

Climate, Energy and Environment Policy Committee

REGIONAL CLIMATE AND ENERGY ACTION WORKPLAN

2010 PROGRESS REPORT



Metropolitan Washington Council of Governments



June 2011

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MESSAGE FROM THE CHAIRMAN

Changes in the climate will have significant effects on the metropolitan Washington region's natural and built environments, all sectors of its economy, and its residents, families, communities and workplaces. The Climate, Energy and Environment Policy Committee (CEEPC) recognizes that early action and continuous effort is necessary to combat this major challenge to the region's quality of life. CEEPC is providing leadership to ensure that the region meets the goals established in the *National Capital Region Climate Change Report* and *Region Forward* as adopted by the COG Board of Directors.



In facing the challenges of energy and climate change, the region has several advantages, including one of the best transit systems in the country, thoughtful and progressive governments that have shown the ability to coordinate strategic responses to rapidly changing conditions, a diversified economy, excellent airport and rail hubs, and many viable "activity centers" throughout the region. The region also faces the serious challenges of worsening auto congestion, disparities in regional economic growth, environment degradation and energy supply security and affordability.

As the chairman of CEEPC, I am committed to keep these issues in the forefront and to facilitate the coordination and public-private partnerships that will increase the pace of our progress in 2011. In January 2010, CEEPC adopted the 2010-2012 Climate and Energy Action Workplan and has been working with stakeholders on implementing a range of measures that reduce greenhouse gas emissions and energy use.

A diverse set of stakeholders contribute to our planning process including local elected officials and community and business leaders appointed to CEEPC, local government experts on supporting committees such as the Intergovernmental Green Building Group (IGBG) and the Energy Advisory Committee (EAC) and community organizations and individuals on the Air and Climate Public Advisory Committee (ACPAC). Their input and consistent support is essential to our work.

We appreciate your continued interest and support as we strive to reach our goals and move the region forward.

A handwritten signature in black ink that reads "Jay Fiset". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Jay Fiset, Chair
Climate, Energy and Environment Policy Committee

METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS

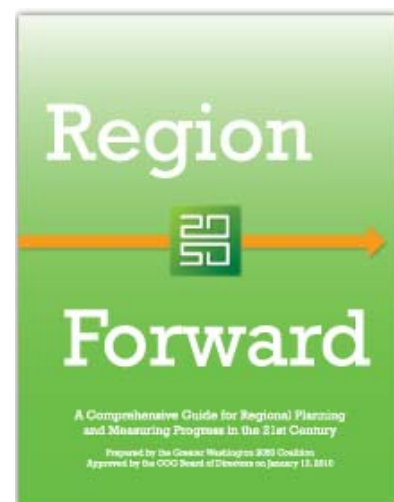
The Metropolitan Washington Council of Governments, known as COG, is an independent, nonprofit association comprised of elected officials from 21 local governments, members of the Maryland and Virginia state legislatures, and members of the U.S. Congress.

Founded in 1957, COG has helped develop regional solutions to such issues as the environment, affordable housing, growth and development, public health, child welfare, public safety, homeland security, and transportation.



Region Forward

In 2010, COG and all 21 local governments in metropolitan Washington adopted *Region Forward*, a vision plan for building an accessible, sustainable, prosperous, and livable future. With measurable goals and targets in areas ranging from the provision of affordable housing to increased transit usage to reduced greenhouse gas emissions, *Region Forward* guides COG's work. Together with the *National Capital Region Climate Change Report*, from which *Region Forward* draws its climate and energy related goals, this plan is the foundation for COG's efforts to build a sustainable metropolitan Washington region.



CLIMATE, ENERGY AND ENVIRONMENT POLICY COMMITTEE

The Climate, Energy and Environment Policy Committee (CEEPC) was created in 2009 by the COG Board of Directors to provide leadership on climate change, energy, green building, alternative fuels, solid waste and recycling issues and to help support area governments as they work together to meet the goals outlined in the *National Capital Region Climate Change Report*.

The committee includes representatives from COG's 21 member governments, state environmental, energy, and transportation agencies, state legislatures, the Air and Climate Public Advisory Committee, federal and regional agencies, electric and gas utilities, environmental organizations, business organizations and members of the academic community.

National Capital Region Climate Change Report

The *National Capital Region Climate Change Report* examined potential climate change impacts on our region, evaluated mitigation strategies focused on building energy conservation, transportation system management, land use, use of renewable energy, adaptation, and outreach and education. The report was adopted by the COG Board of Directors in November 2008, proposes significant short-term, medium term and long-term greenhouse gas reduction goals for the region. The report's regional greenhouse gas emissions reduction goals include ten percent below business as usual by 2012, 20 percent below the 2005 levels by 2020 and 80 percent below 2005 levels by 2050.



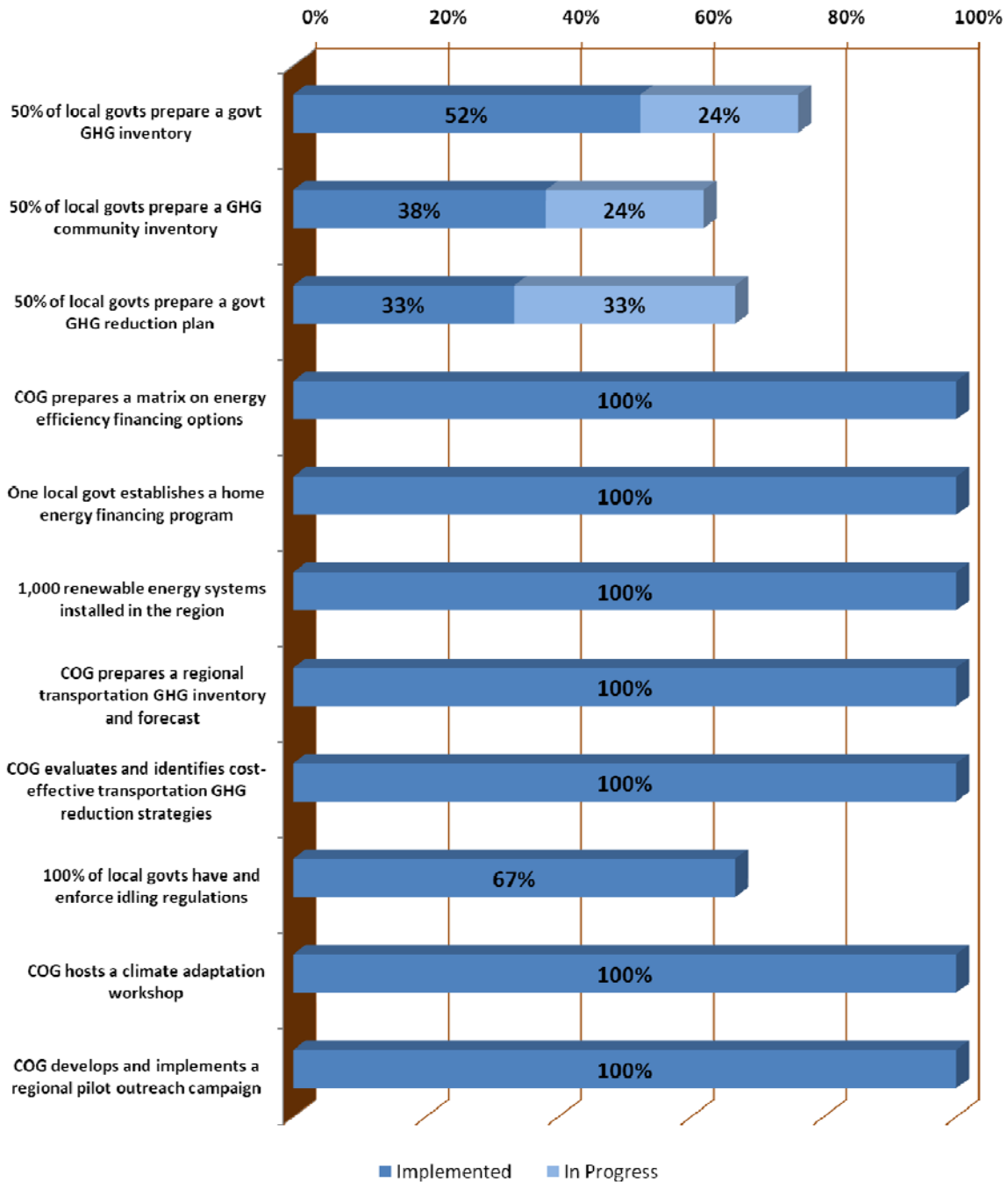
2010 – 2012 Regional Climate and Energy Action Workplan and First Progress Report

In January 2010, CEEPC adopted the 2010-2012 Regional Climate and Energy Action Workplan (Workplan) which identifies short term goals and action items to meet the regional greenhouse gas emissions reduction goals identified in the *National Capital Region Climate Change Report*. CEEPC also selected Workplan items as 2010 priorities. Those priorities include greenhouse gas inventories, tracking progress toward greenhouse gas reduction goals, developing a pilot regional energy outreach campaign, residential energy savings, street light efficiency programs and local governments purchasing or consuming ten percent renewable energy.

This document is the first annual progress report to track and report the region's progress toward meeting the goals CEEPC adopted in the Workplan. In order to track progress, a survey process was established and local governments, school districts and utilities were surveyed in January 2011 and will be surveyed every year moving forward in order to continue to track and report performance. Twenty out of 21 of COG member local governments responded to the survey and eight out of 12 school districts in the region responded. The local government progress toward regional goals reported in this document reflects the self-reported results from the returned surveys.

PROGRESS ON 2010 REGIONAL GOALS

The 2010 – 2012 Regional Climate and Energy Action Workplan identifies goals for COG, local governments and other sectors to achieve by 2010. The below chart identifies the 2010 regional goals and progress towards achieving those goals and the following discussion describes some of the progress and activities that have assisted in that progress.



Inventories

The 2010 regional goals for greenhouse gas (GHG) inventories are for 50 percent of COG member local governments to prepare GHG inventories for both government operations and community-wide emissions. Currently, 76 percent of local governments in the region have completed or are in progress on the government inventory and 62 percent have completed or are in progress on the community inventory.

Most local governments in the region are using the GHG inventory protocol from ICLEI - Local Governments for Sustainability or the World Resource Institute's GHG Protocol. Most local governments are using base years between 2005 and 2008 for the inventories. Some smaller local governments do not have the staff resources or expertise to conduct the inventories at this time.

In order to support local governments in their efforts to develop their GHG inventories COG has hosted trainings for local governments. The first was held on November 9, 2009 and focused on greenhouse gas inventory protocols for local government operations. Another emission inventory workshop, held on February 4, 2010, focused on regional activity data needed to support emission inventory development. A third emission inventory workshop, held on March 26, 2010, focused on the transportation sector activity data and emissions information.

Greenhouse Gas Emission Reduction Plans

The 2010 regional goal for GHG emission reduction plans is for 50 percent of local governments to prepare a plan to reduce GHG emissions in government operations. Currently, 66 percent of local governments have completed or are in progress on the government operations plan to reduce GHG. Several local governments have established stakeholder task force groups to provide guidance throughout the development of the plans.

Local Government Highlights

Loudoun County, Montgomery County and the City of Takoma Park have completed government and community greenhouse gas inventories and plans.

Local government operation emission reduction plans address a wide variety of measures. A common theme plans have in this region are measures that address government buildings such as green building, energy performance tracking, energy retrofits, renewable energy installations and/or purchasing renewable energy. Other common themes include measures that address efficient street lights, using ENERGY STAR equipment, green purchasing, green fleets, commuter options, tree canopy inventories and plans, staff education and developing partnership with other governmental entities and organizations.

Energy Financing

In mid-2010, COG's Energy Advisory Committee established a sub-committee on energy financing in response to interest in implementing PACE (Property Assessed Clean Energy) Loan Program in the metropolitan Washington region. PACE is an innovative financing program that provides loans for energy-efficiency and renewable energy retrofits for homes. The Energy Finance Sub-committee has been focusing on identifying and discussing energy efficiency and renewable energy financing mechanisms in the residential and commercial sectors. One 2010 regional

goal was the development of a matrix on energy efficiency financing options and COG staff worked with the sub-committee to develop this matrix which included energy efficiency financing options, descriptions, pros and cons of each mechanism, which are currently being implemented by local governments in the region and which approaches are under investigation by local governments.

Local Government Highlights

A 2010 regional goal was to have at least one local government establish a home energy financing program. One example is the City of Bowie, which operates a Senior Green Housing Rehabilitation Program using Federal funds which provides energy audits and grant assistance to qualifying property owners.

Renewable Energy

Ambitious regional goals have been established regarding the installation of renewable energy systems. The 2010 regional goal is for 1,000 residential, commercial or government buildings to have renewable energy systems installed. There are 1,077 systems in the region that have a total capacity of about 9,850 kilowatts. This includes existing grid connected solar and wind systems as reported in the COG survey of utilities that serve the metropolitan Washington region. Data was reported by Dominion, Potomac Edison (formerly Allegheny Power) and Pepco.

Transportation Greenhouse Gas Inventory and Reduction Measures

Mobile-source emissions are roughly 30 percent of overall regional CO₂ emissions, making the transportation sector an integral factor in the region's ability to meet CO₂ reduction goals.

COG staff developed the *What Would It Take* (WWIT) Report finalized in May 2010 to specifically examine what it would take in the transportation sector to meet the CO₂ targets in the *National Capital Region Climate Change Report*. The report includes information to meet the regional goals of preparing a baseline inventory and forecast of carbon dioxide emissions in the region and identifying and analyzing cost-effective transportation mitigation strategies. The report analyzes the potential of strategies through a cost-effectiveness analysis, identifies short-term measures that can be feasibly implemented by local governments in the region and includes an analysis of whether any combination of strategies meets long-term mitigation goals.



Climate Adaptation

The regional goal for 2010 is for COG to host at least one adaptation workshop by 2010. On July 23, 2009, the Metropolitan Washington Council



of Governments (COG), in collaboration with Northrop Grumman Corporation, hosted a climate adaptation workshop. The workshop provided its 50 attendees with an excellent opportunity to see presentations about climate adaptation, talk about current issues, network with colleagues and go back to their programs with new ideas.

COG sought out funding for the development of a regional climate adaptation plan and on October 21, 2010 the U.S. Environmental Protection Agency (EPA) announced that the metropolitan Washington region is one of eight regions nationwide that will receive technical assistance from the agency to promote sustainable growth. COG's proposal was based on *the National Capital Region Climate Change Report* and *Region Forward*, a vision for making the region more accessible, sustainable, prosperous and livable. COG convened an Expert Advisory Panel of scientists and experts on November 29, 2010 to discuss the project and discuss resources and tools to assist in identifying expected climate change effects in the region.



Outreach and Education

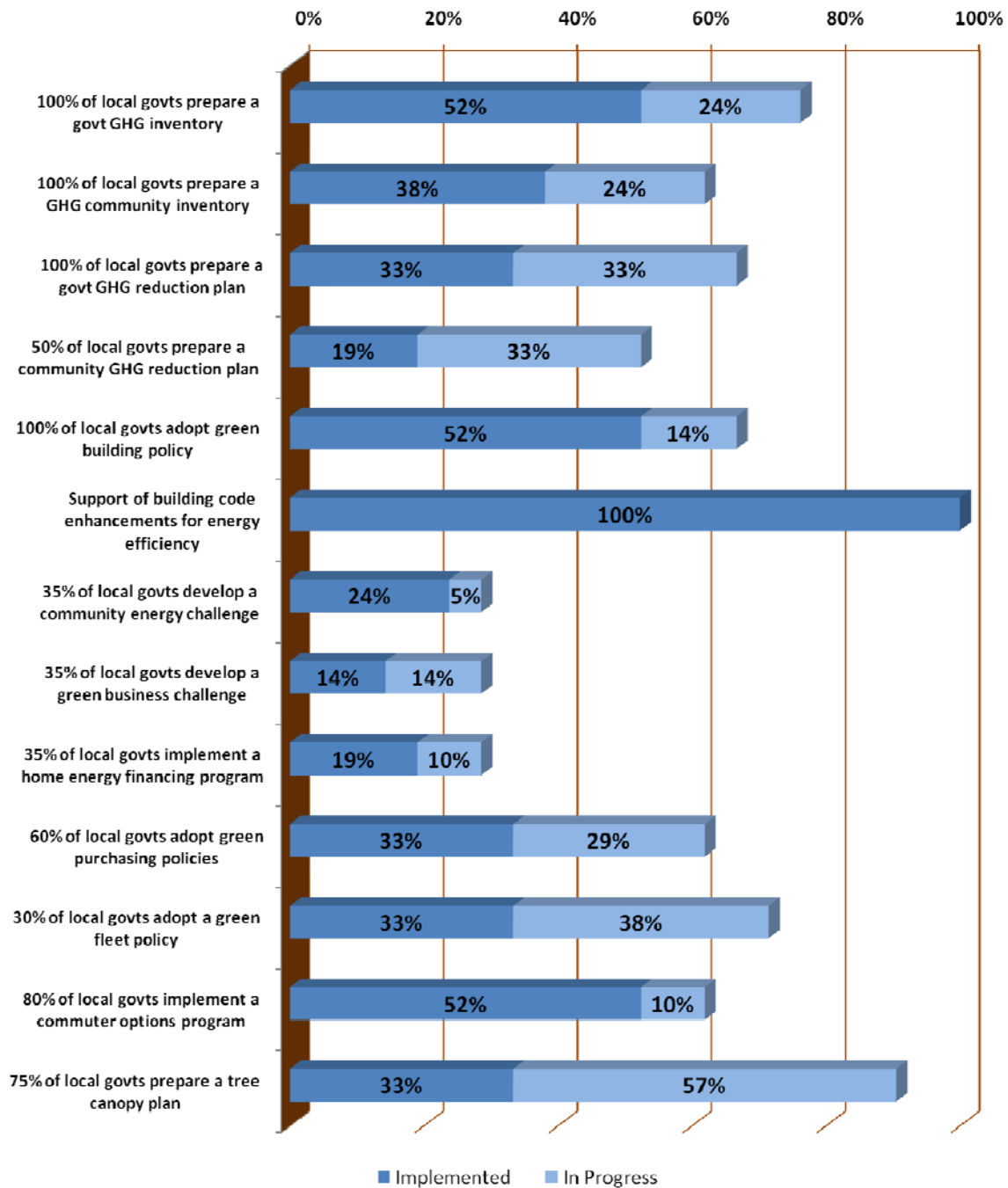
The 2010 regional goal was for COG to pilot an energy outreach campaign. COG launched a pilot on residential energy efficiency named Wise Energy by Capital Area Neighbors (WE CAN). COG has partnered with Earth Aid to design the campaign website and provide an online energy consumption monitoring tool and reward program. Three communities were selected to participate in the pilot phase from October 2010 to March 2011: Brookland, DC, Greenbelt, MD and the Cascades neighborhood in Loudoun County, VA.



COG's goal was to recruit at least 50 participants in each community. 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. Over 150 households in the three pilot communities signed up and tracked their energy use by linking their utility accounts to WE CAN/Earth Aid. Over 200 additional households have signed up to support the program and view tips, but have not shared their utility information.

PROGRESS ON 2011 REGIONAL GOALS

The 2010 - 2012 Regional Climate and Energy Action Workplan identifies goals for COG, local governments and other sectors to achieve by 2011. The below chart identifies many of the 2011 regional goals and progress towards achieving those goals and the following discussion describes some of the progress and activities that have assisted in that progress.



Green Building

COG's Intergovernmental Green Building Group (IGBG) was established in 2005 and 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. The 2011 regional goal is for all local governments to adopt a green building policy for public and private buildings. Currently, 66 percent of local governments in the region have adopted green building policies.

Local Government Highlights

District of Columbia has 12 LEED certified DC government buildings and 130 non-DC government green certified buildings.

Fairfax County has seven certified local government projects, seven more anticipated to be certified soon and 14 other active development projects are green.

COG's Green Building Trends Report describes construction of Leadership in Energy and Environmental Design (LEED) certified buildings between 2003 and 2009. The report states that 22.9 million square feet of green building was developed, 70 percent of which is located in regional activity centers and 64 percent is within ½-mile of a Metro Rail station.

In order to expose regional leaders to best national practices for green affordable housing and green job opportunities COG held the Green Affordable Housing and Green Jobs Forum and Expo: Protecting the Most Vulnerable While Expanding Washington's Green Economy on March 3, 2009.

Building Codes

In order to achieve the 2011 regional goal related to the enhancement of building codes for energy efficiency, COG sought out and received \$96,000 from the Energy Foundation to fund 62 people from nine local governments in the region to attend the International Code Council (ICC) Final Action Hearing in Charlotte, NC on October 25 - 31, 2010. The region's representatives had a positive impact in the adoption of the 30 percent solution to make national building codes 30 percent more stringent when compared to the 2006 codes.



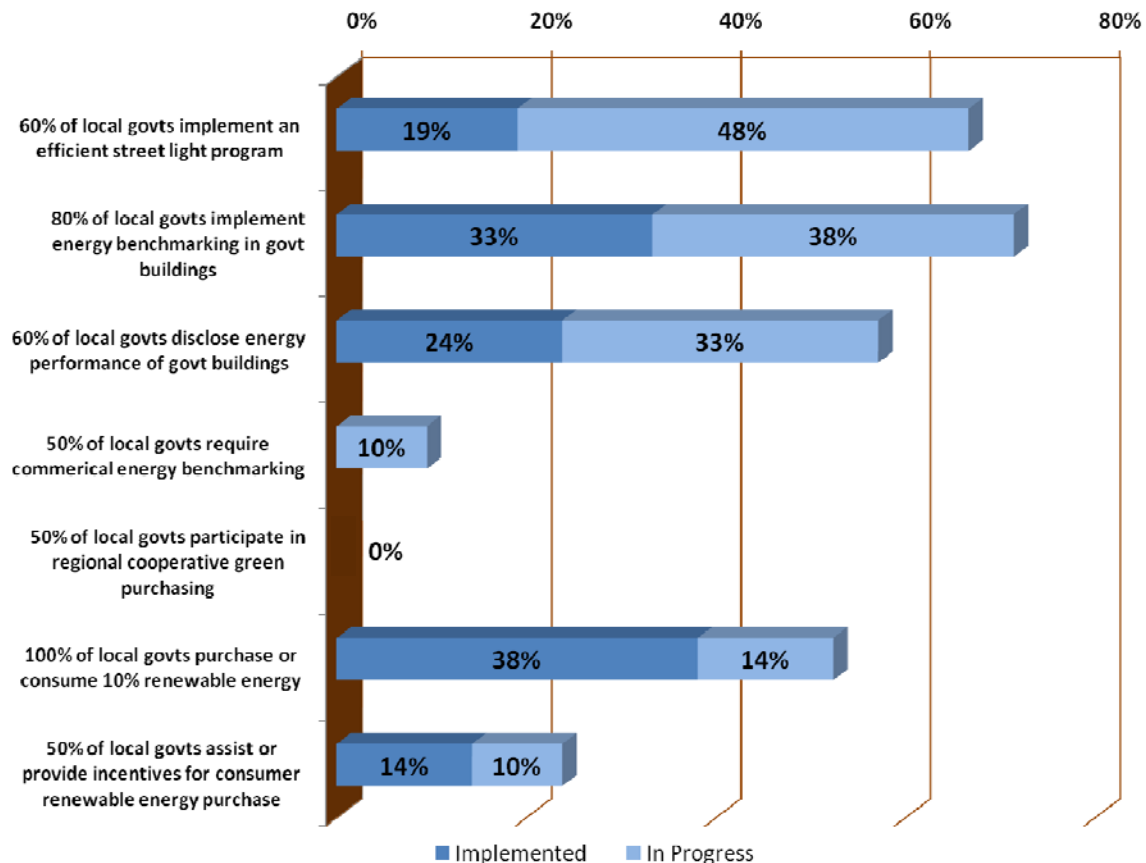
Green Purchasing Policies

The 2011 regional goal is for 60 percent of local governments to adopt green purchasing policies and currently, 62 percent are implementing or in progress on these policies. On December 3, 2010, COG held a Sustainable Purchasing Workshop to assist local governments with establishing and implementing green purchasing policies and programs. Alicia Culver, Executive Director of the Responsible Purchasing Network (RPN), presented on sustainable procurement: why do it and how to make it easy. This workshop provided an opportunity for local governments to ask questions and share the status of their sustainable purchasing policies and programs.



PROGRESS ON 2012 REGIONAL GOALS

The 2010 - 2012 Regional Climate and Energy Action Workplan identifies goals for COG, local governments and other sectors to achieve by 2012. The below chart identifies some of the 2012 regional goals and progress towards achieving those goals and the following discussion describes some of the progress and activities that have assisted in that progress.



Efficient Street Lights

In 2008, a Street Lights Work Group was formed to address the potential for energy savings and greenhouse gas reductions from street lights across the region. One of the first tasks of the work group was the creation of an annual Street Lights Survey. The purpose of the survey is to have a better understanding of the existing local government street light systems in the region. Results show that the predominant lighting technology in use in the region is high pressure sodium followed by mercury vapor.

On October 20th, 2009, COG in cooperation with the Greater Washington Board of Trade hosted a Street Light Technology Vendors Forum. Approximately 90 participants attended. The objective of the vendor workshop was to expose regional energy managers to new, state-of-the-art street lighting technology. LED technology is viewed as a critical element of the climate change strategy currently being implemented by local governments in the Metropolitan Washington region.

The 2012 regional goal is to have 60 percent of local governments implement a program to replace older street lights with new, more efficient technology. Currently, 67 percent of local governments have implemented or are in progress with an efficient street light pilot project. Many local governments incorporated efficient street lighting into Energy Efficiency Conservation Block Grants (EECBG). EECBG funded \$2.1 million in projects in the region to assist local governments in the region to install efficient street lights.

Local Government Highlights

LED street lights in the City of Manassas and Fairfax County showed an average 64 percent reduction in kWh consumed from total average.

Energy Benchmarking

The 2012 regional goals related to benchmarking include 80 percent implement benchmarking in local government buildings, 60 percent disclose the performance of those buildings and 50 percent require benchmarking of commercial buildings. Currently, the percent local governments that are implementing or in progress on these measures include 71 percent towards benchmarking government buildings, 57 percent towards disclosing performance and ten percent towards commercial benchmarking.

In order to assist local governments with meeting regional energy benchmarking goals, COG hosted a hands-on training on energy performance measurement using EPA's ENERGY STAR Portfolio Manager on Sept 29, 2010. The Portfolio Manager is an online energy management tool that provides the ability to track the progress of energy efficiency efforts and compare the energy use of your buildings to peer buildings across the country. 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.



Renewable Energy

Many local governments have been working on programs to purchase and/or install renewable energy. Some are incrementally working toward the 2012 regional goal of purchasing or consuming ten percent renewable energy while others are already far exceeding this goal. Overall, 52 percent of local governments are implementing or in progress towards this goal.

Local Government Highlights

Percent of total local government energy use purchased or consumed as renewable energy:

- City of Takoma Park = **100%**
- City of Rockville = **60%**
- District of Columbia = **50%**
- City of Gaithersburg = **25%**
- Montgomery County = **25%**
- City of Greenbelt = **15%**

SELECT LOCAL MEASURE HIGHLIGHTS

Local Government	2010 Census Population ¹	Govt GHG Inventory	Community GHG Inventory	Govt GHG Reduction Plan	Community GHG Reduction Plan	Green Building Policy	Efficient Street Light Program	Govt Energy Benchmark	Green Purchasing Policies	Green Fleet Policy	Commuter Options Program	Tree Canopy Plan
District of Columbia	601,723	●	●	○	○	●	○	●	○	○	●	○
Suburban Maryland												
Frederick County	233,385	●	●	●	○	○	●	●	○	○	●	○
City of Frederick ²	65,239	○	○	○	○	○	NR	NR	●	○	○	○
Montgomery County	971,777	●	●	●	●	●	○	●	●	N/A	●	N/A
City of Gaithersburg ²	59,933	○	○	○	○	●	○	○	○	○	○	○
City of Rockville ²	61,209	○	○	●	●	●	●	●	○	○	●	●
City of Takoma Park ²	16,715	●	●	●	●	N/A	○	○	●	●	●	●
Prince George's County	863,420	○	○	○	○	●	●	N/A	N/A	○	○	●
City of Bowie ²	54,727	●	○	○	○	●	○	○	○	○	○	○
City of College Park ²	30,413	●	○	○	○	N/A	●	○	○	N/A	●	○
City of Greenbelt ²	23,068	○	○	○	○	○	N/A	○	○	●	○	○
Town of Bladensburg ²	9,148	○	○	○	○	○	○	○	○	○	○	○
Northern Virginia												
Arlington County	207,627	●	●	○	○	●	○	●	●	●	●	●
Fairfax County	1,081,726	●	○	●	○	●	○	○	●	●	●	●
Loudoun County	312,311	●	●	●	●	●	○	●	●	●	●	○
Prince William County	402,002	○	○	○	○	○	○	●	○	○	●	○
City of Alexandria	139,966	●	●	●	○	●	○	○	○	○	●	●
City of Fairfax	22,565	○	○	○	○	●	○	○	○	○	○	○
City of Falls Church	12,332	●	●	○	○	○	○	○	●	●	○	○
City of Manassas	37,821	○	○	○	○	○	○	○	N/A	●	N/A	●
City of Manassas Park	14,273	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

● - Implemented

○ - In Progress

○ - Not Started

N/A - Not Applicable

NR - No Response

¹Source: COG tabulation of Census 2010 PL 94-171 Redistricting Data²Population in Maryland cities is included in appropriate county totals.

SELECT LOCAL PROJECTS

Arlington was the first local government on the East Coast to purchase hybrid-electric vehicles. Over 40 percent of their fleet of 1,346 vehicles now relies on cleaner fuels.



Frederick County Government implemented a Landfill Gas to Energy project at Reich's Ford Road Landfill that has the potential to reduce greenhouse gas emissions by about 10,500 tons of CO2 per year.



City of Greenbelt set and met tree canopy goals in the Street-Tree Master Plan. The city's current tree canopy cover is 62%.



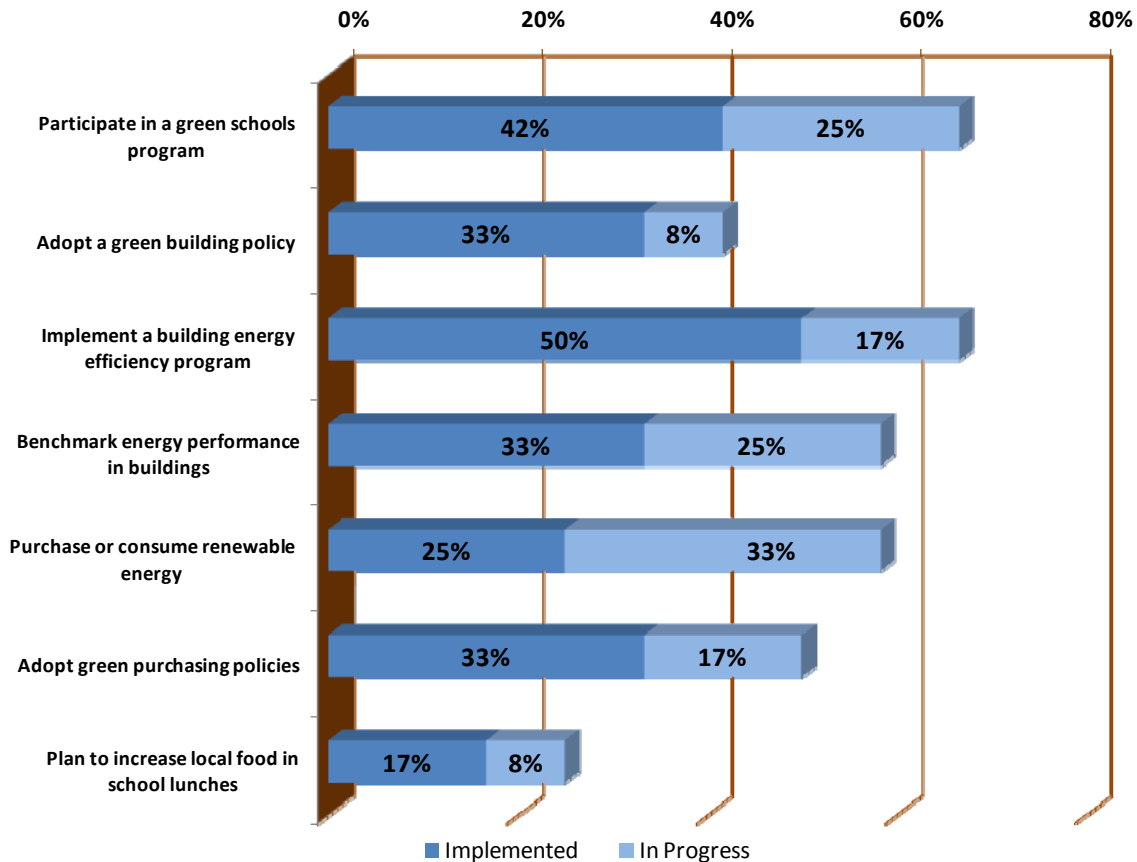
LEED Gold Manassas Park Elementary School features geothermal heating and cooling and is estimated to use half the energy of a standard building its size.



District of Columbia's Trinidad Recreation Center has a green roof that reduces heat island and is estimated to reduce 81,000 gallons of stormwater a year.

SCHOOL DISTRICTS

There are 12 school districts in the metropolitan Washington region. School districts were surveyed on their climate and energy programs for informational purposes only. Questions in the survey relate to CEEPC's 2010 -2012 Regional Climate and Energy Action Workplan; however, the Workplan does not set goals for the school districts. Eight out of the 12 school districts in the region responded to the survey. The chart below summarizes the survey results to show regional progress by school districts on climate and energy programs.



School District Highlights

Loudoun County Public Schools (LCPS) was recognized as the 2010 ENERGY STAR Partner of the Year for energy efficiency in its buildings and student energy education. Some key accomplishments include 25 ENERGY STAR schools, all new schools are designed to earn the ENERGY STAR label and earning the ENERGY STAR Leaders recognition in January 2010 for improving district-wide energy efficiency by ten percent. Energy audits and efficiency improvements at four schools alone have resulted in annual utility savings of \$86,000.

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