SEPTEMBER 2013

CLIMATE, ENERGY, AND ENVIRONMENT POLICY COMMITTEE

# Climate and Energy 2012 Progress Report

METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS

Photo : LEED Platnium Certified Gaithersburg Olde Towne Youth Center


# MOVING THE *REGION FORWARD*

The Metropolitan Washington Council of Governments (COG) is an independent, nonprofit association that brings area leaders together to address major regional issues in the District of Columbia, suburban Maryland and Northern Virginia. COG's membership is comprised of 300 elected officials from 22 local governments, the Maryland and Virginia state legislatures, and U.S. Congress.

*Region Forward* is COG's vision and mission. It's a commitment by COG and its member governments, who together seek to create a more accessible, sustainable, prosperous, and livable National Capital Region. *Region Forward* draws its climate and energy related goals from the 2008 National Capital Region Climate Change Report. The regional greenhouse gas (GHG) emissions reduction goals include 10 percent below business as usual by 2012, 20 percent below the 2005 levels by 2020, and 80 percent below 2005 levels by 2050.

COG's Climate, Energy and Environment Policy Committee (CEEPC) supports the *Region Forward* vision and mission by providing leadership on climate change, energy, green building, alternative fuels, solid waste and recycling issues and by supporting area governments as they work together to meet *Region Forward* goals. Created in 2009, CEEPC includes representatives from COG's member governments, state environmental and transportation agencies, state legislatures, the Air and Climate Public Advisory Committee (ACPAC), federal and regional agencies, electric and gas utilities, environmental organizations, business organizations and members of the academic community. Several subcommittees, such as the Built Environment and Energy Advisory Committee (BEEAC) and ACPAC, provide essential input and support to CEEPC.

In January 2010, CEEPC adopted the 2010-2012 Regional Climate & Energy Action Plan, which identifies short-term actions to help move the region toward achieving long-term *Region Forward* goals. To monitor progress towards implementation of the Climate & Energy Action Plan, COG staff conducts an annual survey of local governments in the region. Twenty-two local governments were surveyed in January 2013 and 18 responded. Results reported in 2012 were incorporated into this report for the four local governments that did not respond in 2013. The local government progress reported in this document reflects the self-reported results from the returned surveys.

# CHAIRMAN'S MESSAGE

Metropolitan Washington is a vibrant, growing region. We gained 350,000 new residents from 2005 to 2011, and are predicted to gain another 1.6 million by 2040. Our challenge is to ensure that this growth enhances the prosperity and sustainability of this region. We must continue to reduce greenhouse gas emissions, increase the energy efficiency of our buildings, expand renewables, provide clean transportation options, and make our communities great places to live and work.

CEEPC's Climate and Energy Action Plan helps local governments achieve these goals by identifying actions, programs, and policies that promote sustainability throughout the region. In January 2010, CEEPC adopted the first iteration of this plan, setting short-term goals for 2010 through 2012. The region made notable achievements over this time, including:

- The National Capital Region recorded a 17 percent reduction in $CO_2$ emissions from the electricity sector between 2005 and 2012.
- 73 percent of jurisdictions have renewable energy systems on local government property, nearly reaching the 75 percent goal.
- 2,897 on-site renewable energy systems have been installed across the region. While we have not reached our goal of reaching 5,000 systems by 2011, the pace of new installations is quickly growing. The total kilowatt capacity of renewable systems has grown nearly 600 percent from 2009 to 2012, and we expect to see this trend continue.

Recognizing this progress, CEEPC updated the Climate and Energy Action Plan in early 2013 to continue raising the bar and highlight priority areas for the next four years. The 2013 to 2016 Action Plan includes new and continuing goals. Moving forward our highest priorities will be energy efficiency, renewable energy, energy security, and green purchasing. Not only are these good for our region's environment, they also help to ensure a prosperous future.

As chairman of the CEEPC, I am very proud of our members' achievements toward the region's ambitious climate and energy goals. We have seen great progress toward the goals set forth in the 2012 Climate and Energy Action Plan, and I look forward to reaching, collectively, for even higher goals in 2016. These achievements would not be possible without the support of local governments and regional stakeholders. Thank you for taking an active role in promoting sustainability in your own communities and throughout the region.

Roger Berliner,
Chair, CEEPC



# CEEPC Members

## District of Columbia
Mary Cheh (CEEPC Vice Chair), District of Columbia (Council)
Alternates – V. Davis Zvenyach and Tom Moir
Harriet Tregoning, District of Columbia (Executive)

## Maryland
Henri Gardner, City of Bowie
Robert Catlin, City of College Park
Alternate – Denise Mitchell
Shelley Aloi, City of Frederick
Blaine R. Young, Frederick County
Alternate – Hilary Varnadore
Ryan Spiegel, City of Gaithersburg
Alternate, Mike Sesma
Konrad Herling, City of Greenbelt
Alternate – Leta Mach
Roger Berliner (CEEPC Chair), Montgomery County (Council)
Bob Hoyt, Montgomery County
Alternate – Stan Edwards
Will A. Campos, Prince George's County (Council)
Alternate – Andrea Harrison
Samuel Moki, Prince George's County (Executive)
Bridget Newton, City of Rockville
Fred Schultz, City of Takoma Park

## Virginia
Del Pepper, City of Alexandria
Alternate – Rob Krupicka
Jay Fisette, Arlington County
Steve Stombres, City of Fairfax
Penelope Gross, Fairfax County
Kambiz Agazi, Fairfax County
Johannah Barry, City of Falls Church
Alternate – David Snyder
Ralph Buona, Loudoun County
Jonathan Way, Manassas City (CEEPC Vice Chair)
Martin Nohe, Prince William County
Alternate – Michael May

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Alternate – Brendan Shane
Dr. Teresa Lawrence, District Office of Energy
Terry Bellamy, District Department of Transportation
Alternates – Faisal Hameed and Austina Casey
Bob Summers, Maryland Department of Environment
Alternates – Luke Wisniewski and Renee Fizer
Abigal Hopper, Maryland Energy Administration
Alternate – Devon Dodson
Howard Simons and Lyn Erikson, Maryland Department of Transportation
Doug Domenech, Virginia Natural Resources/Environment
Alternate – Maureen Matsen
Sean Connaughton, Virginia Transportation
Alternates – Garrett Moore and Renee Hamilton

## State Legislatures
Alfred C. Carr, Jr., Maryland House of Delegates
Adam Ebbin, Virginia House of Delegates
Chap Peterson, Senate of Virginia

## Public Advisory Committee
Caroline Petti, Air and Climate Public Advisory Committee

## Federal and Regional Agencies
Rachel Healy, Washington Metropolitan Area Transit Authority
Steve Walz, Northern Virginia Regional Commission
Alternate – Dale Medearis
Julia Koster, National Capital Planning Commission
Alternate – Diane Sullivan
Sarah Jensen, DOE Federal Interagency Sustainability
Julia Hudson, General Services Administration, National Capital Region
Bucky Green, EPA Sustainable Facilities Branch

## Electric and Gas Utilities
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Alternate – Josh Foster

## Business
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Stephen Pattison, Maryland Clean Energy Center
Alternate – Katherine Magruder
Nicole Steele, Alliance to Save Energy
Jim Barrett, Applied Solutions
Michael Donovan, USAID

## Academic
Howard Ways, University of the District of Columbia
Dr. Dan Sklarew, George Mason University
Alternates – Dr. Kris Wernstedt and Michael Mortimer, Virginia Institute of Technology

## At Large
Jeff Platenberg, Loudoun County Public Schools
Donald Briggs, Frederick County Sustainability Commission
Larisa Dobriansky, Global Energy Network

# ENERGY EFFICIENCY

## REGIONAL HIGHLIGHTS

**95%** of local jurisdictions are in the process of tracking and/or benchmarking government building energy performance[1]

Over **800** buildings in the region have earned the ENERGY STAR label, totaling more than 187 million square feet of floor space[2]

**45%** of jurisdiction have in place or are in progress on an energy financing program for residential or commercial sectors[1]

1 COG Annual Local Government Climate and Energy Surveys
2 ENERGY STAR Certified Buildings and Plants Database
Note: The ENERGY STAR building rating is on an annual basis. This statistic includes buildings that have earned the ENERGY STAR label between 2000 and 2012.

Environmental Performance Label at Central Library
Photo Credit: Arlington County Environmental Services

## COG INITIATIVES

COG has been actively promoting the use of EPA ENERGY STAR Portfolio Manager, an online tool for tracking energy performance of individual buildings and across an entire portfolio of buildings. Buildings can be benchmarked compared to their own past performance and compared to similar buildings nationwide on a 1-100 rating scale. Buildings can earn the ENERGY STAR label if they earn a 75 or higher rating. COG has provided two hands-on trainings of Portfolio Manager, one in 2010 and another in 2012. Attendees learned how to measure and track energy use and carbon dioxide emission reductions to establish baseline energy use, prioritize investments, set goals and track improvements over time.

COG also hosted workshops in 2012 to support COG members in the area of energy efficiency investment and financing. A couple examples include the "21st Century Local Energy Innovation" Leadership Symposium and the Innovative Financing Tools for Energy Efficient Buildings Workshop. The Leadership Symposium highlighted new national and local best practices in local government investment in energy efficiency and clean energy. The Innovative Financing Tools Workshop brought together leaders from banks, law firms, and the Department of Energy with consultants and other regional leaders to discuss the potential for energy efficiency financing, barriers to deployment, and case studies on innovative solutions.

## LOCAL HIGHLIGHTS

Reston Home Energy Makeover Contest Winners with Fairfax County Supervisor Catherine M. Hudgins; Cynthia Adams, LEAP-VA Executive Director; and Michael Sanio, Reston Board

### Local Energy Alliance Program of Virginia

The Local Energy Alliance Program of Virginia (LEAP-VA) is a nonprofit energy services organization that is a one-stop-shop for homes and businesses to call when they're looking to improve the energy efficiency of their homes or buildings and to secure low-interest loans. In 2012, LEAP partnered with the City of Alexandria, Arlington County, the Northern Virginia Regional Commission, and local credit unions to offer its programs and services to Northern Virginia communities. This includes programs and services such as the Home Performance with ENERGY STAR Program, a Home Energy Makeover Contest, establishing a network of pre-qualified local contractors, training of local real estate agents, and offering businesses energy reviews, benchmarking, and financing resources. (Source: LEAP-VA)


MCEC Grant helps put green homes in Frederick
Photo Credit: Bill Ryan / The Gazette

### Maryland Clean Energy Center

The Maryland Clean Energy Center (MCEC) is a not-for-profit entity created by the Maryland General Assembly in 2008 to promote clean energy, economic development, energy innovation and clean tech jobs in Maryland. Two innovative programs that use private capital to finance energy efficiency upgrades include Maryland Clean Energy Capital (MCAP) and Maryland Home Energy Loan program (MHELP). MCAP utilizes state bonding authority along with private capital to provide largely tax-exempt debt financing for institutions such as universities. MHELP is a partnership with the Maryland Energy Administration and the U.S. Department of Energy to develop financing for Maryland property owners. Examples of eligible projects include energy audits, installing insulation, and duct sealing. (Source: MCEC)

# GREEN BUILDING

Green Roof at Walter Reed Community Center
Photo Credit: Arlington County

## REGIONAL HIGHLIGHTS

The U.S. Green Building Council named the District of Columbia, Maryland and Virginia in the top 10 states for LEED in 2012. In the National Capital Region alone, there are over 700 LEED projects certified, totaling more than 177 million gross square feet.

Sources: Top 10 States for LEED in 2012
Public LEED Project Directory

## COG INITIATIVES

To support the proliferation of green building in the region, COG established the Intergovernmental Green Building Group (IGBG) back in 2005 and has held a wide array of events (trainings, workshops, forums/expos, tours, etc) over the years and has written a variety of publications to expose regional leaders to the best national and local best practices. In 2007, the COG Board adopted a Regional Green Building Policy that recommends all new local government construction achieve Leadership in Energy and Environmental Design (LEED) Silver Certification and all other commercial construction should seek LEED Certified. COG has worked diligently to encourage local government adoption of green building policies.

To support improved energy efficiency in all new buildings, COG sought out and received $96,000 from the Energy Foundation to send 62 local government representatives in the region to attend the 2010 International Code Council (ICC) Final Action Hearings. The region's representatives had a positive impact in the adoption of the 30 percent more stringent national building codes when compared to the 2006 codes.

COG will continue to work on green building and energy issues with the Built Environment and Energy Advisory Committee - a merger of IGBG and the Energy Advisory Committee.

## LOCAL HIGHLIGHTS

### City of Bowie

In January 2012, the Bowie City Council adopted a green building policy in which at least LEED Silver Certification should be achieved for City funded new projects and major renovations over 10,000 square feet. The nearly 80,000 square foot Bowie City Hall and Police Department building achieved a LEED Gold rating. Some of the green features of the building include a partial green roof with drought-resistant native plants, more than 20% of building materials contain recycled content, an underground stormwater treatment system, low-flow water fixtures as well as low VOC paints, sealants, adhesives, and carpets. (Source: City o f Bowie City Hall's LEED Features brochure)

### Loudoun County

The Loudoun County Green Building Policy and Guideline was established in November 2007. The goal is to attain a minimum LEED Silver Certification. The County has 9 LEED projects including the County Youth Shelter, which achieved LEED Gold Certification. Some of the features of the Youth Shelter include a geothermal heating and cooling system, photovoltaic on-site power generation, natural daylight and views to every occupied space, maximized use of open space, water efficient fixtures and cisterns, and use of sustainable materials such as bamboo, cork, and certified wood. (Source: Loudoun County Green Building Program Presentation to BEEAC)

# RENEWABLE ENERGY

## REGIONAL HIGHLIGHTS

**2,897** grid connected renewable energy systems operating in the region with a total capacity of 26,811 kW. In 2009, there were only 461 systems and 3,844 kW total capacity[1]

**73%** of jurisdictions have renewable energy systems on local government property[2]

**41%** of jurisdictions in the region are EPA Green Power Partners (jurisdictions meet nationally accepted standards for green power purchase)[3]

Photo Credit: Argonne National Laboratory

1 COG Annual Energy Utility Surveys
2 COG Annual Local Government Climate and Energy Surveys
3 EPA Green Power Partner List

## COG INITIATIVES

To support public agencies in the region with renewable energy installations the COG, along with the EPA Green Power Partnership and Optony, a solar consulting firm, are helping to broker a regional pooling of resources to purchase solar cooperatively across the region. The goal of the collaborative approach is to reduce up-front costs for local governments and other regional entities by bundling a number of solar projects into a streamlined group procurement. This helps lower prices through economies of scale and decrease the transaction costs and administrative burden with projects. EPA paid for 170 on-site solar feasibility surveys of public agency facilities in the region and 75 were determined to be feasible for solar from a technical perspective. However, of those 75 only 40 were determined to be economically viable due to current policy and market conditions. These 40 sites have the potential for over 15 megawatts in solar photovoltaic capacity.

Recognizing similarities in new federal clean energy goals with state and local government goals, COG opened up a dialogue with these representatives in order to discuss existing initiatives and potential new collaborative opportunities in the region. This dialogue was kicked off at COG's 2012 Expert and Agency Roundtable on Sustainable Energy and Economic Development and COG continues to explore best management practices and opportunities with these stakeholders.

## LOCAL HIGHLIGHTS

### Charles County

Charles County installed a 12-kilowatt vertical-axis wind turbine at the Crain Memorial Welcome Center. The vertical-axis technology can capture wind from all directions. The wind turbine will be able to harness wind blowing off the Potomac River and can provide 105 kilowatt hours per year; the same as powering about 10 homes per year. It not only reduces the Center's reliance on the public utility grid but also provides power to the Center's electric vehicle charging station. (Sources Charles County and Washington Post)

### Town of Bladensburg

The Town of Bladensburg has installed two parking lot Smart-Pole LED street lights that operate off the grid through dually driven wind and solar collectors. The wind turbine is made from aluminum and has a vertical design to allow for power generation at low wind speeds. The 60 watt LED lights are powered by wind both during the day and night and from solar during the day. There is battery back up for cloudy and calm days and automatic daylight sensing or hour presets controll the turning on and off of lights. (Sources: Town of Bladensburg and RND Group, Inc)

# TRANSPORTATION

## REGIONAL HIGHLIGHTS

**500** is the estimated number of electric vehicles (EVs) owned in the region[1]

**15,000** to **30,000** EVs are projected to be in the region by 2015[2]

**133** publically accessible EV charging stations are located in the region[3]

**50%** of jurisdictions have in place or are in progress on alternative fuel vehicle infrastructure (includes infrastructure for EV charging, biodiesel, ethanol, hydrogen, natural gas, and propane)[4]

1 Number of registered EVs according to data provided by Virginia, Maryland and District of Columbia Motor Vehicle Departments as of June 2012
2 Plug-in Electric Vehicle Load Estimator, Electric Power Research Institute, Palo Alto, CA: 2012. Projection is based on past hybrid sales, manufacturer production estimates, and other publically available studies
3 COG *Electric Vehicles in the Metropolitan Washington Region Report.* Analysis as of April 2012
4 COG Annual Local Government Climate and Energy Surveys


Electric Vehicle Charging
Photo Credit: Melissa Hincha-Ownsby

## COG INITIATIVES

Achieving electric vehicle (EV) readiness in the National Capital Region will require a coordinated approach among local governments, utilities, players in the EV industry, and nonprofit groups. At the direction of CEEPC and with approval from the COG Board, COG convened an electric vehicle workgroup to identify barriers and opportunities regarding electric vehicle adoption in the region.

Guided by the workgroup, COG staff developed a report in 2012 entitled: *Electric Vehicles in Metropolitan Washington*. This report seeks to provide a framework for establishing a regional readiness plan for the deployment of EVs in the National Capital Region. The report contains recommendations for stakeholders to promote a consistent set of practices across the region. This coordinated planning effort will help ensure that the region can receive the health, environmental, and sustainability benefits that EV technology offers.

The electric vehicle work group continues to function as a forum for the discussion and coordination of public and private strategies to support electrification of transportation in the region, where feasible. In addition to maintaining work group dynamics as a clearinghouse for information sharing, discussion of relevant issues, and exploration of topics, the primary goal is to assist stakeholders in finding ways to remove barriers to EV deployment in the region.

## LOCAL HIGHLIGHTS

### Alexandria Renew Enterprises

Alexandria Renew Enterprises, also known as AlexRenew, operates one of the most advanced wastewater reclamation facilities in the United States, located on a 35-acre site within walking distance of Old Town Alexandria. Sustainability is one of AlexRenew's core business objectives. AlexRenew implements a variety of initiatives to support this objective, including in its fleet vehicle replacement decisions. AlexRenew's sustainable fleet consists of 2 hybrid Ford Escapes, a hybrid Toyota Prius, an electric pick-up truck (pictured) and a solar cart. (Source: AlexRenew and COG Water Utility Survey)

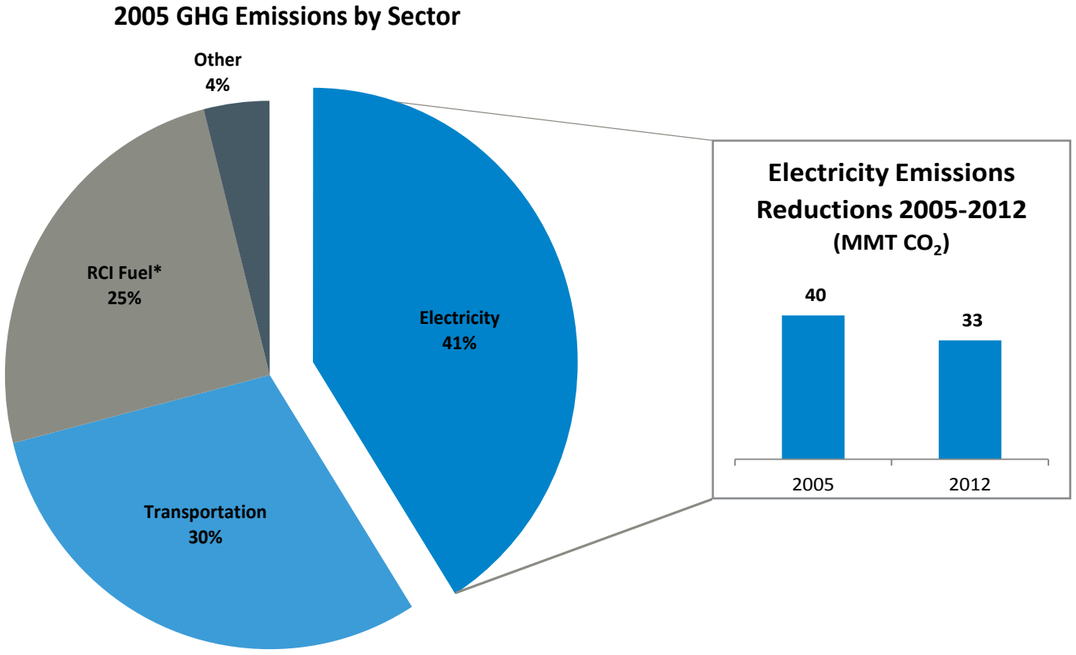

### Montgomery County

As of 2012, compressed natural gas (CNG) trucks must be used for recycling, trash, and yard trim pickups by Montgomery County's collection contractors. CNG trucks reduce greenhouse gas emissions by 10 to 15 percent and are 50 to 90 percent quieter when compared to diesel trucks. The County has 105 collection trucks using CNG instead of diesel. The Division of Solid Waste Services' fleet also consists of other CNG vehicles such as dump trucks and pick-up trucks. (Source: Montgomery County, Maryland, Division of Solid Waste Services and its Talkin' Trash Blog from March 2, 2013)

# GREENHOUSE GASES

## REGIONAL HIGHLIGHTS

### The National Capital Region recorded a 17 percent decrease in $CO_2$ emissions from the electricity sector between 2005 and 2012.




## COG INITIATIVES

The National Capital Region Climate Change Report set a 2012 emission reduction goal of 10 percent below business as usual (BAU). Between 2005 and 2012, regional energy consumption and greenhouse gas emissions were expected to grow by about 10 percent under a BAU scenario. The 2012 goal was established to stop projected growth in regional greenhouse gas emissions by achieving a 10 percent reduction in regional emissions between 2008 and 2012, corresponding to returning regional emissions to 2005 levels. In 2005, greenhouse gas emissions in the region totaled 74 million metric tons of $CO_2e$. As shown in the pie chart above, two sectors, transportation and electricity use contributed over 70 percent of regional $CO_2$ emissions.

*(Note: RCI fuel includes residential, commercial, and industrial natural gas, home heating oil, nonroad diesel, and aviation fuel. Other sources include methane from wastewater treatment and landfills, as well as high global warming potential gases used as refrigerants and solvents.)



To begin to understand progress made toward the 2012 goal, COG has conducted preliminary analysis of electricity and transportation sectors. Preliminary results show that the region is surpassing reduction goals in the electricity sector, with a 17 percent reduction in CO2 emissions from 2005 to 2012. Combined emissions from natural gas and electricity consumption showed a 16 percent decrease from 2005 levels. According to the most recent regional transportation emissions analysis, emissions from the transportation sector are estimated to be holding steady at 2007 levels. Analysis of other emissions sources, including stationary fuels, is pending.

Every year COG collects electricity and natural gas consumption data from utilities serving COG member jurisdictions. This data helps COG track regional trends in energy use and emissions, and can help local governments complete their own greenhouse gas inventories. In February 2012, COG hosted a panel discussion on methodologies for developing community greenhouse gas inventories, including experts from EPA, ICLEI—Local Governments for Sustainability, the Delaware Valley Regional Planning Commission, and consulting firms SAIC and ICF. Participants learned about the 2012 ICLEI Community Protocol as well as a new resourced being piloted by EPA to help local governments conduct GHG inventories.

## LOCAL HIGHLIGHTS

### District of Columbia

The District of Columbia Greenhouse Gas Inventory was completed using a base year of 2006 and was updated in 2012 using 2009-2011 data. In 2006, the District emitted 10.2 million tons of carbon dioxide equivalents (CO2e), a measure of the six primary global-warming pollutants. In 2011, the District emitted 8.9 million tons of CO2e, a reduction of 12.5% from the 2006 baseline year. Citywide emissions per capita dropped from 18 tons/person of CO2e in the 2006 inventory to 14.5 tons/person in 2011. In addition, emissions associated with District government operations, a subset of the city's total greenhouse-gas emissions, fell by 23% between 2006 and 2011 (from 686,000 to 527,000 tons of CO2e). During the same five year period the District grew by 6 percent in both population and of the city's total workforce. (Source: 2011 District of Columbia Greenhouse Gas Emissions Inventory)

### Arlington County

On January 1, 2007, the Arlington County Board adopted a goal of reducing greenhouse gas emissions from County government operations 10% by 2012 from a 2000 baseline. The County's 2012 Government Operations Greenhouse Gas Inventory shows that the County has met and exceeded the 2007 goal. The County has achieved a reduction of 11.7% in its emissions, even as its services and facilities increased. To meet the 2012 goal, the County implemented a variety of energy measures such as retrofitting lighting and upgrading heating and cooling systems in government buildings as well as upgrading traffic signals and more than 2,500 street lights to LED technology. In addition, the Arlington Transit bus fleet grew from four vehicles to 55, and annual ridership increased from 163,523 to more than 2.5 million between 2000 and 2012. (Source: Arlington County)

# CLIMATE RESILIENCY

Derecho storm damage in Falls Church, VA
Photo Credit: ClintJCL

## REGIONAL HIGHLIGHTS

2012 brought record heat waves, the Derecho thunderstorm, and Superstorm Sandy. Moving forward, the Chesapeake Bay area is virtually certain to have higher sea levels and will very likely see higher temperatures and precipitation concentrated in heavier events.

Source: Dr. Raymond G. Najjar's Presentation at COG's 2012 Climate Impacts Symposium

## COG INITIATIVES

A key focus of COG's resiliency initiatives has been to build the capacity of regional leaders to understand and address the unavoidable impacts of climate change. In order to help facilitate COG's initiatives, COG applied for and received technical assistance through the U.S. Environmental Protection Agency's Smart Growth Implementation Assistance Program (EPA SGIA). Through this process of working with EPA between 2010 and 2012, COG has been able to engage, educate, and train hundreds of leaders across the region on climate resiliency. COG has published a report that is a synopsis of lessons learned during the process called *Summary of Potential Climate Change Impacts, Vulnerabilities, and Adaptation Strategies in the Metropolitan Washington Region*. The report was developed as a stepping stone to assist local jurisdictions in identifying priority community-level risks and resiliency strategies.

In 2012, COG has continued to provide opportunities for stakeholder engagement at events such as the May 2012 Climate Impacts Symposium, the December 2012 Adapting to Extreme Events Workshop, and by applying and receiving scholarships to send teams of regional leaders to the Institute for Sustainable Communities' Sustainable Leadership Academy in Baltimore, MD and the Climate Leadership Academy on Adaptation and Resilience in Portland, Oregon.

## LOCAL HIGHLIGHTS

Distributing sandbags in Old Town Alexandria before Superstorm Sandy
Photo Credit: Andrew Fagen

### City of Alexandria

The City of Alexandria's Energy and Climate Change Action Plan includes a section on Climate Adaptation and Preparedness that identifies five key anticipated climate impacts to people and property, including sea level rise, decreased water availability, increases in air and water temperatures, ecological disruptions, and quality of life effects. For each of the impact areas, a preliminary list of adaptation actions is identified. Some of the actions include a flooding study to evaluate the most vulnerable areas of Old Town waterfront, installation of several stream flow monitors in collaboration with Fairfax County, ongoing stream maintenance to reduce flooding, implementing the Urban Forestry Master Plan aimed at achieving 40 percent tree canopy, and considering a stormwater capacity study. (Source: City of Alexandria Energy and Climate Change Action Plan)

DDOT severe storm recovery effort

### District Department of Transportation

Recognizing the need to prepare itself for changing climate patterns, the District Department of Transportation (DDOT) Sustainability Plan outlines climate change adaptation as one of its top eight priorities and published its Climate Change Adaptation Plan. The Plan follows adaptation planning frameworks developed by the National Cooperative Highway Research Program and the Federal Highway Administration to address climate impacts on DDOT's transportation assets. The plan ranks the vulnerability of impacts on transportation infrastructure and outlines a number of implementation action items, such as factoring in climate change adaptation into all stages of project development. (Source: DDOT Climate Change Adaptation Plan)

# GREEN PURCHASING

## COG INITIATIVES

### Regional Cooperative Purchasing and Rider Clause

COG administers a regional Cooperative Purchasing Program buying such commodities as fuel, heating oil, natural gas, and road de-icing salt. The program brings together area local governments, school districts, water departments, and transit agencies like WMATA, to purchase goods and commodities at reduced costs through volume buying. The procurement of sustainable paper was incorporated as an option in the cooperative purchase of copy paper in 2012 and an initiative to cooperatively procure solar for public facilities is currently underway (more details in the Renewable Energy section under COG INITIATIVES on page 11).

COG's Purchasing Rider saves local jurisdictions money on administrative expenses by substantially reducing the paperwork associated with competitive procurement. When a jurisdiction includes the Rider in contract(s) it extends the pricing and terms and conditions to the members of the cooperative purchasing program. In January 2012, COG conducted a green purchasing survey of COG member jurisdictions to identify green product and service contracts in the region and identify which contracts contained the COG Rider Clause. Results of the survey were shared with member jurisdictions to help facilitate local government green procurement.

### Responsible Purchasing Network Regional Membership and Trainings

COG established a 2012 Regional Membership to the Responsible Purchasing Network (RPN) to assist COG member jurisdictions in developing and implementing green purchasing policies and programs. RPN membership in 2012 was provided at no charge to COG member jurisdictions to an unlimited number of local jurisdiction employees. RPN is an international network of buyers dedicated to socially responsible and environmentally preferable purchasing (EPP) that provides green purchasing resources and tools that assist members in reaching green purchasing goals and save staff time and money. A Sustainable Purchasing 101 and New Member Orientation Webinar was held in January 2012 and in September 2012, COG hosted a Sustainable Procurement Workshop in which RPN trained procurement and environmental stakeholders on environmental products that save money.

## LOCAL HIGHLIGHTS

### Fairfax County

Fairfax County, VA Environmentally Preferred Purchasing Policy is a broad, discretionary policy. Successful implementation of the policy and greening of high impact contracts has been achieved by creating a partnership between environmental staff (energy manager, sustainability manager, etc) and procurement staff. Some of the environmentally preferred products the county purchases include office supplies, cleaning supplies, electronics, office furniture, lights bulbs, paint, and carpet. Many of the green product and/or service contracts include the COG Rider Clause or are a US Communities contract; and therefore, other jurisdictions can benefit from those contracts. (Source: Fairfax County and COG Local Government Environmental Preferable Purchasing Survey)

### District of Columbia

In order to facilitate the procurement of green products and services, the District of Columbia established a cross-section Green Procurement Team representing all commodity groups and many departments. A Green Spend Report was developed to establish a green procurement baseline and the ability to track green procurement was set up in the City's procurement database. The City analyzed and prioritized products and service contracts to "green." Some of the environmentally preferred products the City purchases include remanufactured toner cartridges, copy machines, computers, paper, and cleaning products. The Green Procurement Team also began to coordinate with the Mayor's comprehensive program, Sustainable D.C. (Source: District of Columbia and COG Local Government Environmental Preferable Purchasing Survey)

# OUTREACH

## REGIONAL HIGHLIGHTS

**52%** of the region's population lives in a jurisdiction that has in place a community energy challenge[1]

**74%** of the region's population lives in a jurisdiction that promotes energy efficiency and/or renewable energy incentives[2]

**73%** of businesses in the region are located in a jurisdiction that has in place or is in progress on a green business challenge[3]

1 COG Annual Local Government Climate and Energy Surveys
2 COG Annual Local Government Climate and Energy Surveys and US Census 2012 Population Estimate
3 COG Annual Local Government Climate and Energy Surveys and US Census 2007 Survey of Business Owners

Energy experts set up blower door test to search for air leaks
Photo Credit: Fairfax County

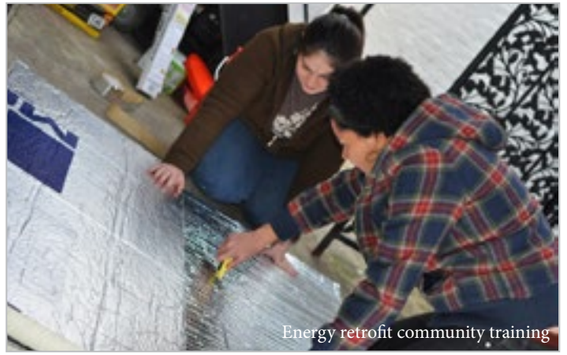
## COG INITIATIVES

COG launched a pilot on residential energy efficiency named Wise Energy by Capital Area Neighbors (WE CAN) from October 2010 to March 2011 with three communities: Brookland, DC, Greenbelt, MD and the Cascades neighborhood in Loudoun County, VA. WE CAN featured an online energy consumption monitoring tool and reward program.

There was a lot of support from community leaders and community groups in each pilot community that worked to encourage residents to participate and take action. COG met the goal of recruiting more than 150 households in the three pilot communities signed up and tracked their energy use by linking their utility accounts to the online platform. Over 200 additional households signed up to support the program and view tips, but did not shared their utility information.

In 2011 and 2012, COG convened the CEEPC Outreach Committee. The committee served as a forum to share national and local best practices in community energy outreach campaigns. The committee collaborated to identify a top list of sustainability practices that local governments could incorporate into their programs. In addition, COG hired a marketing consultant that shared marketing research on environmental attitudes and recommended best practices for marketing energy and sustainability community outreach programs in the National Capital Region.

## LOCAL HIGHLIGHTS



Energy retrofit community training

### Frederick County

The Frederick County Green Homes Challenge helps residents take action at home to reduce energy use and utility bills, adopt green lifestyle practices, and use renewable energy.

To date, 893 households have registered with the Challenge and 150 have been certified. The County estimates the following savings based on the green actions reported by these certified households:

- 1,818 megawatt hours of energy saved annually
- 1,881 metric tons $CO_2$ equivalents of GHG emissions prevented annually
- $166,672 in cost savings per year
- 1,809,928 gallons of water saved per year
- 8,739 gallons of gasoline saved per year

(Source: Frederick County)

Thermal imaging camera measures insualtion and air leaks at a community Energy Audit Party

### Fairfax County

In January 2012, Fairfax County launched its *Energy Action Fairfax* pilot program to increase the awareness of residents regarding their personal energy consumption and to encourage them to reduce that consumption. The pilot program relied on three distinct but inter-related approaches to energy education and outreach: direct engagement to homeowner and civic associations, a social media and marketing "push," and a user-friendly website that serves to "pull" residents and web-visitors to the site and program. The direct engagement aspect provided the peer-to-peer contact essential to behavior change. Program objectives included educating citizens about their energy consumption both at home and in the workplace, explaining the energy assessment process, and encouraging residents to undertake energy-savings measures. (Source: Fairfax County)

# ACTIONS SUMMARY

The following chart is a summary of progress made on select actions from the 2010 - 2012 Climate and Energy Action Plan.

| Local Government | 2012 Census Population Estimate[1] | Govt GHG Inventory | Community GHG Inventory | Govt GHG Reduction Plan | Community GHG Reduction Plan | Govt Energy/ Track Benchmark | Energy Efficient Street Light Program | Energy Finance Program | Green Building Program | Renewable Energy on Govt Property | Green Fleet Policy | Alternative Fuel Infrastructure |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| District of Columbia | 632,323 | ✓✓ | ✓✓ | ✓ | ✓ | ✓✓ | ✓ | ✓ | ✓✓ | ✓✓ | ✓ | ✓ |
| Suburban Maryland | | | | | | | | | | | | |
| Charles County | 150,592 | – | – | – | – | ✓✓ | – | – | ✓ | ✓✓ | – | – |
| Frederick County | 173,200 | ✓✓ | ✓✓ | ✓✓ | ✓ | ✓✓ | ✓✓ | – | ✓ | ✓ | ✓ | – |
| City of Frederick[2] | 66,382 | – | – | – | – | – | ✓ | ✓✓ | – | NR | – | – |
| Montgomery Counnty | 861,466 | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓ | ✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ |
| City of Gaithersburg[2] | 62,794 | ✓ | – | – | – | ✓ | ✓ | ✓✓ | ✓✓ | ✓✓ | – | ✓ |
| City of Rockville[2] | 63,244 | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓ | ✓ | ✓ |
| City of Takoma Park[2] | 17,205 | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓ | ✓ | – | N/A | ✓✓ | ✓✓ | – |
| Prince George's County | 760,932 | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓ | ✓ | ✓ | ✓✓ | ✓✓ | ✓ | – |
| City of Bowie[2] | 56,129 | ✓✓ | ✓✓ | ✓ | ✓ | ✓ | N/A | ✓✓ | ✓✓ | ✓✓ | ✓✓ | – |
| City of College Park[2] | 31,208 | ✓✓ | ✓ | – | – | ✓ | ✓✓ | N/A | N/A | N/A | N/A | N/A |
| City of Greenbelt[2] | 23,541 | ✓✓ | ✓ | ✓ | – | ✓✓ | N/A | N/A | ✓ | ✓✓ | ✓✓ | ✓ |
| Town of Bladensburg[2] | 9,328 | – | – | – | – | ✓ | – | N/A | – | ✓✓ | ✓ | NR |
| Northern Virginia | | | | | | | | | | | | |
| Arlington County | 221,045 | ✓✓ | ✓✓ | ✓✓ | ✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ |
| Fairfax County | 1,118,602 | ✓✓ | ✓✓ | ✓✓ | ✓ | ✓ | ✓ | – | ✓✓ | ✓✓ | ✓✓ | ✓ |
| Loudoun County | 336,898 | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | – | – | ✓✓ | ✓✓ | – | ✓✓ |
| Prince William County | 430,289 | ✓✓ | – | ✓ | – | ✓✓ | – | – | – | ✓✓ | ✓ | ✓ |
| City of Alexandria | 146,294 | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓ | ✓✓ | ✓✓ | ✓✓ | ✓ | – |
| City of Fairfax | 23,461 | ✓ | ✓ | ✓ | – | ✓ | ✓ | ✓ | ✓✓ | – | ✓ | – |
| City of Falls Church | 13,229 | ✓✓ | ✓✓ | ✓ | ✓ | ✓ | ✓ | – | – | ✓✓ | ✓✓ | ✓ |
| City of Manassas | 40,605 | – | – | – | – | ✓ | ✓ | N/A | – | ✓✓ | ✓✓ | ✓✓ |
| City of Manassas Park | 15,798 | – | – | – | – | ✓ | – | – | – | – | – | – |
| **Percent Jurisdictions Implemented** | | **68%** | **55%** | **41%** | **27%** | **45%** | **18%** | **27%** | **50%** | **73%** | **36%** | **18%** |
| **Percent Jurisdictions In Progress** | | **9%** | **14%** | **27%** | **27%** | **50%** | **50%** | **18%** | **14%** | **9%** | **36%** | **32%** |
| **Implemented + In Progress** | | **77%** | **68%** | **68%** | **55%** | **95%** | **68%** | **45%** | **64%** | **82%** | **73%** | **50%** |

✓✓ = Implemented ✓ - In progress – = Not Started N/A = Not Applicable NR = No Response

[1] Annual Estimates of the Resident Population: 4/1/2010 - 7/ 1/2012 Source: U.S. Census Bureau, Population Division

[2] Population in Maryland cities is included in appropriate county totals.

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Photo: Wind Turbine at Charles County Renewable Energy Center