



## 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.

# Constellation Energy

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Utility

Member since September 2009

## Management and Leadership



### Environmental Policy Statement

*At Constellation Energy, we recognize our role in reducing greenhouse gas emissions and helping to lay the foundation for a 21<sup>st</sup> century, sustainable energy grid. That's why environmental stewardship is a fundamental corporate value and a principal driver of the decisions we make today. Constellation Energy generates, delivers, manages and markets renewable energy, and is leading the drive for next-generation, emissions-free nuclear power. We're serving consumers and the environment by investing in a smarter, more efficient electric grid and providing innovative conservation and efficiency programs to increase reliability, reduce consumption and lower customer costs.*

*Constellation Energy's Environmental Policy Statement represents our commitment to our shareholders, customers, employees, and the communities we serve, that environmental stewardship is a fundamental corporate value across our company. Below you will find our positions, policies and principles that related to environmental governance at Constellation, as well as a research paper outlining the future of the energy sector.*

[Environmental Policy Statement >](#)

[National Commission on Energy Policy Task Force on America's Future Energy Jobs Report >](#)

[National Commission on Energy Policy Task Force on America's Future Energy Jobs Executive Summary >](#)

☑ **Environmental Team**

*Environmental responsibility is one of our foundational values and in 2007, we created a new executive position, Chief Environmental Officer (CEo), to provide leadership of and oversight over our environmental governance system. The company's CEo is responsible for providing guidance and oversight for our environmental governance activities and for providing periodic environmental updates to Constellation Energy's executive leadership team. Environmental professionals are embedded throughout our organization. These employees form various working groups to identify opportunities for improvement, and formulate and implement solutions to improve environmental performance.*

☑ **Annual Environmental Goals**

*A culture of continuous improvement reminds us that we can always do better and leads us to focus on goals to improve our environmental sustainability programs. Read more about our environmental sustainability goals in the areas of customers and products, stewardship, community, governance and compliance.*

**Focus on Customers and Products**

**Goal:** *Provide clean energy products and services to meet our customers' demand for greater energy efficiency, cost savings, and a cleaner energy footprint. Develop products to help customers lower peak demand as a way of avoiding or delaying the need for construction of new generating facilities.*

**What We've Accomplished:**

- *In 2009, we helped our customers avoid the emission of more than 500,000 tonnes of CO<sub>2</sub>, a greenhouse gas.*
- *We have increased the number of megawatts of solar generation constructed and operated for our customers nearly ten times from early 2009 (less than 4 MW installed) to December 2010 (near 40 MW installed and in development).*

**Looking Ahead: 2010-2015**

- *Between 2010 and 2015, we aim to enable our customers to avoid 7 million tonnes of CO<sub>2</sub> on a cumulative basis.*
- *Between the end of 2010 and 2015, we plan to increase megawatts of installed and operated onsite solar generation threefold from current levels.*

**Focus on Stewardship**

**Goal:** *Focus on water, energy, waste and wildlife habitat protection.*

**What We've Accomplished:**

- *We track data on all of our major environmental impacts and have for many years. In 2010 we initiated more detailed assessment processes to lay the foundation for developing improvement strategies and setting numerical targets. These areas include our water footprint, management of all our solid waste streams, and additional improvements in our own energy management practices.*
- *Constellation Energy maintains Wildlife Habitat Council certifications for several of our major locations: The habitat program at the Calvert Cliffs Nuclear Power Plant has been WHC-certified since 1993, with 1,900 acres of land available for wildlife habitat projects. In 2009, the Spring Gardens campus was granted Wildlife at Work certification by the WHC for successfully implementing a comprehensive wildlife habitat management program.*

**Looking Ahead: 2010-2015**

- *By the end of 2011, we will evaluate numerical targets for environmental improvement in:*
  - *water management;*
  - *internal energy management;*
  - *waste minimization and landfill diversion.*
- *In 2011, we will pursue further WHC certifications where appropriate to protect biodiversity at our major locations.*

**Goal:** *Reduce or offset greenhouse gas (GHG) emissions from our own operations.*

**What We've Accomplished:**

- *Our GHG emissions have been among the lowest in our industry, due to the clean emissions from our nuclear facilities and our portfolio of renewable generation. Ceres publishes an annual report benchmarking the 100 largest power producers in the U.S. According to their most recent report in June 2010, which uses 2008 data, Constellation Energy ranks positively among our peer companies in greenhouse gas emissions intensity, with lower GHG intensity than 84 out of 100 peers.*

**Looking Ahead: 2010-2015**

- *By 2015, we project the GHG emissions intensity of our generation fleet will decrease from 2010 levels by approximately 5 percent due to nuclear updates, gas plant acquisitions and other planned operating improvements. Actual reductions achieved may vary due to potential changes in our asset mix and market forces.*

**Goal:** *Reduce air emissions from our generating facilities.*

**What We've Accomplished:**

- *Over the past several years, we have spent \$1.1 billion on pollution control projects at our Baltimore-area facilities that have reduced NO<sub>x</sub>, SO<sub>2</sub> and mercury emissions significantly since the beginning of the decade. Since 2008, we have reduced our NO<sub>x</sub>*

*emissions by more than 60 percent, SO<sub>2</sub> emissions by 80 percent, and mercury emissions by 89 percent at our Baltimore area coal-fired power plants.*

**Looking Ahead: 2010-2015**

*• With these significant investments in place, we are committed to remaining one of the lowest emitting fleets in the nation. We will continue to evaluate viable opportunities to reduce our air emissions in the future.*

**Goal:** *Beneficially reuse ash (coal combustion residuals/CCRs) from our facilities wherever possible.*

**What We've Accomplished:**

*• Over the last several years, approximately 60 percent of our coal ash byproducts have been used in beneficial ways (e.g. as raw materials for commercial and industrial products).*

**Looking Ahead: 2010-2015**

*• Our long term goal is to beneficially reuse all of the ash produced at our facilities, though this is always subject to market forces. We aim to consistently surpass the industry average in reuse of our ash byproducts (CCRs), in spite of fluctuations in demand due to macroeconomic or regulatory factors.*

**Goal:** *Improve recycling rates across company operations, including our office locations.*

**What We've Accomplished:**

*• Recycling not only conserves raw materials and energy it also reduces the amount of waste we generate that requires proper disposal. Constellation Energy is changing how we buy paper and print documents in an effort to use less copy paper, reduce waste and benefit the environment. In 2010, we collaborated with Hewlett Packard and OfficeMax to institute a duplex printing program (2-sided printing) while also switching to 30 percent recycled paper across all operations.*

*• Our use of office products with recycled content is currently 17 percent which is above the norm of 12 – 13 percent.*

*• Focusing on the benefits of reusing material from company operations, our supply chain group has made improvements across several Constellation business units with respect to the disposal, recycling, reconditioning, resale and reclamation of precious metals, scrap metal, chemicals, liquids, and wood poles.*

*• BGE's recycling rate increased in 2010 over its 2009 rate to 64 percent. BGE began single stream recycling at all facilities in October 2010, which will improve the company's recycling rate even further.*

**Looking Ahead: 2010-2015**

*• BGE's new initiatives will raise its recycling rate to 80 percent or more by 2015. BGE aims to provide its unusable creosote and penta utility poles as fuel input for a power*

*plant in Pennsylvania, diverting more than 900 tons/year from the municipal landfill. Together, these efforts could increase BGE's recycling rate by as much as 20 percentage points.*

**Goal:** *Pursue opportunities to increase the efficiency of BGE's vehicle fleet.*

**What We've Accomplished:**

- In 2009, we acquired five Toyota Prius hybrid sedans and a Ford Escape SUV, and converted each from a standard hybrid vehicle to plug-in hybrid electric vehicles (PHEVs) by installing additional battery capacity and chargers. These vehicles are deployed for everyday fleet use and for testing purposes, demonstration and event display. BGE is also phasing in the better-established standard hybrid technology passenger vehicles and hybrid trucks for use in the field. BGE has been supplementing its diesel fleet of 600 vehicles on biodiesel B20 (20 percent soybean oil) since 2001.*

**Looking Ahead: 2010-2015**

- We are always working to increase the efficiency of our vehicle fleet. We are in line to expand our current set of PHEVs by acquiring Chevy Volts, electric vehicles that run primarily on a 16-kWh lithium-ion battery pack. Evaluating these new technologies provides important insight into customer requirements and helps us prepare to support customers as they begin to incorporate these new technologies into their everyday lives. As part of a national collaborative effort we will be testing PHEV mid-size bucket and utility purposed trucks. Over the next several years, we are planning to swap out over 90 bucket trucks as part of routine fleet maintenance and the economic tradeoffs of replacing some of these vehicles with higher efficiency hybrid bucket trucks are being evaluated.*

**Focus on Community**

**Goal:** *Constellation Energy will continue its commitment to responsible leadership, civic engagement and contributing to charitable causes in communities where we do business.*

**What We've Accomplished:**

*Our commitment to the communities we serve is demonstrated through a wide range of programs, activities, donations and grants to educational, environmental and community organizations. In 2009, our company contributed to organizations through \$7.4M in corporate contributions, \$4M in employee giving and 45,000 hours of volunteer activity. We concentrate our support on five areas of focus through which we believe we can make the greatest difference in improving quality of life: energy assistance, education, economic growth, the environment and employee involvement. In 2010, we established an EcoStar Grant program to help support innovative local approaches to improving stewardship efforts. Read more about our [community engagement initiatives](#).*

**Looking Ahead: 2010-2015**

- *We are initiating a long-term effort to become more engaged in bringing creative solutions to our community challenges, in partnership with other organizations and stakeholders.*
- *We will give 1 percent or more of our annual EBIT to support charitable organizations and causes. We aim to allocate 15 percent of these contributions to environmental causes by 2016. We also aim to sustain and build on our average of approximately 45,000 hours of volunteer effort per year.*
- *As the 200th anniversary of our company's relationship with the city of Baltimore approaches, we are looking for opportunities to strengthen our home city and improve its energy use profile. With responsible leadership, commitment and vision, we can make a positive difference as Baltimore and our other local communities prepare for the future.*

**Focus on Governance**

**Goal:** *We will continue our public policy engagement on environmental issues critical to our company and our customers.*

**What We've Accomplished:**

- *Through our involvement in organizations such as the [COMPETE Coalition](#), the [Clean Energy Group](#), [EEI](#), the [National Commission on Energy Policy](#), and the National Climate Coalition, we participate in advancing the industry dialogue around significant policy developments.*

**Looking Ahead: 2010-2015**

- *We will concentrate our efforts on topics such as EPA's clean air and water quality regulations, the sustainability benefits of competitive markets, role of solar, wind, nuclear and natural gas in our energy future, and national greenhouse gas reduction programs.*

**Goal:** *We are committed to continuous improvement of our environmental management system and increasing ISO 14001 certifications at our sites.*

**What We've Accomplished:**

- *Over the last three years, we have made significant improvements to our corporate environmental governance. We have established an environmental working group as well as a senior level environmental review board that developed and endorsed critical programs such as our company-wide environmental management system (EMS), executive management reviews, corporate environmental metrics, systematic risk management processes, and corporate environmental goals. Our company-wide EMS is now fully implemented across our business.*

**Looking Ahead: 2010-2015**

• In 2011, we will begin auditing conformance with our EMS requirements, build on risk management practices, expand our goal-setting process, and identify other areas for continuous improvement. By 2015, we aim to receive ISO 14001 certifications at some of our major facilities.

**Goal:** We are committed to further developing our internal environmental programs in real estate management—incorporating best practices in building efficiency and sustainability and following LEED guidelines where possible.

**What We've Accomplished:**

• In 2009, BGE's HOME's White Marsh headquarters building was awarded LEED Silver certification for commercial interiors for its extensive remodeling effort. In 2010, the BGE headquarters building was named "Outstanding Building of the Year" by the local chapter of the Building Owners and Managers Association (BOMA). Additionally, BGE headquarters won the Pinnacle Award for community impact while our company headquarters building won a Pinnacle Award for energy management. To promote environmental awareness on all projects, our corporate real estate group is redefining its office standards and finish schedules to ensure all materials are environmentally friendly and LEED certified. Furthermore, space planning will promote environmentally sound practices in building design and layout as described in LEED 2009 for Commercial Interiors.

**Looking Ahead: 2010-2015**

• Corporate Real Estate will strive to meet LEED certification for all build-outs/renovations within owned and leased buildings (for all business units) that follow the U.S. Green Building Council's 2009 LEED guidelines for Commercial Interiors, where practical and financially feasible. In 2010, our corporate real estate group designed and will complete two projects that are expected to achieve a LEED silver certification in 2011.

The first project is the White Marsh Center, a purchased building being transformed into the BGE utility training center for its gas and electric divisions. This building and BGE's Spring Gardens facility are both partially powered by solar panels.

The second project is the renovation of the entire 2nd floor of the Lord Baltimore Building (LBB) in Baltimore County. For this project, only the 2nd floor will be certified Silver.

• By 2015, we aim to obtain additional LEED certifications for our major business locations.

**Goal:** We are committed to further developing our internal environmental programs in our supply chain—establishing criteria and processes to incorporate environmental responsibility criteria in our vendor selection process.

**What We've Accomplished:**

- In 2010, our supply chain group began developing a formal process to take the environmental responsibility and performance of our vendors into account in our procurement, operations and decisions.

**Looking Ahead: 2010-2015**

- Over the course of 2011, we will implement this process and develop risk management practices in our supply chain activities related to vendor environmental responsibility.

**Goal:** We are committed to further developing and implementing a more robust employee awareness communications plan around environmental and sustainability issues.

**What We've Accomplished:**

- In 2009, we introduced the first-ever company-wide environmental awareness orientation for all our employees to ensure that everyone is familiar with the key components of the company's environmental policies and practices. In 2010, we conducted employee focus groups on environmental issues and goal-setting.

**Looking Ahead: 2010-2015**

- Our employees have voiced strong interest in learning more about environmental practices and product offerings across our various businesses. We will develop an internal communications and engagement plan to ensure access to a wide range of sustainability topics and involvement opportunities for all our employees.

**Goal:** We are committed to improving our external communications on sustainability matters and in improving our sustainability reporting processes.

**What We've Accomplished:**

- In 2009, we followed GRI guidelines in preparing our corporate social responsibility report and we published our responses to all GRI A-level indicators in a [GRI Index online](#).

**Looking Ahead: 2010-2015**

In 2011, we will focus on continuously improving:

- Data collection by employing a unified solution that provides access to near real-time data;
- Verification of our reports and data by third parties;
- Internal and external reporting processes by formalizing our board's engagement in sustainability issues and by striving to improve the transparency and usefulness of our public sustainability reporting.

**Goal:** We are committed to continuous improvement of power usage effectiveness (PUE) across Constellation IT's data center and end-user computing infrastructure. We

are also working to improve the overall energy efficiency and sustainability of Constellation's information technology assets and operational processes.

**What We've Accomplished:**

- During 2010, our data center team has worked intensively with power efficiency modeling in order to identify improvement opportunities. These improvements include:  
The implementation of cold aisle containment materials in specific areas of our data centers to improve HVAC cooling flows; Continued virtualization of physical servers to reduce power consumption. We met our 2010 goal of 50 percent and have set a target of 60 percent for 2011; Migration to new Intel chip sets for new server acquisitions (50 percent power and BTU reduction); Disk storage consolidation to reduce power consumption and HVAC load; Contracted with our retail energy business to place both Constellation data centers (3.1 MW) into the demand response program. End user computing initiatives include: programming our VOIP (Voice over IP) system to hibernate our desk phones at 6 p.m. every day to reduce power consumption; increasing usage and deployment of video conferencing to reduce travel; implementing duplex (2-sided) printing as the default option across our network of 1,500 printers.

**Looking Ahead: 2010-2015**

In 2011, we will continue to drive energy consumption, sustainability and PUE improvements across our technology infrastructure:

- Continued measurement and monitoring of our PUE improvements against plan
- Expansion of our server virtualization strategy to achieve 60 percent by end of 2011.
- Investigation of new printing options such as gray-scale and PIN printing to reduce power, toner and paper usage
- New deployments of thin-client PC workstation technology to reduce PC power consumption
- Initiate the implementations of Windows7 enabling significant improvements in desktop power management (15 – 25 percent over Windows XP)
- Continued refresh of our server fleet to the energy efficient Intel chip sets.

**Focus on Compliance**

Constellation Energy's Environmental Policy states, in part, "In conducting our business we will meet or exceed the requirements of all applicable environmental laws and regulations, and we see this as a minimum standard to which we hold ourselves."

**Goal:** No exceedance of an applicable environmental standard is considered acceptable and we continuously strive to improve our performance to ensure compliance and reduce our impact on the environment from our business.

**What We've Accomplished:**

- Our 2009 Corporate Social Responsibility Report provides [data on Notices of Violation](#) received since 2005.

**Looking Ahead: 2010-2015**

*In 2011, we will enhance our existing compliance audit program by conducting a review of our compliance with our recently implemented Corporate Environmental Policy Standards which set out the requirements for environmental management systems (EMS) at our company. Adherence to these standards should promote better future environmental compliance as well as continuous improvement in all facets of our environmental processes across the company.*

**Environmentally Preferable Products and Services**

**Energy-Efficient Homes and Buildings** *BGE HOME's Energy Auditors conduct extensive, whole-house examinations to identify ways to help customers make their homes more energy efficient. A Home Performance Energy Audit involves a series of tests using various diagnostic devices that accurately measure a home's performance. Following the tests, the auditor presents the customer with a customized summary of findings and discusses ways to create a healthier, more energy-efficient and environmentally sustainable home.*

**Constellation's Projects & Services Group** *is working with commercial, industrial and institutional customers to reduce their energy footprints by tackling the problem of aging, inefficient infrastructure. This includes replacing air exchange systems, updating lighting and installing smart energy management systems to significantly reduce power consumption. Constellation Energy provides financial arrangements and construction expertise to make energy retrofit projects practical and economical.*

**Environmental Restoration or Community Environmental Projects**

**EcoStar Grants** *In early 2010, Constellation Energy launched a new grants program to proactively increase environmental stewardship. 62 EcoStar Grants totaling \$300,000 to nonprofit organizations engaged in environmental stewardship projects in states where Constellation Energy does business. The grants of up to \$5,000 each will fund community-based projects that support Constellation Energy's long-standing commitment to protecting the environment. Funding was provided by the Constellation Energy Foundation, which launched its newly created EcoStar Grant program in January.*

**TreeBaltimore** *Constellation Energy contributes resources to organizations that are making tangible strides in environmental preservation and restoration. In November 2009, employees joined with community members in Baltimore to plant trees as part of the company's commitment to the TreeBaltimore initiative. In addition to volunteer support, Constellation Energy has pledged \$300,000 over the next three years to plant 1,000 trees to help advance TreeBaltimore's goal of increasing the city's tree canopy. In addition, Constellation Energy has committed \$300,000 over the next three years to*

*TreeBaltimore, the mayor's initiative to double the city tree canopy from 20 percent to 40 percent by the year 2037.*

**Trees for the Bay** Constellation Energy has supported tree planting through a three-year effort targeting riparian reforestation in the BGE service territory. More than 12,800 trees on nearly 65 acres have been planted, mostly adjacent to vulnerable streams in areas where the original tree cover had been lost to farming and urbanization. The effort enlisted more than 1,000 volunteers for 3,200 hours of service and provided support for future maintenance of the plantings to ensure their survival.

**Habitat for Humanity** Constellation Energy works to revitalize its communities through partnerships with organizations like Chesapeake Habitat for Humanity. Through 2012, Constellation Energy is providing employee talent and financial support to help build 100 energy efficient homes for limited-income families in Baltimore.

**Green Schools** Constellation Energy has partnered with Maryland Green Schools for 10 years by providing support for an annual awards ceremony recognizing participating schools' accomplishments and status as green schools. Green schools integrate the environment into every aspect of the school's culture, including professional development for teachers, curricular enhancement, structural modifications to the schoolyard and buildings, behavior modification, community engagement and celebration. There are now 163 recognized Maryland Green Schools, with 50 of those schools recertifying their status.

**BGE's Integrated Vegetation Management (IVM)** pilot projects in the Maryland communities, Davidsonville and Columbia – the pilot projects not only protect the electric system to avoid outages, but also provide a maintenance model to promote a habitat for native plants and a variety of fauna with a particular focus on pollinator friendly plant species.

**Clean Air Partners Sponsorship** Constellation Energy was a charter member of Clean Air Partners and has been a sponsor for 10 years. The program is dedicated to educating the public on the issues surrounding air quality in our community and seeking ways to reduce air pollution and its effects.

**Earth Day Activities** Each year, BGE celebrates Earth Day by stepping up its environmental efforts. Last year, 150 employees and volunteers spent a total of 500 hours planting more than 100 trees and providing education, leadership and support for various community greening projects. Additionally, 50 employees planted and mulched trees, shrubs and a butterfly garden, and constructed bluebird houses and bat boxes.

**Wildlife at Work Certification** The Wildlife Habitat Council (WHC) is dedicated to creating and enhancing wildlife habitat on public and private lands. The habitat program at the Calvert Cliffs facility has been WHC-certified since 1993, with 1,900 acres of land

available for wildlife habitat projects. Employees at the plant have volunteered almost 200 hours to remove trash from the site's beaches and install more than 100 bluebird houses. The BGE program also recently achieved certification with the WHC program.

**Baltimore Neighborhood Energy Challenge** Constellation Energy and BGE helped Baltimore Mayor Sheila Dixon launch the Baltimore Neighborhood Energy Challenge with a \$200,000 investment in the program in 2009. The program is one of the initial projects in the Baltimore Sustainability Plan and is designed to reduce residential energy use, stimulate demand for energy conservation services and help the city learn lessons on how to motivate residential homeowners to reduce energy use.

**Carbon Neutral Golf Tournament** The Constellation Energy Senior Players Championship has for the past two years been a carbon-neutral event, and was the first-ever Champions Tour event to hold that distinction. To help offset approximately 1,400 metric tons of greenhouse gas (GHG) emissions associated with the week-long tournament, we purchased and retired RGGI allowances from the state of Maryland and took other actions, such as using bio-diesel in on-site generators and recycling carpet, plastic and cardboard used during the tournament.

**Bald Eagle Nest Relocation** In 2009, BGE relocated a pair of bald eagles that had built a nest high atop a key, 115,000-volt transmission line tower in Anne Arundel County. BGE employees in Transmission Engineering & Transmission Construction designed, measured and installed a lattice platform upon which to relocate the existing nest. Crew members installed a new platform, removed the existing inactive nest materials from the tower and relocated the nest to the new platform.

**Energy Assistance** energy assistance in the form of financial support and energy conservation programs to limited-income customers. We have reached out to thousands of customers through workshops, energy expos and other community events. Our efforts include:

Working with nonprofit organizations in central Maryland to distribute \$2 million in grants to provide immediate assistance and promote long-term self reliance through BGE's Community Assistance Fund. The organizations include Carroll County Human Service Programs, Community Assistance Network, Govans Ecumenical Development Corporation (GEDCO), Salvation Army (Baltimore Command and Anne Arundel County), Samaritan Center, Harford County Community Action Agency, Howard County Community Action Council, Eastern Montgomery Emergency Assistance Network (EMEAN) and United Communities Against Poverty (UCAP).

Providing up to \$2 million a year in customer-sponsored matching credits available to the Fuel Fund of Maryland to provide financial help with gas and electric bills for limited-income residential customers in BGE's service territory.

*Joining forces to help replace 1,200 heating systems for limited-income customers in Baltimore city over the next three years are the Baltimore City Weatherization Program and the BGE Limited-Income Energy-Efficiency Program. To address the needs of working families, through a supplemental contribution from the Constellation Energy Foundation of \$1 million over three years, an additional 200 households will be served.*

*BGE employees assisted limited-income customers with obtaining emergency assistance from Maryland's Office of Home Energy Programs, accessing BGE's Community Assistance Fund and also provided an opportunity for face-to-face energy management education.*

*Providing initiatives through BGE's Smart Energy Savers Program to promote energy conservation, weatherization and support for the environment. Through BGE's Limited-Income Energy-Efficiency Program, 510 limited-income homeowners received weatherization services. More than 3,200 customers received Quick Home Energy Checks-ups, with 33,000 energy-saving measures professionally installed. Providing conservation education and energy assistance services to customers through partnerships with Maryland faith-based organizations, including New Psalmist Baptist Church, Mt. Zion United Methodist Church of Lothian, Heritage Baptist Church in Severn, Union Baptist, Owen Brown Interfaith Center and Northeast Community Center in Chesapeake Beach. Through collaborations with the Social Security Administration, Baltimore County Health Department and the Census Bureau, BGE promoted initiatives ranging from the inclusion of Medicare and health awareness materials during community events.*

*Reaching more than 290,000 customers through the efforts and initiatives of BGE's Community Relations and Outreach Unit, which included approximately 400 events and workshops, as well as through the widespread distribution of informative literature. These events include 16 energy assistance application events in partnership with Maryland's Office of People's Counsel, The Johns Hopkins Hospital and community organizations.*

*Serving as a community resource for local organizations and governments. In 2009, BGE helped community based organizations such as the Fuel Fund of Maryland, Rebuilding Together Howard County Inc., Anna's House, Maryland Food, Banner Neighborhood Community Corporation, South Baltimore Emergency Relief (SOBER) and St. Ambrose Housing Aid Center, Inc.*

*Participating in energy-efficiency efforts in the areas where we do business. Constellation Energy and BGE helped launch the Baltimore Neighborhood Energy Challenge with a \$200,000 investment in the program through 2010. The program is one of the initial projects in the Baltimore Sustainability Plan and is designed to reduce*

residential energy use, stimulate demand for energy conservation services and help the city learn lessons on how to motivate residential homeowners to reduce energy use. Being a corporate partner for 2-1-1 Maryland, a telephone referral service that connects residents with essential human services – from finding an after-school program, to securing care for an aging parent, to gaining access to drug treatment, to securing energy assistance. With the number of available agencies and help-lines growing dramatically, 2-1-1 makes it easier for Marylanders to gain access to the services they need. Trained specialists assess callers' needs, identify available resources and refer them to the appropriate social service agencies for help.

### **E<sup>2</sup> Energy to Educate<sup>SM</sup>**

A total of \$350,000 will be awarded to 10 projects in communities Constellation Energy does business. Collectively, the grant awards will reach more than 26,000 students nationwide. Awardees from Maryland included the following:

#### **Albright Foundation: POWER – Partnership Organizing Wind Education & Research (Maryland)**

175 students will participate in an applied science investigation to evaluate whether a wind turbine at two schools would produce enough energy to meet the power needs of the respective schools, including wind power measurement, analysis of energy that can be generated from a kilowatt-scale wind turbine, and cost analysis.

#### **Baltimore City School Sustainability Challenge (Maryland)**

19,500 students Baltimore City Public School students will be given energy conservation and sustainability information, with 30 schools participating in energy conservation and sustainability projects – including evaluation and comparison of energy usage.

#### **KIPP Baltimore (Maryland)**

130 students will learn about environmental impact, alternative energy and hybrid-electric technologies through activities based learning, in partnership with UMBC Sherman Scholar Fellows and the Maryland Department of Transportation.

#### **Morgan State University – Innovative Energy Production and Pre-College Outreach (Maryland)**

140 engineering students and 50 pre-college students will participate in focused projects, including advanced instrumentation design, fossil fuel combustor designs, and solar technology applications- in partnership with C.P. Crane Power Plant.

#### **Mount St. Mary's University – Alternative Energy Education Pavilion (Maryland)**

2,500 students will participate in hands-on, interactive exhibits that will demonstrate how solar and wind energy technologies work, including data from nearby solar arrays.

#### **University of Maryland College Park- Watershed Solar Decathlon Project (Maryland)**

*200 students will collaborate to design, build, and operate a cost-effective, energy efficient, and affordable home for the national DOE solar decathlon competition.*

**Independently-Audited Environmental Management System**

*BGE Gas Distribution and CENG's Ginna and Calvert Cliffs nuclear power stations achieved ISO 14001 Certifications in April, 2011.*

**Waste**

**Solid Waste Reduction and Reuse**

*Constellation's 2009 Power Generation group's 2009 President's Award for Environmental Achievement was given to the Brandon Shores Power Plant for the installation of a Carbon Return System that enables the plant to re-burn high-carbon fly ash. The project demonstrates reuse of waste, waste minimization and revenue increase. This process enables us to use approximately 35,000 tons less coal fuel per year, saves more than \$2 million per year on ash disposal, and increases revenue by increasing the amount of saleable ash.*

**Recycling**

*Constellation Energy is committed to recycling and has an active recycling program. BGE was a charter partner with the EPA in its voluntary initiative, WasteWi\$e, in 1994 and has been an active participant in this program since that time. The program works with participants to find practical methods to reduce waste, increase recycling and improve financial performance. Since joining this effort, BGE has recycled more than 50,000 tons of materials, saved \$25 million in disposal and new material costs, and avoided more than 325,000 metric tonnes of GHG emissions. We encourage other businesses, schools and organizations to check out Waste Wise and what it might have to offer their organization.*

**Coal Ash Recycling** *Constellation Energy recycles a large percentage of the coal, or "fly ash," produced by its Baltimore-area coal-fired power plants. Fly ash consists of the minerals and unburned carbon left behind after the combustion of coal to produce electricity. About 60 percent of the ash produced by Constellation Energy's Baltimore coal plants is sold through a partnership with Separation Technologies, Inc. (STI), to be beneficially re-used in products such as blasting grit, flowable fill, cement and concrete.*

**BGE's Smart Energy Savers Program recycling efforts** – *designed to help residential and business customers reduce energy use, save money and protect the environment by recycling refrigerators, thermostats, lighting and more.*

**BGE's Energy Measurement Center's (EMC) "Center of Excellence" recycling efforts** – BGE's EMC has made significant advances in recycling and eliminating wastes over the past year through a series of process improvements.

**IT Equipment Recycling Program** Constellation Energy's IT equipment is recycled through a program with Intechra Recycling, which is ISO 14001 certified. Intechra "de-manufactures" equipment such as PCs, sorting and recycling materials like plastic, ferrous and nonferrous metals, circuit boards, wire and cables, CRT glass, batteries and mercury-containing devices.

**Companywide Recycling Programs** Constellation Energy has recycling programs and locations throughout the corporation. The BGE HOME office recycling program includes everything from paper to beverage containers to cardboard. In addition, BGE HOME recycles a number of materials from the field, including appliances, metal, wood, cardboard, plastics, Styrofoam, appliance packaging and electronics. During 2008, an estimated 69 percent (or more than 475 tons) of all waste generated by BGE HOME was diverted from landfills and sent to recycling facilities.

**Constellation Energy Kids Water Bottle Pledge** As part of the 2009 Take Your Daughters and Sons to Work Day in Baltimore, Constellation Energy Kids took a pledge to help reduce landfill waste by drinking water from reusable bottles instead of disposable plastic bottles. The children received reusable water bottles to help them keep their pledge. Constellation Energy employees nationwide also were encouraged to reduce water bottle waste and could request free Constellation Energy water bottles through the online company store.

**Hazardous Waste/Toxic Use Reduction**

**Reducing Fossil Emissions** As part of an ongoing, broad-based effort to invest in the latest clean air and environmental technology, Constellation Energy is spending approximately \$1.1 billion on pollution control projects at its Baltimore-area power plants that will make the Maryland fleet's emissions intensities among the lowest in the nation. The largest of these projects involves the installation of flu-gas desulfurization emissions controls, or "scrubbers," at the Brandon Shores power plant in Pasadena, MD. Moving to full commercial operation in 2010, the scrubbers are expected to reduce the plant's sulfur dioxide (SO<sub>2</sub>) emissions by 95 percent and mercury emissions by an estimated 90 percent, making Brandon Shores one of the cleanest coal-fired facilities of its kind in the nation.

## Energy

### Energy Efficiency

**BGE Received EPA's 2011 ENERGY STAR® Partner of the Year Award** BGE has been selected by the U.S. Environmental Protection Agency (EPA) as one of its 2011 ENERGY STAR® award winners in the Partner of the Year category for energy efficiency program delivery for new homes and products. BGE was selected for its commitment to energy efficiency and its efforts to incentivize home builders to incorporate ENERGY STAR-rated products into new home construction and to offer rebates to individual home buyers who purchase qualifying ENERGY STAR appliances and systems.

The EPA award comes on the heels of other significant recognitions including:

- Platts Global Energy Award—Energy Efficiency Program of the Year
- AESP 2010 Outstanding Achievement in Pricing and Demand Response Award for BGE's Smart Energy Pricing pilot program
- ENERGY STAR® New Homes 2010 Leadership in Housing Award for BGE's energy efficient new homes program
- Baltimore Chapter of the American Marketing Association 2010 Best Local Marketing Campaign Award for BGE's Energy Efficiency and Conservation Marketing campaign

Among the many accomplishments of [BGE's Smart Energy Savers Program](#)® to date is the enrollment of more than 300,000 customers in BGE's [PeakRewards<sup>SM</sup>](#) program. Since the inception of the program, participating customers have helped Maryland reduce peak energy demand by nearly 500 megawatts (MW). This is equivalent to the generation capacity of a small power plant—or enough electricity to power 160,000 homes for one year.

**Building a Smarter, More Efficient Grid** Baltimore Gas and Electric has proposed one of the most ambitious and innovative Smart Grid programs in the nation, garnering a maximum \$200 million federal stimulus grant from the Department of Energy in October 2009. When approved and fully deployed, the initiative will transform the way customers obtain, use, manage and conserve energy. The program has the potential to reduce the need to build new power plants, cut greenhouse gas emissions and save customers an estimated \$2.6 billion over the life of the program.

- The initiative involves equipping every customer with “Smart” gas and electric meters, establishing two-way digital communications that will provide an hour-by-hour picture of customer energy use and allow BGE to optimize grid efficiency.
- The system will be paired with an innovative pricing program to reward customers for reducing energy use during times of peak demand, giving homeowners greater control over their energy bills and information to make better conservation choices.
- The initiative follows the successful launch of PeakRewards<sup>SM</sup>, a companion program that offers customers bill credits for reducing their energy use on the hottest summer

afternoons, when demand is highest. The program gives customers a choice between having a load control device installed on their air conditioner and/or water heater, or a smart thermostat.

- More than 134,000 customers were signed up for the program as of Sept. 31, 2009, reducing BGE's peak demand by 290 megawatts.
- By 2015, it is estimated BGE's combined Smart Grid programs will reduce peak energy use by 1,700 megawatts – the equivalent output of a large nuclear plant at a fraction of the cost.
- In the future, Smart Grid will provide greater capacity to meet customer demand for energy from locally-generated wind, solar and other renewable sources, which tend to be intermittent. It will also allow BGE to begin the testing and research needed to support next-generation transportation innovations, such as plug-in hybrid electric vehicles.

**Promoting Efficient Products** As part of BGE's Smart Energy Savers Program, the company has launched a full portfolio of energy-efficiency programs, which since January 2008 have produced life cycle savings of more than one billion kWhs of electricity and nearly \$170 million in customer savings. Among other measures, the program has included the discounted sale of more than 2.5 million compact fluorescent lights and rebates for the purchase of more than 29,000 energy saving appliances. This program resulted in an estimated savings equivalent of a 400 MW power plant for the year.

- In October 2009, BGE also donated \$1 million to the Baltimore Community Foundation to establish a fund to provide new, energy efficient furnaces to qualifying limited-income customers in need of a heating system replacement.
- In 2008, BGE held 68 community events and 171 workshops to share information on how customers can save money and energy.
- **Demand Response** Constellation NewEnergy's demand response programs allow its commercial customers – among the biggest energy users – to earn payments for voluntarily reducing electricity consumption during times of peak electricity demand. Constellation NewEnergy has more than 800 MWs of demand response capacity in electricity markets throughout North America.

**Supporting the Regional Greenhouse Gas Initiative** Constellation Energy is a supporter of the Regional Greenhouse Gas Initiative (RGGI). RGGI is the first mandatory, market-based effort in the U.S. to reduce greenhouse gas emissions. Ten Northeastern and Mid-Atlantic states will cap and then reduce CO<sub>2</sub> emissions from the power sector 10 percent by 2018.



## Renewable Energy

**Renewable Generation** More than 400 MWs renewable generation capacity, including solar, wind, hydro, biomass and geothermal facilities.

**Harnessing the Sun** Constellation Energy's Projects & Services Group has more than 8 megawatts of solar power systems installed or under way for customers throughout the U. S. The installations use both crystalline photovoltaic panels and innovative, thin-film laminate material that can be applied directly to rooftop surfaces. The Projects & Services Group makes these investments affordable for customers by structuring the projects as long-term power purchase agreements, or PPAs, under which Constellation Energy owns the solar installation and sells the power generated back to the customer over 15 to 20 years.

**Geothermal Heating and Cooling** We're using the heating and cooling power of the Earth to reduce energy consumption and control building climates at more than 30 customer sites throughout the U.S., including the U.S. Army's Aberdeen Proving Grounds, Aberdeen, MD., and the National Park Service's Hampton Mansion historic site in Towson, MD. Constellation Energy's Projects & Services Group has developed geothermal heating and cooling systems that deliver nearly 12,000 tons of heating/cooling capacity. Geothermal heat pumps work by driving heat exchange pipes deep into the ground to take advantage of the stable 55-degree temperature of the Earth.

**Utility Scale Hydro, Solar, Biomass and Geothermal** Constellation Energy owns or co-owns more than 700 megawatts of renewable power – the equivalent of a large, base-load power plant. Our generation fleet includes utility scale solar, hydro, geothermal and biomass power sources, including our Solar SEGS IV, V, VI in Baron, Ca.; Safe Harbor Hydro in Conestoga, Pa.; Malacha Hydro in Macarthur, Ca.; and California biomass plants Chinese Station, Rio Bravo Fresno and Rio Bravo Rocklin. We also co-own a 32-megawatt geothermal plant in Mammoth Lakes, Ca.

**Purchasing Renewables** Constellation Energy contracts for nearly 600 MWs of renewable energy from wind, biomass, landfill gas, hydro, waste-to-energy and solar facilities throughout the U.S. We use the renewable energy we purchase to meet our obligations under various state renewable portfolio standards, and sell renewable energy to customers to meet their own sustainability goals. These purchases help promote development of renewable energy sources.

**Sourcing Renewable Energy Credits (RECs)** Constellation NewEnergy is a leading purchaser and supplier of RECs, which are issued to generators of renewable energy for each megawatt hour of electricity produced. These certificates can then be traded, bought and sold as a way to stimulate further development of clean energy sources. In 2009, Constellation NewEnergy arranged energy and REC purchases for customers, including the U.S. Open/U.S. Tennis Association, Gillette Stadium/New England Patriots and federal government sites in Washington, D.C., including the U.S. Capitol, FBI and Smithsonian Institution.

*BGE's Spring Gardens facilities' solar panel array – the 155-kilowatt (kW) solar panel array generates approximately 200,000 kilowatt-hours (kWhs) per year of electricity, and is expected to serve all the power needs of the new Customer Contact Center located in the building.*

## Transportation

### **Employee Commute**

*Constellation Energy is a Charter Member of the Clean Air Partners. Clean Air Partners is a nonprofit partnership chartered by the Metropolitan Washington Council of Governments and the Baltimore Metropolitan Council. Over the past decade, CAP has strived to improve public health and the environment by working with businesses, organizations and individuals throughout the region to raise awareness and reduce air pollution through voluntary actions including commuting options during the worst days for air quality.*

*The partnership has member organizations from across the Metropolitan Washington-Baltimore region, including representatives from private sector, advocacy, and government organizations. Over 2,900 employers, individuals and businesses are registered as Clean Air Partner participants and have committed to take voluntary actions on unhealthy air days.*

### **Efficient Business Travel**

*Constellation Energy provides a full range of audio and video conferencing abilities to employees to help reduce unnecessary travel.*

### **Fleet Vehicles**

***BGE's Plug-in Hybrid Vehicles** In keeping with our desire to remain on the cutting edge of these fundamental innovations in our industry, we have stepped up our interest and involvement in developing PHEVs. As part of a test project, BGE purchased five Prius and one Escape hybrid electric vehicle sedans and converted each from a standard hybrid to a PHEV. BGE is monitoring and analyzing the performance, driving patterns, fuel use and charging needs for the vehicles. It will also test a variety of smart charging tools and the potential to tap power from the vehicle batteries and feed it back to the home or electrical grid. In parallel, BGE is phasing in the better established standard hybrid technology passenger vehicles and hybrid bucket trucks for use in the field.*

***Biodiesel** BGE has also been supplementing its diesel fleet of 600 vehicles on biodiesel B20 (20 percent soybean oil) since 2001.*

## Water

### **Water Conservation**

**Wastewater Reuse** We have worked with several municipalities to create partnerships in which we are able to minimize our water use or recycle effluent. In the case of our Brandon Shores facility, wet scrubbers will require large amounts of water in their operations – approximately five million gallons per day. To meet that demand, Constellation Energy is working with the Cox Creek Water Reclamation Facility in Anne Arundel County, Md., to use treated effluent water that is currently discharged into the Chesapeake Bay. This will allow Constellation Energy to reuse water instead of drawing from potentially sensitive ecosystems.

**Process Water Reuse** The 2009 Presidents Grant for Environmental Stewardship was earned by the ACE Cogeneration facility for rerouting water to enable reuse. Previously, no reuse of water was included in the ACE permits, and this new project will enable 96 percent of waste water to be reused.

## Green Building

### **LEED Silver**

BGE HOME's headquarters building near White Marsh, MD, utilizes a number of green building advances, including innovative water conservation features, alternative transportation options, high-efficiency HVAC, lighting and Energy Star Appliances. The building was designed and built using Leadership in Energy and Environmental Design (LEED) standards for commercial interiors. The building received the Silver LEED certification from the U.S. Green Building Council in August 2009.

## Other

### **Environmental Awards**

**City of Annapolis:**

Green Public Service Award for GreenScape tree planting project.

**Peak Load Management Alliance:**

Received Outstanding Outreach Award for BGE's PeakRewards<sup>SM</sup> program.

**POWER magazine:**

Rio Bravo Rocklin Biomass Plant Named One of the Top Renewable Power Plants in North America.

**Wildlife Habitat Council:**

*Achieved International Wildlife at Work Certification in recognition of BGE's long-term wildlife habitat enhancement efforts.*

**Wildlife Habitat Council:**

*Achieved Corporate Lands for Learning Certification for BGE's successful development of environmental educational outreach programs.*

**Profile Updated April 2011**



**Maryland**

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

*Learn more at [www.green.maryland.gov/registry](http://www.green.maryland.gov/registry)*

