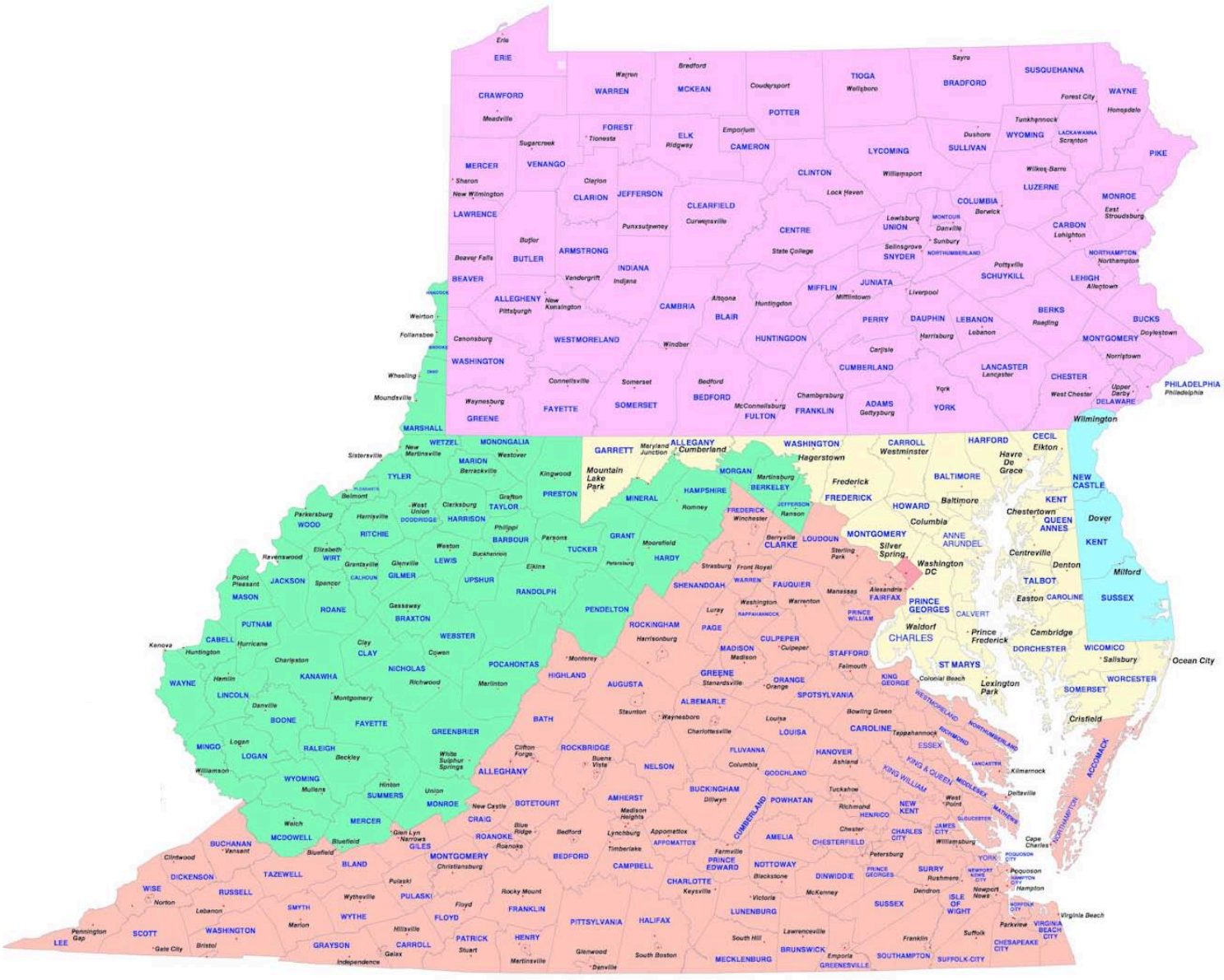
REDUCING GREENHOUSE GASES IN THE MID-ATLANTIC



AN OVERVIEW OF EPA REGION 3
AUGUST 2011

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INTRODUCTION

The states and municipalities of the mid-Atlantic have been at the forefront of developing and implementing climate change policies to reduce their emissions of greenhouse gases. EPA Region 3 includes several states involved in the Regional Greenhouse Gas Initiative (RGGI), the country's first market-based, mandatory cap-and-trade program to reduce greenhouse gas emissions (http://www.rggi.org/home), as well as other states and local governments that have been developing innovative policies to provide increased energy efficiency and promote renewable energy.

As a federal regulatory framework for climate change mitigation emerges, EPA Region 3 continues to increase our level of effort in promoting energy efficiency, renewable energy, and other greenhouse gas (GHG) reduction strategies.

This document is intended to summarize current GHG-related activities across Region 3. It includes specific information on activities underway in each mid-Atlantic state, with an emphasis on the major municipalities that are home to so many of our residents. It provides a brief look at how regional priorities intersect with climate change and how the connections are manifesting through regional programs. It also includes several appendices with detailed information on state policies related to renewable energy and efficiency as well as several EPA efforts to assist metropolitan areas and other organizations with climate change planning.

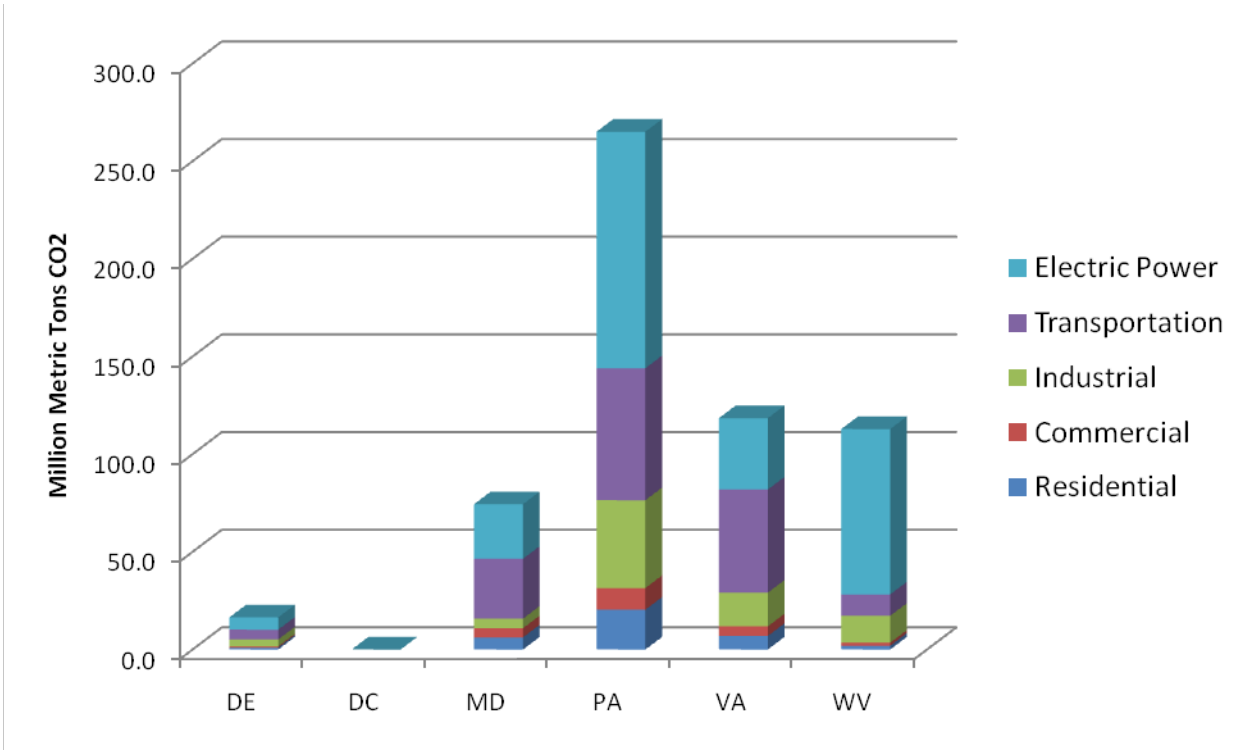
Internet links to state and local programs are included – where available – to provide the reader with locations for more information on topics, as they continue to develop, that are covered just briefly in this document.

The two charts on the following page provide a quick overview of the GHG emissions from the states in Region 3. While bar charts can never fully explain the details of the data they present, the remainder of this document intends to help round out the picture of GHGs in the mid-Atlantic, with a focus on efforts to reduce their emissions.

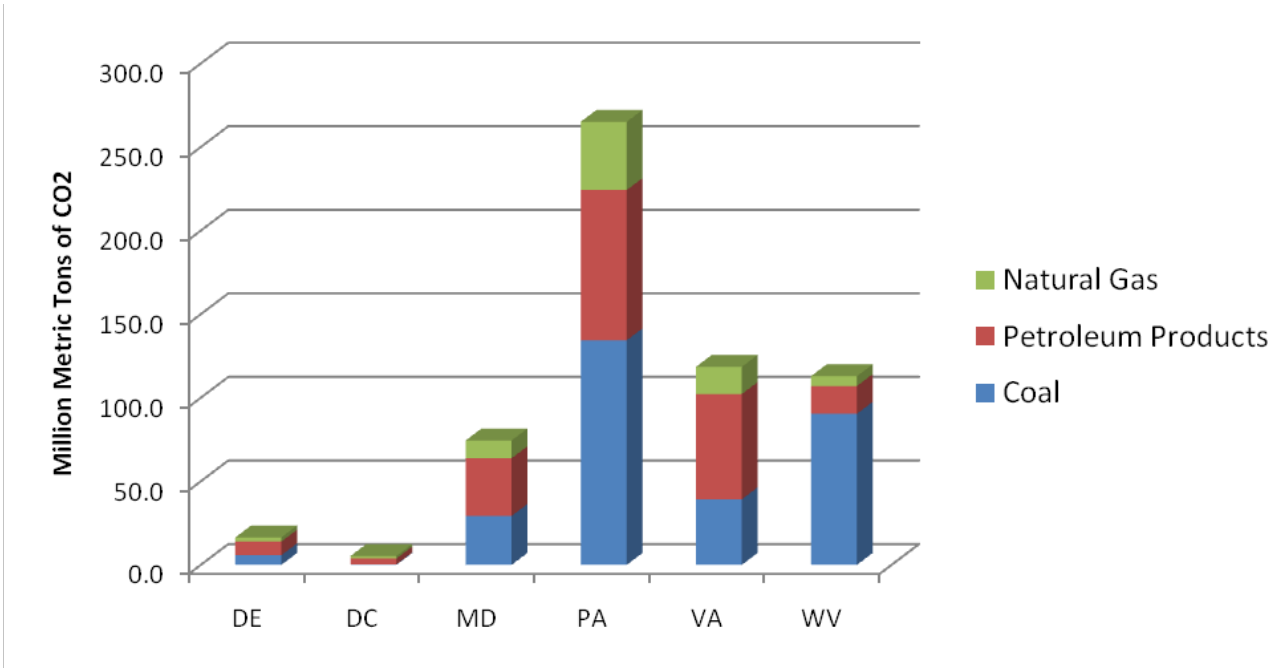
"In the mid-Atlantic, between approximately 900,000 and 3,400,000 people (between 3 and 10 percent of the total population in the mid-Atlantic coastal region) live on parcels of land or city blocks with at least some land less than one meter above the monthly highest tides."

US Climate Change Science Program, Synthesis and Assessment Product 4.1,
Coastal Sensitivity to Sea Level Rise: A Focus on the Mid-Atlantic Region,
US EPA, USGS, NOAA, DOT, January 15, 2009
http://www.climatescience.gov/Library/sap/sap4-1/final-report/

2008 TOTAL CO_2 EMISSIONS OF REGION 3



State Emissions by Sector



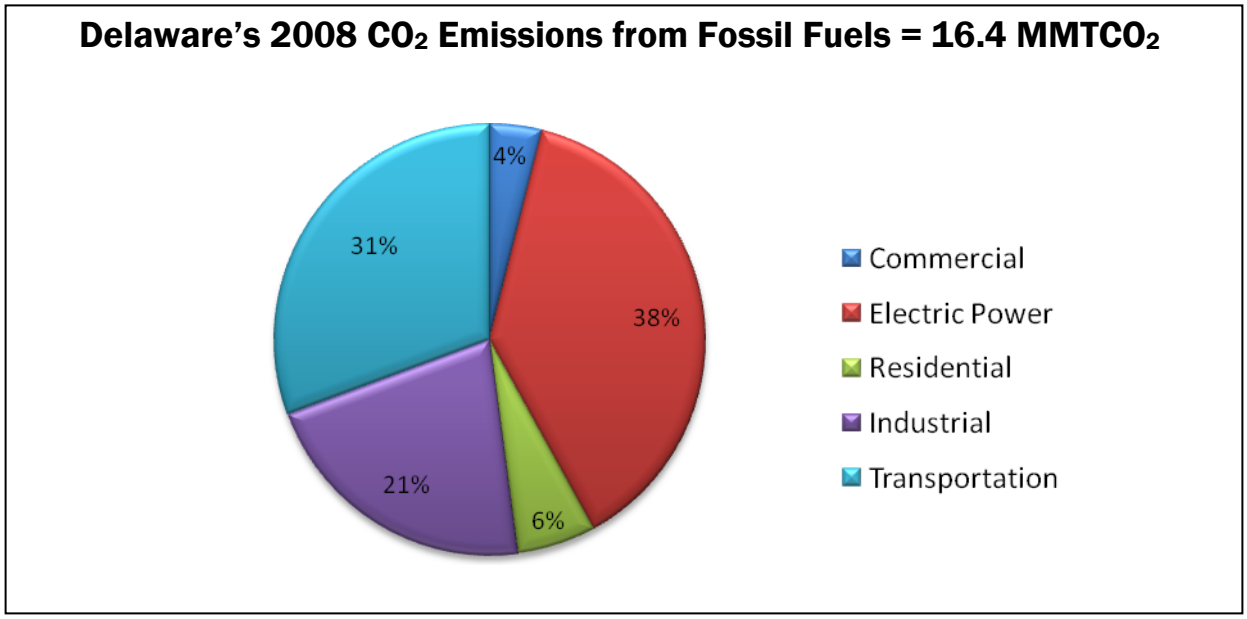
State Emissions by Fuel Source

STATE SNAPSHOT: DELAWARE

- As members of the ***Regional Greenhouse Gas Initiative*** (RGGI), Delaware and the eight other participating states have set a greenhouse gas reduction goal of 10 percent by 2018 from electric utilities. Delaware is preparing for the thirteenth RGGI auction of CO_2 emissions allowances, which will be held September 7, 2011. The auctions, to date, have netted $88.6 million, much of which is spent on energy efficiency and rate payer programs.

- Delaware's RGGI auction proceeds are directed to the ***Sustainable Energy Utility (SEU)***, a non-profit entity that launched the ***Energize Delaware*** campaign in August 2009. This is the first statewide initiative aimed to be a one-stop resource for low- or no-cost solutions for energy efficiency in homes and clean energy sources for businesses (http://www.energizedelaware.org/). To date, the ***SEU*** has issued more than 14,000 rebates for new, energy-efficient household appliances. Collectively, the rebates will save Delaware residents more than $323,000 and cut over three million pounds of CO_2 emissions.

- The ***Delaware Green Energy Program*** provides grants for the installation of a renewable energy system. Applicants can receive a reimbursement of an amount up to 50% of the total cost of installation for purchasing a qualifying system (http://www.dnrec.delaware.gov/energy/services/Pages/GreenEnergyProgram.aspx).



With funding through the Nature Conservancy and the Regional Greenhouse Gas Initiative, University of Delaware students plan to plant more than 55,000 trees over a 60-acre plot of land in the state's Milford Neck region -- work that will result in the sequestration of an estimated 17,500 tons of carbon.

http://www.rggi.org/rggi_benefits/success_stories

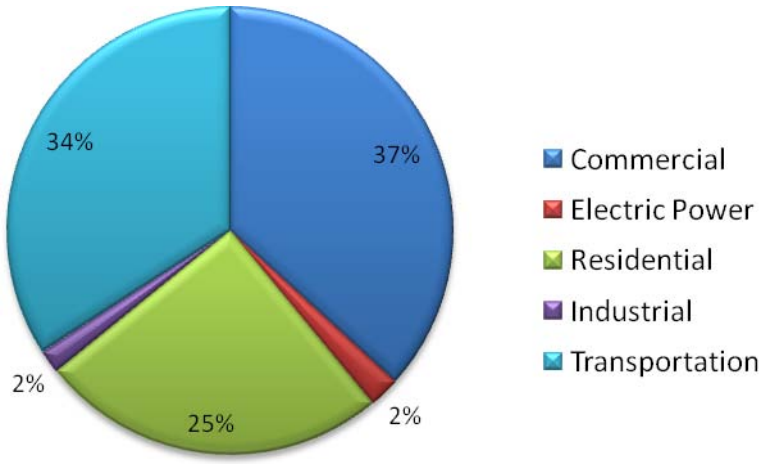
STATE SNAPSHOT: WASHINGTON, DC

- By the end of 2010, implementation of the ***Green Building Act*** and the ***Clean and Affordable Energy Act*** had placed Washington, DC second amongst all U.S. metropolitan areas in terms of their number of ENERGY STAR certified buildings. The Acts require that certain District of Columbia government buildings and privately-owned buildings be scored annually using the ENERGY STAR Portfolio Manager benchmarking tool, with the results made available to the public. (http://green.dc.gov/green/cwp/view,a,1235,q,463697.asp)

- The District of Columbia ***Sustainable Energy Utility (DC SEU)*** is designed to help District households, businesses and institutions save energy and money through energy efficiency and renewable energy programs. In 2011, the DC SEU launched its first program, addressing low-income multifamily rental properties, with plans for additional programs to help small businesses and single family homes. (http://dcseu.com/index.aspx)

- In September 2010, the District released their draft climate action plan, ***Climate of Opportunity***. Following the conclusion of the public comment period on the plan, the District awarded a contract to ICLEI - Local Governments for Sustainability to begin implementation of its greenhouse gas emissions reductions measures for government operations and the broader community. (http://green.dc.gov/green/lib/green/pdfs/ClimateOfOpportunity_web.pdf).

Washington DC's 2008 CO_2 Emissions from Fossil Fuels = 3.13 $MMTCO_2$



In 2011, the U.S. EPA recognized Washington, DC as the nation's leading ***Green Power Community***. District government, businesses, institutions, and residents collectively purchased nearly 756 million kilowatt-hours (kWh) of green power, representing more than 8 percent of the community's total electricity use - equivalent to the electricity needed to power 65,000 average American homes annually.
http://newsroom.dc.gov/show.aspx/agency/ddoe/section/2/release/21290

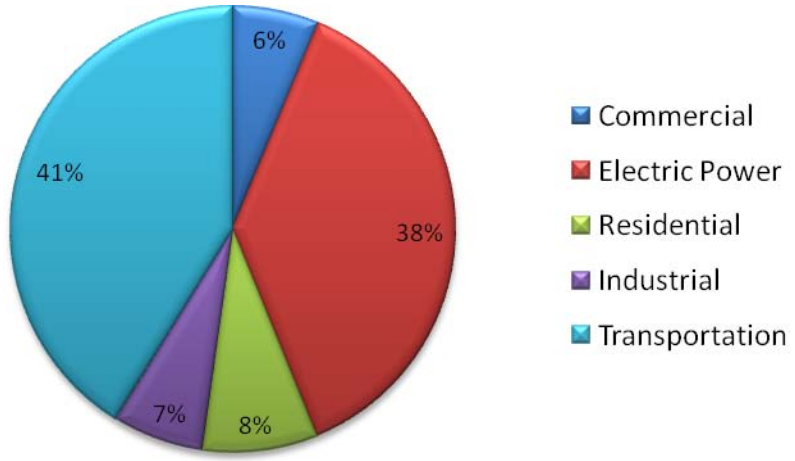
STATE SNAPSHOT: MARYLAND

- Maryland is a member of the ***Regional Greenhouse Gas Initiative*** (RGGI). Proceeds from 2009-10 have led to, among other things, energy efficiency retrofits in more than 3,000 low-income apartments and career training in energy efficiency for more than 900 people. (http://www.rggi.org/rggi_benefits)

- In May 2009, Maryland enacted the ***Greenhouse Gas Emissions Reduction Act (GGRA)***, which requires that the State of Maryland achieve a 25% reduction in greenhouse gas emissions below 2006 levels by 2020. A draft plan to meet that reduction target is due to the Governor and General Assembly on December 31, 2011. In 2011, the Maryland Department of the Environment (MDE) published base year (2006) and projection year (2020) greenhouse gas inventories. (http://www.mde.state.md.us/programs/Air/ClimateChange/Pages/GreenhouseGasInventory.aspx)

- ***EmPOWER Maryland*** requires the state to reduce energy consumption by 15% by 2015. Through EmPOWER, Maryland's five utilities offer a suite of energy efficiency programs, including lighting and appliance rebates for homeowners, home energy audits, commercial lighting rebates, and energy efficiency services for industrial facilities. (http://energy.maryland.gov/facts/empower.html)

Maryland's 2008 CO_2 Emissions from Fossil Fuels = 74.4 $MMTCO_2$



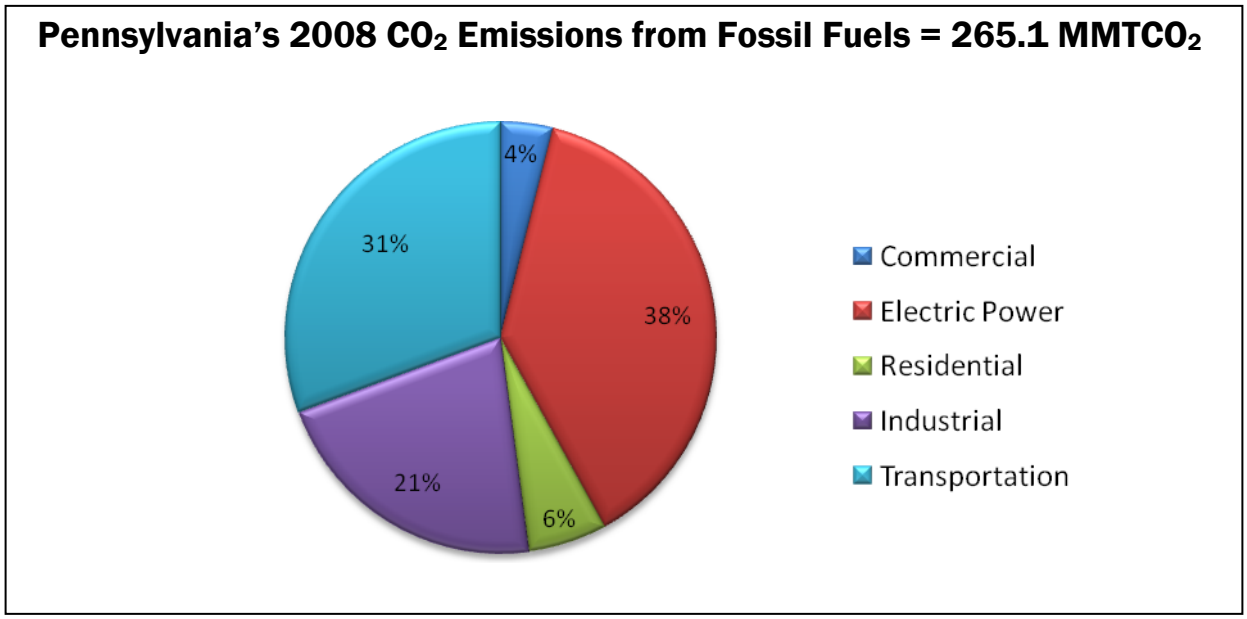
Two Maryland communities are recipients of EPA Climate Showcase Communities grant funding. Baltimore City is actively engaging non-profit organizations to help achieve the City's target of a 15% reduction in electricity use and GHG emissions by 2015 through a partnership with Johns Hopkins University. Frederick County's Green Homes Challenge aims to increase the number of household energy efficient devices, retrofit projects and renewable energy systems, in order to reduce GHG emissions and energy costs. http://www.epa.gov/statelocalclimate/local/showcase/

STATE SNAPSHOT: PENNSYLVANIA

- Through Pennsylvania's ***Alternative Energy Investment Fund,*** $650 million is being invested in state energy independence. This includes more than $237 million targeted toward helping families and small businesses conserve and use energy more efficiently. It also includes approximately $428 million to stimulate the development of alternative energy resources and create skilled jobs.

- ***Act 129*** requires electric distribution companies to reduce electric consumption by 3% by May 31, 2013 as compared to the electric consumption from the period of June 1, 2009 through May 31, 2010. Utilities are currently offering a suite of efficiency programs to meet the requirements of the Act. (http://www.puc.state.pa.us/electric/Act_129_info.aspx)

- Pennsylvania's ***Climate Change Act of 2008*** created the Climate Change Advisory Committee to aid the Department of Environmental Protection in implementing the provisions of the Act. One initiative, a *Climate Change Action Plan*, was completed in December 2009 and lists 52 recommendations which are anticipated to yield a 36% reduction in Pennsylvania's emissions below the 2000 levels by 2020. (http://www.portal.state.pa.us/portal/server.pt/community/climate_change_advisory_committee/10412)



In 2010, the Greater Philadelphia Innovation Cluster (GPIC) for Energy Efficient Buildings was awarded over $129 million in federal funds to develop energy efficient building technologies, designs and systems. GPIC is one of only three Energy Innovation Hub grants issued by the U.S. Department of Energy. The GPIC team is led by The Pennsylvania State University and is headquartered at the Philadelphia Navy Yard. http://gpichub.org/

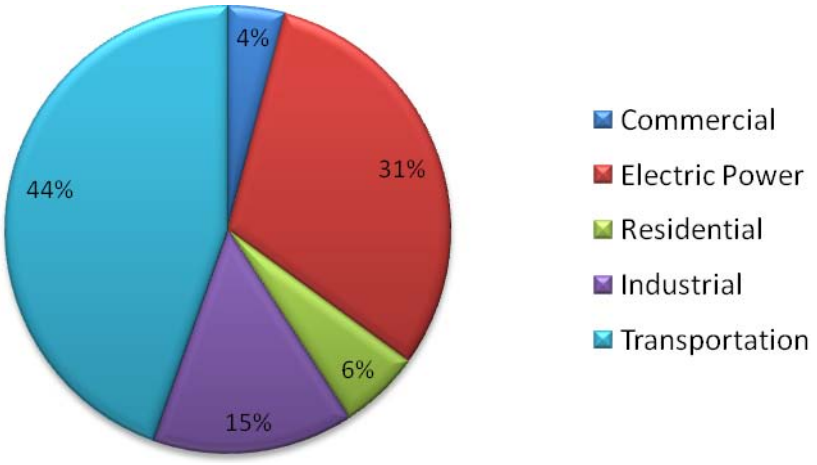
STATE SNAPSHOT: VIRGINIA

- In October 2010, Virginia held the Commonwealth's first-ever Governor's Conference on Energy, titled ***Virginia: The Energy Capital of the East Coast***. The conference program included an examination of how the energy sector is organized and operates in Virginia, the latest information on state and federal regulatory activity, cutting edge alternative energy projects, and energy research and development currently underway at the state's universities. (http://www.vsbn.org/GCE2010/index.html)

- The ***Virginia Offshore Wind Development Authority*** was created in 2010 to facilitate, coordinate and support the development of the offshore wind energy industry, offshore wind energy projects and supply chain vendors. The Authority continues to meet monthly. (http://www.dmme.virginia.gov/DE/vowda.shtml)

- The ***Virginia Coastal Zone Management (CZM) Program*** is taking steps to help prepare for the predicted effects of climate change, especially sea-level rise on Virginia's coastal resources. Three of Virginia's coastal planning district commissions (Hampton Roads, Middle Peninsula and Northern Virginia) are mapping the potential impacts of sea-level rise and severe storms on both developed and natural areas. (http://www.deq.virginia.gov/coastal/climatechange.htm)

Virginia's 2008 CO_2 Emissions from Fossil Fuels = 118.4 $MMTCO_2$



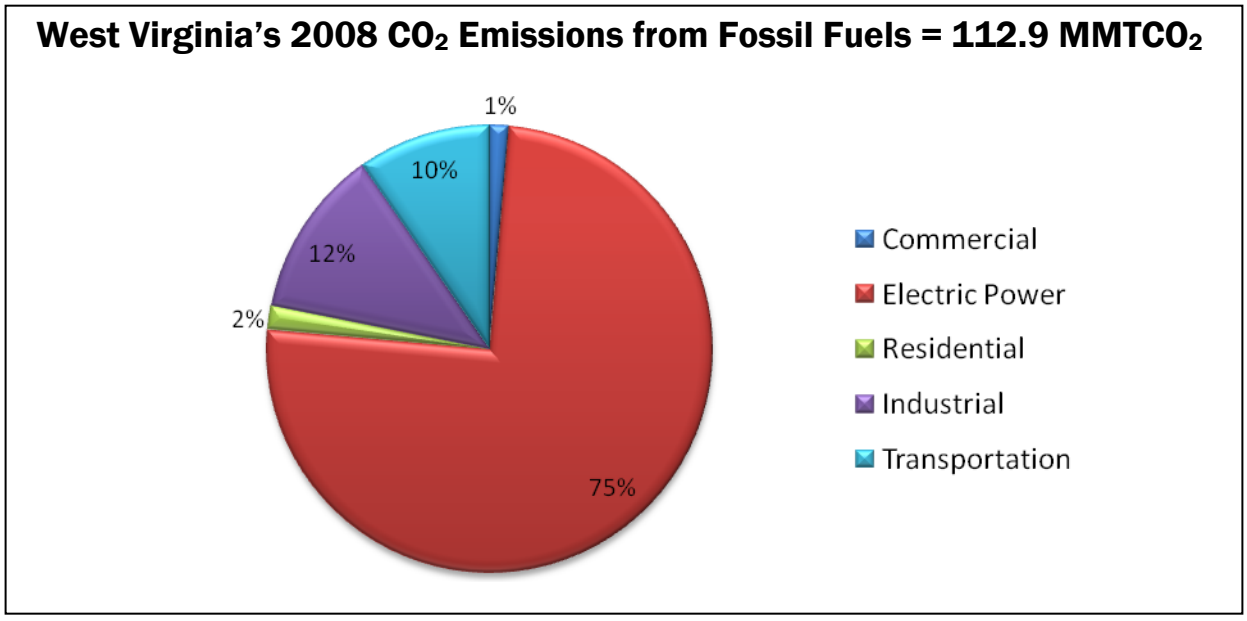
Loudoun County Public Schools (LCPS), the fourth largest school district in Virginia, received the 2010 ENERGY STAR Partner of the Year Award in recognition for improving its energy efficiency while also educating students about the importance of environmental stewardship.
http://www.energystar.gov/index.cfm?fuseaction=partner_list.showLeadersStory&lds_id=1961&o_id=21977

STATE SNAPSHOT: WEST VIRGINIA

- West Virginia implemented an ***Alternative Fuel Vehicle Tax Credit*** effective July 2011 for plug-in hybrid electric vehicles and those operating on natural gas, propane, electricity, hydrogen, and coal-derived liquid fuels. The income tax credit covers a portion of the purchase price or conversion cost, with limits based on gross vehicle weight rating. (http://www.afdc.energy.gov/afdc/laws/law/WV/9152)

- The ***West Virginia Hydrogen Working Group***, funded by the U.S. DOE National Energy Technology Laboratory, operates a hydrogen fuel production and dispensing facility at Yeager Airport in Charleston. In late 2010, The ***National Alternative Fuels Training Consortium*** received funding from the same source to open a second such facility in Morgantown, aiming to create a 'hydrogen highway' between the two cities. (http://naftcenews.wvu.edu/naftc_enews/2010/12/17/naftc-receives--1-15-million-to-develop-west-virginia-s-second-hydrogen-fueling-station)

- In July 2011, the ***West Virginia Carbon Dioxide Sequestration Working Group*** released its findings and recommendations to the West Virginia Legislature. Over the course of two years, the Working Group examined issues related to the development and deployment of carbon sequestration in West Virginia. (http://www.dep.wv.gov/executive/Documents/WVCCS%20Working%20Group%20Final%20Report%20-%20June%2030,%202011.pdf)



Annually since 2009, the U.S. Fish & Wildlife Service (USFS) National Conservation Training Center in Shepherdstown, WV has hosted the Student Climate and Conservation Congress (SC3), empowering high school student environmental leaders with the knowledge, skills and tools to address natural resource challenges.
http://www.greenschoolsalliance.org/sc3_congress.html

KEY POLICIES IN REGION 3 STATES

State	GHG Inventory	GHG Reduction Target	Climate Change Action Plan	GHG Cap and Trade[1]	The Climate Registry[2]	Renewable Portfolio Standard[3] (Appendix A)	Energy Efficiency Resource Standard (Appendix B)	Low Carbon Fuel Standard[4]
Delaware	Yes	7% below 1990 levels by 2010	Yes	RGGI Participant	Yes	25% by 2025-26	Yes	In progress
District of Columbia	Yes	In progress[5]	In progress	RGGI Observer	Yes	20% by 2020	In progress	No
Maryland	Yes	25% below 2006 levels by 2020	Yes	RGGI Participant	Yes	20% by 2022	Yes	In progress
Pennsylvania	Yes	30% below 2000 levels by 2020	Yes	RGGI Observer	Yes	18% by 2020-21[6]	Yes	In progress
Virginia	Yes	30% below 2005 levels by 2025[7]	Yes	No	Yes	15% by 2025 (voluntary)	No	No
West Virginia	Yes	No	No	No	No[8]	25% by 2025[9]	No	No

[1] The Regional Greenhouse Gas Initiative (RGGI) is the first mandatory, market-based effort in the United States to reduce greenhouse gas emissions. Ten Northeastern and mid-Atlantic states will cap and then reduce CO_2 emissions from the power sector 10% by 2018. (http://www.rggi.org)

[2] The Climate Registry (TCR) is a nonprofit organization that establishes consistent, transparent standards throughout North America for businesses and governments to calculate, verify, and publicly report their carbon footprints in a single, unified registry. Most entities that have agreed to report their GHG emissions to TCR will do so in 2010, reporting calendar year 2009 emissions. (http://www.theclimateregistry.org)

[3] For DE and PA, the standard runs by the June 1 to May 31 compliance year. The end year for each state is the beginning of its final compliance year.

[4] Eleven states across the Northeast and mid-Atlantic (including all the member states of RGGI plus PA) have committed to developing a regional Low Carbon Fuel Standard. With preliminary recommendations in place by the end of 2010, this standard looks to reduce greenhouse gas emissions from fuels for vehicles and other uses.

[5] Although Washington, DC is in the process of developing a Climate Action Plan and setting an emissions reduction goal, DC currently participates in the Sierra Club's Cool Cities program, and has agreed to meet or exceed the Kyoto Protocol requirement to reduce GHG emissions 7% below 1990 levels by 2012.

[6] PA's Alternative Energy Portfolio Standard includes all alternative sources of energy; the requirement for renewables is 8% by 2021.

[7] The VA Governor's Commission on Climate Change recommended a more aggressive goal: 25% below 1990 levels by 2020, and 80% by 2050.

[8] While not part of TCR, WV does have its own registry for reporting voluntary reductions of GHG emissions.

[9] WV's Alternative and Renewable Energy Portfolio Act does not set a minimum for renewable energy.

MUNICIPAL ACTION

More than half of the total population in the greater mid-Atlantic region resides in these seven large urban areas in Region 3, many of which are in the process of developing and implementing climate change action plans or sustainability efforts that include greenhouse gas reductions as key components:

Baltimore, MD: released its 2011 Annual Sustainability Report, documenting progress made toward the goals of the *Baltimore Sustainability Plan* approved in March 2009. (http://www.baltimoresustainability.org/)

Hampton Roads, VA: includes Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, Suffolk, Virginia Beach, Poquoson and Williamsburg (and their associated counties). The Hampton Roads Planning District Commission released *Climate Change in Hampton Roads* – a mitigation and adaptation overview - in February 2010. (http://hrpdc.org/Documents/Phys%20Planning/2010/Climate_Change_Final_Report_All.pdf).

Philadelphia, PA: released its 2011 Greenworks Progress Report, documenting efforts and achievements related to the goals of *Greenworks Philadelphia*, the City sustainability plan approved in April 2009. (http://www.greenworksphila.org/)

Pittsburgh, PA: is in the process of updating the *Pittsburgh Climate Action Plan* approved in August 2008, and published a greenhouse gas progress report in late 2010. (http://www.pittsburghclimate.org)

Richmond, VA: launched a sustainability planning process in April 2011, engaging the community to address environmental, social and economic issues. (http://www.ci.richmond.va.us/sustainability/index.aspx)

Washington, DC: completed a climate action plan, *Climate of Opportunity*, in late 2010 (http://green.dc.gov/green/cwp/view,A,1231,Q,460764.asp), as a follow-up to the *Green DC Agenda* released in 2009. (http://green.dc.gov/green/cwp/view,a,1248,q,461471.asp). More information on Washington, DC can be found on Page 6.

Wilmington, DE: continues the *Green City Wilmington* program to implement the *Climate Sustainability Plan* released in August 2008. (http://wilmingtonlive.mobiusnm.com/government/greencity)

EPA REGIONAL GHG REDUCTION EFFORTS

Taking action on climate change is one of EPA's top priorities. Addressing the problem requires action at all levels of government, in numerous areas of our economy, and will have impacts across environmental media.

This section describes the coordinated efforts across EPA's Mid-Atlantic Regional Office to implement both regulatory and partnership programs to ensure a comprehensive regional climate change mitigation program.

REGULATIONS

Greenhouse Gas Reporting Program

In response to the FY2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), EPA developed the Greenhouse Gas Emissions (GHGs) Reporting Program which requires reporting of GHGs from large sources and suppliers in the United States. This program is intended to collect accurate and timely emissions data to inform future policy decisions.

Suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to EPA.

EPA's GHG reporting system will provide a better understanding of where GHGs are coming from and will guide development of sound policies and programs to reduce emissions.

Light-Duty and Heavy-Duty Greenhouse Gas and Fuel Efficiency Standards

EPA and NHTSA finalized the Light-Duty GHG Vehicle Emission and Fuel Efficiency standard on April 1, 2010 and proposed the Heavy-Duty GHG and Fuel Efficiency standard on October 25, 2010. Starting with model year 2012 through 2016, the Light-Duty standard will save 950 million metric tons of CO_2 and 1.8 billion barrels of oil. Light-duty vehicles are responsible for about 60 percent of U.S. transportation GHG emissions.

The Heavy-Duty GHG and Fuel Efficiency Standard ("HD National Program") is designed to address the urgent and closely intertwined challenges of dependence on oil, energy security, and global climate change. The agencies estimate that the combined proposed standards have the potential to reduce GHG emissions by nearly 250 million metric tons and save approximately 500 million barrels of oil over the life of vehicles sold during 2014 to 2018, while providing an estimated $35 billion in net benefits to truckers, or $41 billion in net benefits when societal benefits are included.

Greenhouse Gas Tailoring Rule

On May 13, 2010, EPA issued a final rule that establishes a common sense approach to addressing greenhouse gas emissions from stationary sources under the Clean Air Act (CAA) permitting programs. This final rule sets thresholds for greenhouse gas (GHG) emissions that define when permits under the New Source Review Prevention of Significant Deterioration (PSD) and title V Operating Permit programs are required for new and existing industrial facilities.

This final rule "tailors" the requirements of these CAA permitting programs to limit which facilities will be required to obtain PSD and title V permits. Facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters— power plants, refineries, and cement production facilities.

Energy Efficiency and Renewable Energy in State Implementation Plans (SIPs)

EPA is working collaboratively to make it easier for state and local air pollution control agencies to incorporate emissions impacts of energy efficiency and renewable energy (EE/RE) measures from stationary sources into the SIP process.

Specifically, there are two efforts underway:

- The first is related to increasing transparency for "on the books" EE/RE Policies and a baseline model run of the electric utility sector for future attainment year baseline emissions, in coordination with States.

- The second is related to a manual to provide a roadmap, using case studies, for how state or local agencies could account for EE/RE measures in their SIPs through three pathways. http://www.epa.gov/airquality/eere.html

Geologic Sequestration of Carbon Dioxide

EPA has finalized requirements for geologic sequestration, including the development of a new class of wells, Class VI, under the authority of the Safe Drinking Water Act's Underground Injection Control (UIC) Program. These requirements, also known as the Class VI rule, are designed to protect underground sources of drinking water. The Class VI rule builds on existing UIC Program requirements, with extensive tailored requirements that address carbon dioxide injection for long-term storage to ensure that wells used for geologic sequestration are appropriately sited, constructed, tested, monitored, funded, and closed.

PARTNERSHIPS

Climate and Energy Programs

EPA's climate and energy partnership programs have been working with businesses, institutions, local governments, and other entities for years to reduce our carbon footprint. These partnership efforts complement the recent developments in GHG regulation.

The partnership programs managed by APD that address climate change include:

- ENERGY STAR
- Green Power Partnership
- Combined Heat & Power Partnership
- GreenChill
- Climate Leaders

EPA Region 3 manages the programs at a regional level by providing outreach and technical support to businesses, institutions, and local governments and the public throughout the region.

Climate Showcase Communities Grant Program

The Climate Showcase Communities Program provides funding for planning, demonstration, and/or implementation projects designed to address climate change by reducing GHGs. The goal of this program is to implement programs, projects, and approaches which demonstrate documentable reductions in GHGs and are replicable elsewhere. In Region 3, three grants were awarded in 2010: West Chester (PA) Area School District, James City County (VA) and the City of Baltimore (MD). In 2011, two more grants have been awarded in Region 3: Delaware Valley Regional Planning Commission (DVRPC, PA) and Frederick County, MD.
www.epa.gov/statelocalclimate/local/showcase/index.html

Mid-Atlantic State Climate Network

Many of the Mid-Atlantic States have been at the forefront of developing climate change mitigation programs and policies. In the past, these efforts have been reported to EPA on a semi-annual basis through the Section 105 grant reporting process. In order to establish a more meaningful and productive exchange on new and challenging climate issues, EPA has developed the State Climate Network.

The State Climate Network meets quarterly to discuss topics of interest related to climate change and to exchange new developments in climate work. This year's calls have reviewed the Mountaineer Carbon Sequestration Project in West Virginia, the Executive Order 13514, and EPA's Black Carbon Report to Congress.

Mid-Atlantic Sustainable Skylines Collaborative

The Mid-Atlantic Sustainable Skylines Collaborative enhances local sustainability efforts by bringing together federal expertise and resource opportunities to support and bridge the unique constituencies of cities and regional planning organizations. The Collaborative consists of the seven largest major metropolitan areas in the Mid-Atlantic: Baltimore, Hampton Roads (VA), Philadelphia, Pittsburgh, Richmond, Washington, DC and Wilmington. The initial focus of the MASSC is energy, transportation, climate change, land use, and air quality.

Region 3 continues to work as a convener bringing together conference call speakers on topics such as transportation and electric vehicle infrastructure.

Mid-Atlantic DOT-HUD-EPA Sustainable Communities

On June 16, 2009, EPA joined with the U.S. Department of Housing and Urban Development (HUD) and the U. S. Department of Transportation (DOT) to help improve access to affordable housing, more transportation options, and lower transportation costs while protecting the environment in communities nationwide. Through a set of guiding livability principles and a partnership agreement that will guide the agencies' efforts, this partnership will coordinate federal housing, transportation, and other infrastructure investments to protect the environment, promote equitable development, and help to address the challenges of climate change.

Re-Powering America's Land

EPA is encouraging renewable energy development on current and formerly contaminated land and mine sites when it is aligned with the community's vision for the site. This initiative identifies the renewable energy potential of these sites and provides other useful resources for communities, developers, industry, state and local governments or anyone interested in reusing these sites for renewable energy development.

EPA INTERNAL CAPACITY BUILDING

Key to an integrated regional effort on climate change mitigation is the capacity of our staff. With a greater understanding of the many facets of climate change and the role that EPA regulatory and stewardship programs play in addressing it, our staff will be better able to link their daily work to this global challenge.

In 2011, EPA Region 3 formalized the **Regional Climate Network**, through which relevant staff meet periodically to review new developments, discuss their programs and share information. The network has enabled employees from various programs to gain a better understanding of the Region's work and to coordinate with each other as appropriate. The Regional Climate Network has recently been tasked with developing an internal Strategy for Regional Climate activities.

In addition to the internal strategy, the Regional Climate Network has continued to organize trainings to build internal capacity. These trainings, or **Knowledge Transfer Sessions,** are often open to all employees and build our knowledge base on subjects related to climate change. Some of these topics include:

- *How to Become an Energy Star*
  Region 3 staff provided colleagues with an overview of the Energy Star program, including Energy Star for Homes, Portfolio Manager, and how to purchase Energy Star products. (June 2011)

- *Energy Efficiency at Wastewater Treatment Facilities*
  Bill Toffey, an energy consultant with Effluential Synergies LLC, spoke to the Region about the opportunities for energy efficiency and even net-zero energy at wastewater treatment facilities. (April 2011)

- *Climate Mitigation and Co-benefits Workshop (1.5 day workshop)*
  EPA's Office of Research and Development, along with STAR grantees, presented the latest research on greenhouse gas reduction co-benefits to air and water quality to state, local and EPA staff. The one and a half day workshop featured topics such as "Addressing the Human Health Benefits of Global Emissions Strategies," and "Smart Growth in Cities: What are the implications for Climate Change?" (March 2011)

- *Electricity Rate Cap Expiration*
  The EPA Employees' Association invited speakers from PECO and the Energy Cooperative to present information to EPA staff on the expiration of the electricity rate caps in Pennsylvania and opportunities to take advantage of residential energy efficiency and conservation programs offered through local utilities. (February 2011)

- *Solar Early Adopters*
  Region 3 staff who have installed solar panels to their homes talked to colleagues about the process, savings and benefits of generating your own electricity. (February 2011)

- *The ABCs of GHGs and Climate Change*
  Region 3 staff provided their colleagues with an overview of the basics of greenhouse gases, current policies and regulations, and a discussion of what climate-related activities are underway across the Region. (November 2008)

- *Biofuels*
  A representative of the Chesapeake Bay Commission provided information on biofuels production, technologies, trends, and their environmental impacts, with a focus on the Chesapeake Bay region. (September 2008)

- *Closing the Loop on Climate Change*
  The acting Assistant Regional Administrator provided his insight and experience with the challenge of climate change, including recommendations for individual and collective action to address our own contributions to the problem. (January 2009)

- *The Federal Housing Administration's Energy Efficient Mortgages Program*
  An FHA representative provided a presentation about the Energy Efficient Mortgages Program, including home energy ratings and energy benefits to homebuyers. (May 2009)

- *Green Building Primer*
  Region 3 staff provided their colleagues with a review of green building principles, EPA's new Green Building Program Strategy, and techniques to help everyone reduce the environmental impacts of buildings. (December 2008)

- *Green Remediation Seminar*
  Several cleanup and response staff provided their colleagues with recommendations for choosing contaminated site cleanup techniques that use natural resources and energy efficiently, reduce negative impacts on the environment, minimize pollution at its source, and reduce waste to the greatest extent possible. (September 2008)

- *The MARKAL Model*
  Staff from EPA Region 2 provided an overview of the MARKAL Model for Environmental Sustainability - Energy, Water and Solid Waste Systems Analysis. (January 2009)

- *The Princeton Wedges Policy Game*
  The Climate Mitigation Institute of Princeton University introduced the "stabilization wedges" concept – followed by a hands-on exercise - to illustrate the scale of GHG emissions cuts needed in the future, and provide a way to compare the carbon mitigating capacities of various energy and storage technologies. (April 2009)

- *Sustainable Land Development: Why it Makes Sense to Go Green*
  A Leadership in Energy and Environmental Design (LEED)-accredited attorney provided an overview of the increasing trend toward green building and sustainable land development practices. (February 2009)

- *Renewable Energy 101*
  An attorney recently returned from the private sector (a renewable energy producer) provided insight into the technological, economic and regulatory impediments and drivers for integrating wind, solar, and other forms of renewable energy into the grid. (March 2010)

For more information or to address questions related to this report, please contact Megan Goold in the Air Protection Division at US EPA Region III; 215-814-2027 or goold.megan@epa.gov

APPENDIX A:
SUMMARY OF STATE RENEWABLE PORTFOLIO STANDARDS

Summary of State Renewable Portfolio Standards

State	Standard		Summary	Eligible Resources
	Renewable	Alternative		
Delaware	✓ 25% by 2025-26 ✓ 3.5% solar set-aside		· Enacted in July 2005 (SB 74); amended in July 2007 & July 2010. · No more than 1% can come from existing renewable sources (placed into service on or before 12/31/97). Existing sources become ineligible in 2020.	Solar electric; wind; ocean tidal & thermal; fuel cells powered by renewable fuels; hydroelectric (≤ 30 MW); sustainable biomass; anaerobic digestion; landfill gas.
District of Columbia	✓ 20% by 2020 ✓ 2.5% solar set-aside by 2023		· Enacted in Jan. 2005 (Renewable Energy Portfolio Standard Act). · Amended in Oct. 2008 (Clean & Affordable Energy Act) & Aug. 2011 (Emergency Distributed Generation Amendment & Distributed Generation Amendment Act). · Two tiers: Tier 1 gradually increases each year until reaching 20% in 2020. Tier 2 remains at 2.5% through 2015 and then gradually decreases until it sunsets in 2020.	· Tier 1 (may be used for Tier 2): Solar (electric or thermal); wind; biomass; landfill gas; wastewater treatment gas; geothermal; ocean (mechanical or thermal); fuel cells powered by Tier 1 resources. · Tier 2: Hydropower other than pumped-storage generation; municipal solid waste (limited).
Maryland	✓ 20% by 2022 ✓ 2% solar set-aside		· Enacted in May 2004 (Renewable Energy Portfolio Standard); amended in 2007, 2008, 2010 & 2011.	· Tier 1 (may be used for Tier 2): Solar; wind; qualifying biomass; methane from anaerobic decomposition of organic materials

			· Two tiers: Tier 1 gradually increases each year until reaching 20% in 2022. Tier 2 remains at 2.5% until sunsets in 2018.	in landfill or WWTP; geothermal; ocean; fuel cells powered by methane or biomass; hydroelectric (<30 MW); poultry litter incineration; waste-to-energy (eff. 10/1/11); refuse-derived fuel (eff. 10/1/11). · Tier 2: Hydropower other than pump-storage generation.
State	**Standard**		**Summary**	**Eligible Resources**
	Renewable	**Alternative**		
Pennsylvania	✓ 8% by 2020-21 ✓ .5% solar set-aside	✓ 10% by 2020-21	· Enacted in Nov. 2004 (Alternative Energy Portfolio Standard). · Two tiers: Tier 1 gradually increases each year until reaching 8% in 2020-21. Tier 2 gradually increases to 10% in 2020-21.	· Tier 1: Solar; wind; low-impact hydropower; geothermal; biomass; biologically-derived methane gas; coal-mine methane; fuel cells. · Tier 2: Waste coal; distributed generation systems; demand-side management; large-scale hydropower; municipal solid waste; wood pulping and manufacturing byproducts; integrated gasification combined cycle coal technology.
Virginia	✓ Voluntary goal of 15% by 2025		· Goal established in 2007 and expanded in 2009 (HB 1994).	Solar; landfill gas; wind; geothermal; hydropower (excludes pumped storage); wave; tidal; biomass energy.
West Virginia		✓ 25% by 2025	· Enacted in June 2009 (Alternative and Renewable Energy Portfolio Act). · No minimum standard for	· Alternative: Coal technology; coal bed methane; natural gas; fuel produced by coal gasification or liquefaction facility; synthetic gas;

			renewable energy.	integrated gasification combined cycle technologies; waste coal; tire-derived fuel; pumped storage hydroelectric projects. · Renewable: Solar; wind; “run of river” hydropower; geothermal; fuel cells; certain biomass energy; biologically derived fuel; recycled energy.

Source: http://www.dsireusa.org/summarytables/rrpre.cfm

APPENDIX B:
SUMMARY OF STATE ENERGY EFFICIENCY RESOURCE STANDARDS

Summary of State Energy Efficiency Resource Standards

State	Standard	Summary
Delaware	✓ Yes	· 15% electricity consumption & peak demand savings and 10% natural gas consumption savings by 2015 (SB 106, 2009). · Delaware's Sustainable Energy Utility calls for a 30% reduction in annual energy usage for program participants by 2015 (SB 18, 2007).
District of Columbia	✓ In progress	· D.C.'s Clean and Affordable Energy Act (July 2008) created a Sustainable Energy Utility. Specific targets and deadlines TBD.
Maryland	✓ Yes	· 15% per capita electricity reduction by 2015 (EmPOWER Maryland Energy Efficiency Act, 2008). · 10% to be achieved by utilities and 5% independently, through the Maryland Energy Administration and other private and public stakeholders.
Pennsylvania	✓ Yes	· 3% reduction in energy consumption by May 31, 2013 (Act 129, 2008). · 4.5% reduction in peak demand by May 31, 2013. · 10% to be achieved in government sector (including schools, non-profits). Another 10% to be achieved in low-income sector.
Virginia	None	
West Virginia	None	

Source: http://aceee.org/sector/state-policy/utility-policies