax County Stormwater Planning Division, "Stormy the Raindrop" Program  
 Keep Suffolk Beautiful, "Recycling Rangers"  
 Lees Carpets, Glasgow, Nitrogen and Phosphorus Discharge Reduction  
 Smithfield Packing Inc., Hot Water Conservation Project

# Outreach to Reduce Priority Chemicals

## National Partnership For Environmental Priorities

The National Partnership for Environmental Priorities (NPEP) was discontinued in 2011. It had focused on the voluntary reduction of Priority Chemicals found in products and wastes. EPA Region 3, which covers the Mid-Atlantic area, had committed to reducing 88,000 pounds of Priority Chemicals annually. NPEP had seen great participation from Virginia facilities. The program or programs that will replace NPEP are currently under development. Meanwhile, OPP continues its outreach efforts related to the proper handling and reduction of mercury and mercury containing products.

## Mercury Reduction Website

In recent years DEQ's Office of Pollution Prevention has worked to promote and coordinate statewide pollution prevention efforts to reduce or eliminate the use of mercury and mercury-containing products and to collect unused elemental mercury for proper management and recycling. Virginia's Mercury Reduction activities draw heavily upon the strengths of successful mercury-related programs in other states and cities. In furthering this initiative, DEQ has utilized existing partnerships with industry mentors, state and local government, and the dental industry and created new partnerships with federal government agencies, the hospital and pharmaceutical industry, and local school systems. Please go to [www.deq.virginia.gov/p2/mercury/homepage.html](http://www.deq.virginia.gov/p2/mercury/homepage.html) for more information on OPP's mercury reduction efforts. One of these efforts is the "Virginia Fluorescent Lamp Recycling Challenge".

## Virginia Fluorescent Lamp Recycling Challenge

While fluorescent lamps are beneficial to the environment because of their energy efficiency, they do contain small quantities of mercury. To ensure that mercury is not released to the environment, the best option is to recycle fluorescent lamps. In 2007, DEQ challenged facility managers, particularly those at commercial buildings, to recycle their lamps. Facilities in the "Virginia Fluorescent Lamp Recycling Challenge" cumulatively recycle over 55,000 bulbs per year.

## Auto Salvage Industry Mercury Reduction

OPP's partnership with the Virginia Automotive Recyclers Association (VARA) yielded a pilot project to remove mercury tilt switches in automobiles as part of the dismantling and salvage process. Mercury-containing switches in automobile scrap have been identified as a primary source of mercury air emissions from the steel industry. Several years ago, OPP sponsored the distribution of pre-paid collection kits with instructions for removing the switches and precautions for safe handling and shipping. VARA promoted the pilot to its membership, and more than thirty facilities participated in the program. VARA also coordinated the pilot program with NPEP, pledging to remove 1,500 switches (the equivalent of almost five pounds of mercury).

The success of the pilot program resulted in legislation adopted by the 2006 Virginia General Assembly which requires removal of mercury convenience switches from end-of-life motor vehicles prior to demolition. DEQ has worked with VARA, the Virginia Department of Motor Vehicles, the scrap industry, steel manufacturers, and the automotive industry to implement the program. End of Life Vehicle Solutions (ELVS), an organization created by automotive manufacturers, has distributed collection buckets for mercury switches throughout the Commonwealth. To date, nearly 67,000 switches have been collected in Virginia, equating to more than 150 pounds of mercury.

# Virginia Environmental Excellence Program

*The Virginia Environmental Excellence Program (VEEP) is intended to recognize facilities that have demonstrated a commitment to enhanced environmental performance and to encourage innovations in environmental protection.*

Since 2000, DEQ has promoted the non-regulatory Virginia Environmental Excellence Program (VEEP) as a mechanism to encourage “beyond-compliance” environmental results. VEEP provides recognition and incentives to those facilities meeting the program requirements, which include a demonstration of their commitment to environmental performance through the development of an environmental management system (EMS), implementation of voluntary pollution prevention initiatives and compliance with environmental regulations. There are three types of participation options for interested facilities:

- 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, reviewing applications and renewals, performing site visits for E3 and E4 applications, conducting compliance reviews, and coordinating recognition events.

## Highlights from 2011

**Program Membership.** For the first time, there are more E3 participants than E2 participants, reflecting the fact that many of the EMSs at member facilities have matured beyond the initial development stage, a significant accomplishment for both the facilities and the program. The maturing of existing participants’ programs is also evident in the leveling off of program membership, which was approximately 450 approved or pending facilities as of the end of 2011, similar to last year. While some facilities have dropped out of the program for various reasons, VEEP continues to attract new and renewing participants from throughout the Commonwealth and from many sectors, including local government (48%), state government (26%), manufacturing (9%), federal government (6%), and other sectors (11%).

**Outreach.** OPP maintains an e-mail list of contacts at participating VEEP facilities and relates pertinent environmental information periodically via an electronic newsletter. OPP also conducts non-regulatory pollution prevention site assessments at newly applying E3 and E4 facilities. Staff look to identify possible pollution prevention opportunities and stay current on contemporary pollution prevention technology. OPP staff has conducted approximately 15 site visits in 2011. In addition, OPP presented workshops at three venues, reaching over 150 attendees.

**Stakeholder Engagement.** In mid-2010, after some initial conversations with VEEP members, OPP created stakeholder workgroups to provide input to DEQ on three questions: (1) whether the existing program structure, particularly the E4 level requirements, was still adequate; (2) whether an “on-ramp” or entry level program was needed; and, (3) whether a new track to encourage and recognize organizational (as opposed to facility-based) efforts in the area of sustainability was needed. The three workgroups met numerous times and presented their recommendations at the VEEP workshop at the Environment Virginia Symposium in April.

The program structure workgroup suggested a number of changes, including clarification of the expectations of E4 facilities as well as additional informational resources that should be added to the website. Those recommendations were accepted, and the changes made. The on-ramp workgroup determined that there is a need for an entry level program; however, given limited resources, OPP has opted to instead move toward better partnering with the existing local and sector based “greening” programs around the state. As a first step, an initial inventory of those programs as well as their requirements and scope, has been developed. OPP expects to further explore partnerships with those programs in 2011.

The sustainability track presented DEQ with a well-developed concept document recommending that a new “VEEP Sustainability Partners” track be developed to encourage and recognize organizations of all types that take significant steps toward reducing their environmental impact. DEQ is moving forward to implement the recommendations, possibly through partnerships.

**VEEP Incentives.** Members of the Virginia Environmental Excellence Program enjoy two types of incentives: recognition and regulatory flexibility.

- **Recognition Ceremonies.** Upon request, DEQ recognizes new and renewing VEEP facilities at ceremonies throughout the Commonwealth. In 2011, DEQ participated in events for more than 21 facilities. These events



focus attention on the members' efforts to improve the environment by minimizing their footprint. The ceremonies also emphasize the positive partnership shared by DEQ and its VEEP members and highlight the individuals who commit to reduce their facility's impact, as well as the administrators and managers who support them. Above at right, employees at the US Army Garrison and Fort Lee pose with their E4 flag after their recognition ceremony. At left, staff at the Pfizer plant in Richmond pose after their E4 ceremony with DEQ's Keith Boisvert, Sharon Baxter and Chief Deputy Rick Weeks (on the right).



- **Annual Permit Fee Discounts for VEEP Facilities:** Several years ago, the General Assembly adopted legislation establishing annual fees for facilities with certain types of waste and water permits. Simultaneously, the legislature acknowledged that VEEP members "go beyond" compliance and determined that improved environmental performance merited permit fee discounts:

- Hazardous waste: potentially 5% for E2 facilities and 10-20% for E3 and E4 facilities
- Solid waste: potentially 10% for E2 facilities and 20% for E3 and E4 facilities
- Water: potentially 2% for E2 and 5-20% for E3 and E4 facilities.

In 2011, the discounts totaled in excess of \$126,000.

- **Alternate Compliance Methods:** In 2005, the General Assembly acknowledged that regulatory and administrative flexibility are powerful incentives for driving improved environmental performance when it passed legislation allowing certain VEEP members to request the use of alternative, innovative approaches to meet or go beyond current levels of compliance. VEEP members at the E3 and E4 levels are eligible to request the use of "alternate compliance methods"; the law authorizes DEQ's three regulatory boards to grant appropriate facility requests. VEEP members have used this mechanism to request reduced monitoring and reporting frequency, streamlined permit application and renewal processes, and to make operational changes without prior approval from the Department.

As outlined in the law, only alternate compliance methods that meet the purpose of the applicable regulatory standard, achieve the purpose through increased reliability, efficiency or cost effectiveness, and provide equal or greater environmental protection will be approved; proposals that alter existing standards, increase pollutants released to the environment, increase impacts to Virginia's waters, or result in a loss of wetland acreage will not be approved. Depending on the method requested, the changes may require a permit amendment.

As an example, in 2010 the Philip Morris Park 500 plant in Chesterfield, an E4 facility, requested and was granted the following flexibility: (1) reduction in the frequency of monitoring of pH from once per day to five times per week; (2) removal of nutrient limitations and monitoring in the facility's individual permit because those parameters are covered by the facility's Chesapeake Bay Watershed General Permit; and, (3) permission to perform a pilot study of their Natural Treatment System (NTS) to determine if the facility can reduce or eliminate the amount of sodium bisulfite used in their treatment process yet maintain water quality by demonstrating that the NTS can de-chlorinate the wastewater stream through natural processes prior to discharge to the river.

**Environmental Results.** To remain in good standing, all VEEP facilities must submit a progress report each year. Several years ago, DEQ instituted an on-line reporting system that emphasizes the reporting of measurable results rather than descriptive updates. When applying for and renewing participation, facilities select from a list of more than 35 environmental indicators that they then use as the basis of their results tracking and VEEP annual reporting. Facilities report results in both actual and normalized quantities (i.e., results based on production, number of employees, etc.). Normalized results

## 2011 Aggregate VEEP Results

(2010-2011)

### Water Use & Discharge:

- Reduced total water use by more than 1,034 million gallons
- Reduced wastewater discharges by almost 4,750 gallons

### Material Use & Waste:

- Reduced the amount of hazardous materials used by 89 tons
- Reduced hazardous waste generation by almost 101,593 tons
- Increased non-hazardous waste recycling by more than 9 million tons

### Air Emissions:

- Reduced emissions of volatile organic compounds (VOCs) by 547 tons

Cost Savings: Over \$43 million

Preserved or restored almost 200 acres of land

allow facilities to better track year-to-year performance. Over the past year, DEQ has worked to update and streamline the VEEP on-line reporting process. The overall program results as presented above should only be considered as a general indication of VEEP facility performance because: (1) the program is voluntary and data is reviewed as submitted by the facilities; (2) many facilities still have limited experience tracking environmental data; and, (3) the reports are a snapshot from one year and may not reflect overall reduction trends.

Examples of individual VEEP facility progress and successes:

- A non-profit that manages a shooting range recovered more than 200,000 pounds of lead in a form that it could be sold for re-use, which paid for the costs of the recovery operation and will also support additional environmental stewardship activities in 2011.
- A county with a government-wide EMS has implemented a number of initiatives: (1) a Safer Chemical Policy, mandating that only certified environmentally friendly cleaners are used; (2) an Integrated Pest Management program that uses only bio-based herbicides for grounds and park management; (3) a "green renovations" Standard Operating Procedure to ensure that all renovation projects are as green as possible, even if they are too "small" in scope/size to be certified; (4) a procedure to ensure that all contractors read and sign a statement saying that they understand environmental compliance and pollution prevention issues related to their work; (5) the 2010 installation of their second and third solar thermal systems.
- A city traffic engineering department developed procedures to guide personnel with uniform and efficient methods to follow when performing setup, operation and end of shift processes with road marking equipment. This change aids in the reduction of waste byproducts.
- A large manufacturer launched a new initiative called the "Total Productive Maintenance" program, with a goal of returning production equipment to "like-new" condition and empowering employees at all levels to identify problems with equipment, tag the problem spots and fix any problems they are qualified to fix. The result is reduced down time, increased machine efficiency, and a reduction in air and fluid leaks.

## Energy Efficiency & Renewables

Virginia and other states continue to face air quality challenges related to ozone, regional haze, fine particulates, and toxic air pollutants. Increasing energy efficiency and implementing clean energy technologies are two ways to mitigate negative impacts.

In many cases, clean, renewable energy approaches provide an environmentally and economically preferable alternative to conventional end-of-pipe pollution control. One significant barrier to implementation of these approaches can be a lack of access to current and comprehensive information. OPP actively participates in and promotes energy efficiency and renewable energy related outreach and seeks out partnerships with other organizations.



### Promoting Energy Conservation

Energy efficiency, conservation and renewables are all key components of both of OPP's key outreach programs, the Virginia Environmental Excellence Program and Virginia Green. Pictured above is Virginia Green member Cooper Vineyards' new tasting room building, which combines energy efficiency and renewable energy. The building was constructed with an ultra-efficient geothermal HVAC system, energy efficient lighting fixtures, solar tubes, a structurally insulated panel system (providing 70% greater insulation values than traditional stick frame construction), and energy efficient windows paired with solar panels that provide more than 15% of the buildings electricity.

**Technical Assistance:** OPP offers free energy assessments to interested facilities. OPP also maintains the Virginia Information Source for Energy website, or VISE. The website is a repository for information on alternative energy options in Virginia, energy efficiency tips, and financial incentives.

**Partnerships:** OPP collaborates with various organizations to promote energy education and the value of energy efficiency and renewable energy including the Virginia Department of Mines, Minerals and Energy and Hampton Roads Clean Cities.

## Resources

### **General Information**

[www.deq.virginia.gov/p2](http://www.deq.virginia.gov/p2)

### **Virginia Green Tourism Program**

[www.deq.virginia.gov/p2/virginiagreen/homepage.html](http://www.deq.virginia.gov/p2/virginiagreen/homepage.html)

[www.Virginia.org/green/](http://www.Virginia.org/green/)

### **Governor's Environmental Excellence Awards Program**

[www.deq.virginia.gov/p2/geea/homepage.html](http://www.deq.virginia.gov/p2/geea/homepage.html)

### **Virginia Environmental Excellence Program**

[www.deq.virginia.gov/veep](http://www.deq.virginia.gov/veep)

### **Virginia Information Source for Energy**

[www.deq.virginia.gov/p2/vise/homepage.html](http://www.deq.virginia.gov/p2/vise/homepage.html)

### **National Partnership for Environmental Priorities**

[www.deq.virginia.gov/p2/wastemin.html](http://www.deq.virginia.gov/p2/wastemin.html)