

Climate, Energy and Environment Policy Committee

CLIMATE AND ENERGY ACTION WORKPLAN

2011 PROGRESS REPORT



Metropolitan Washington Council of Governments

Department of Environmental Programs



DRAFT March 2012

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MESSAGE FROM THE CHAIRMAN

The Climate, Energy and Environment Policy Committee (CEEPC) works to ensure that the metropolitan Washington region meets the goals established in the 2008 *National Capital Region Climate Change Report* and *Region Forward*. As chairman of CEEPC, I am proud of the leadership the region has shown on addressing climate and energy issues.



Adopted in early 2010, CEEPC's 2010-2012 Climate and Energy Action Workplan contains a substantial number of aggressive measures and goals to reduce greenhouse gas emissions and energy use in the region. In a few short years, the region has already accomplished several goals including the following:

- Over 50 percent of local governments have developed a greenhouse gas inventory for government operations by 2010
- Over 1,000 grid-connected renewable energy systems are operating in the region by 2010
- Sent 62 local government representatives to the 2010 International Code Council Final Action Hearing in North Carolina to support the adoption of 30 percent more stringent building codes.
- Over 30 percent of local governments adopt a green fleet policy by 2011
- In 2011, COG hosted over 15 special events on greenhouse gas inventories, green building, community energy planning, renewable energy, climate adaptation, and electric vehicles.

In 2011, CEEPC adopted an updated Workplan to reflect and set goals for emerging issues, such as integrated community energy solutions. Workshops, tours and studies were completed in 2011 to advance implementation of district energy systems, combined heat & power, and microgrids.

Another exciting initiative is electric vehicle planning. Electric vehicles are already hitting the market and have shown encouraging sales in the region. The vehicles support clean air and cleaner energy and cost cents per day to operate. In 2011, two Electric Vehicle Workgroups were established to address electric vehicle policy and infrastructure.

I would like to thank our local governments, regional partners and stakeholders for continuing their momentum that has been generated towards reaching all of our regional climate and energy goals. This is a challenging time and we are making very good progress toward achieving our sustainability vision for the region as laid out in *Region Forward*.

Jay Fissette, Chair
Climate, Energy and Environment Policy Committee

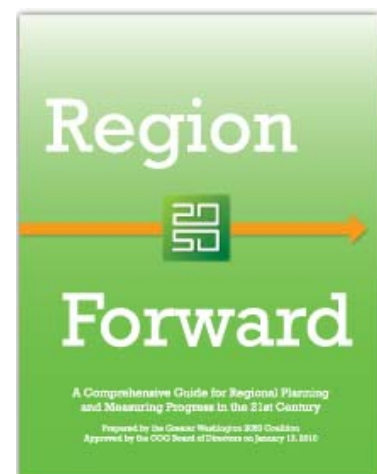
METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS

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 reduce 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.



*Charles County joined COG in 2012 and will be included in the 2012 Progress Report.

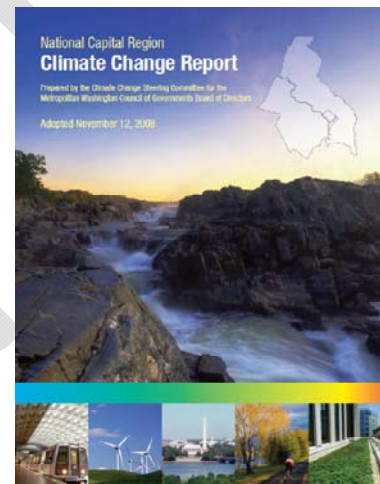
CLIMATE, ENERGY AND ENVIRONMENT POLICY COMMITTEE

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 (ACPAC), federal and regional agencies, electric and gas utilities, environmental organizations, business organizations and members of the academic community. Several sub-committees, such as the Intergovernmental Green Building Group (IGBG), the Energy Advisory Committee (EAC), and ACPAC, provide essential input and support to CEEPC and the regional climate and energy goals.

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, adopted by the COG Board of Directors in November 2008, proposes significant short-term, medium term and long-term greenhouse gas (GHG) reduction goals for the region. The report's regional GHG 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 Annual Progress Report

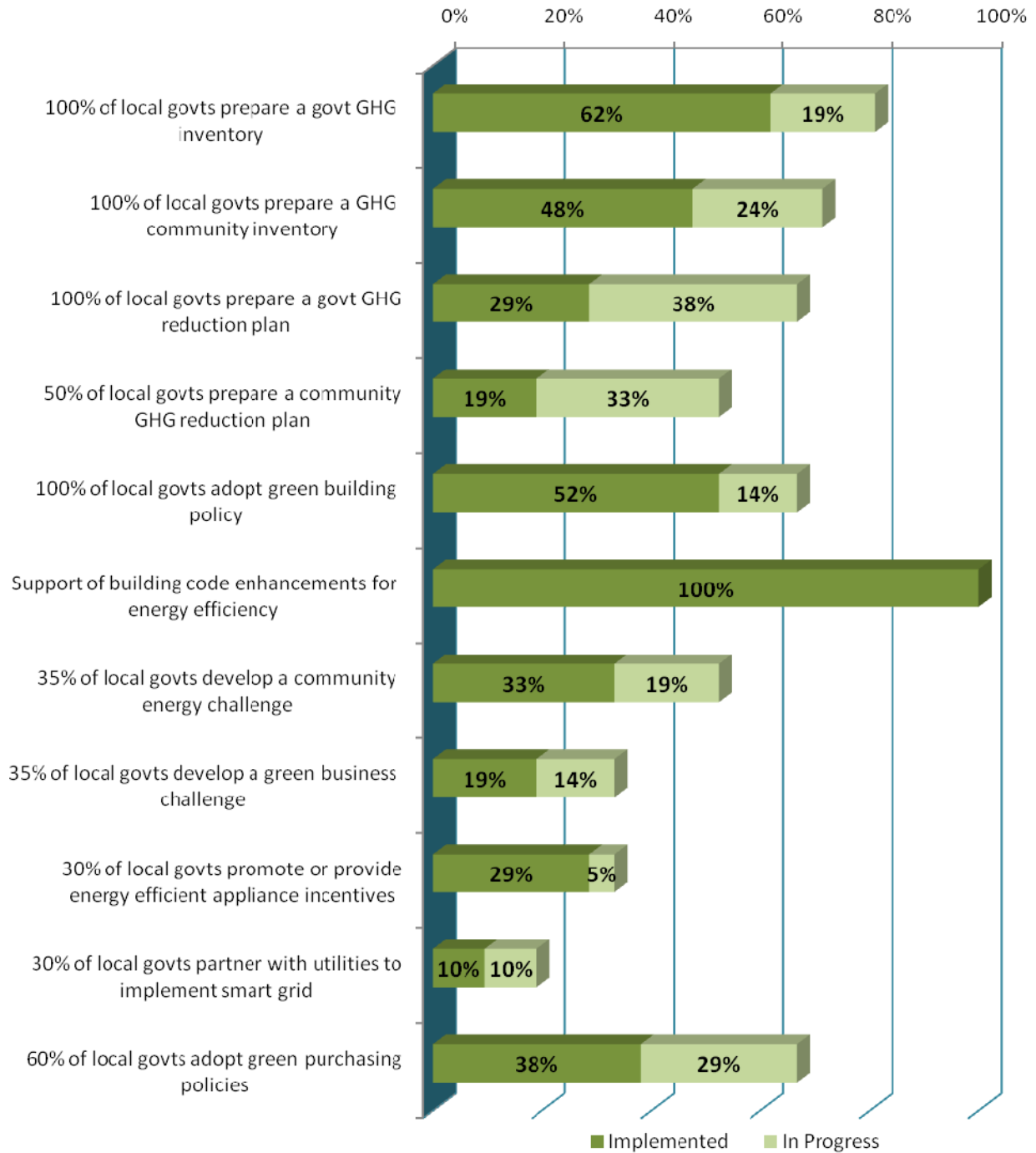
In January 2010, CEEPC adopted the 2010-2012 Regional Climate and Energy Action Workplan (Workplan) which identifies short term goals and action items to meet the regional GHG emissions reduction goals identified in the *National Capital Region Climate Change Report*. CEEPC updates the Workplan and selects priorities each year. Priorities for 2011 include community energy planning, community-wide plans to reduce GHG emissions, climate adaptation, and tree canopy planning.

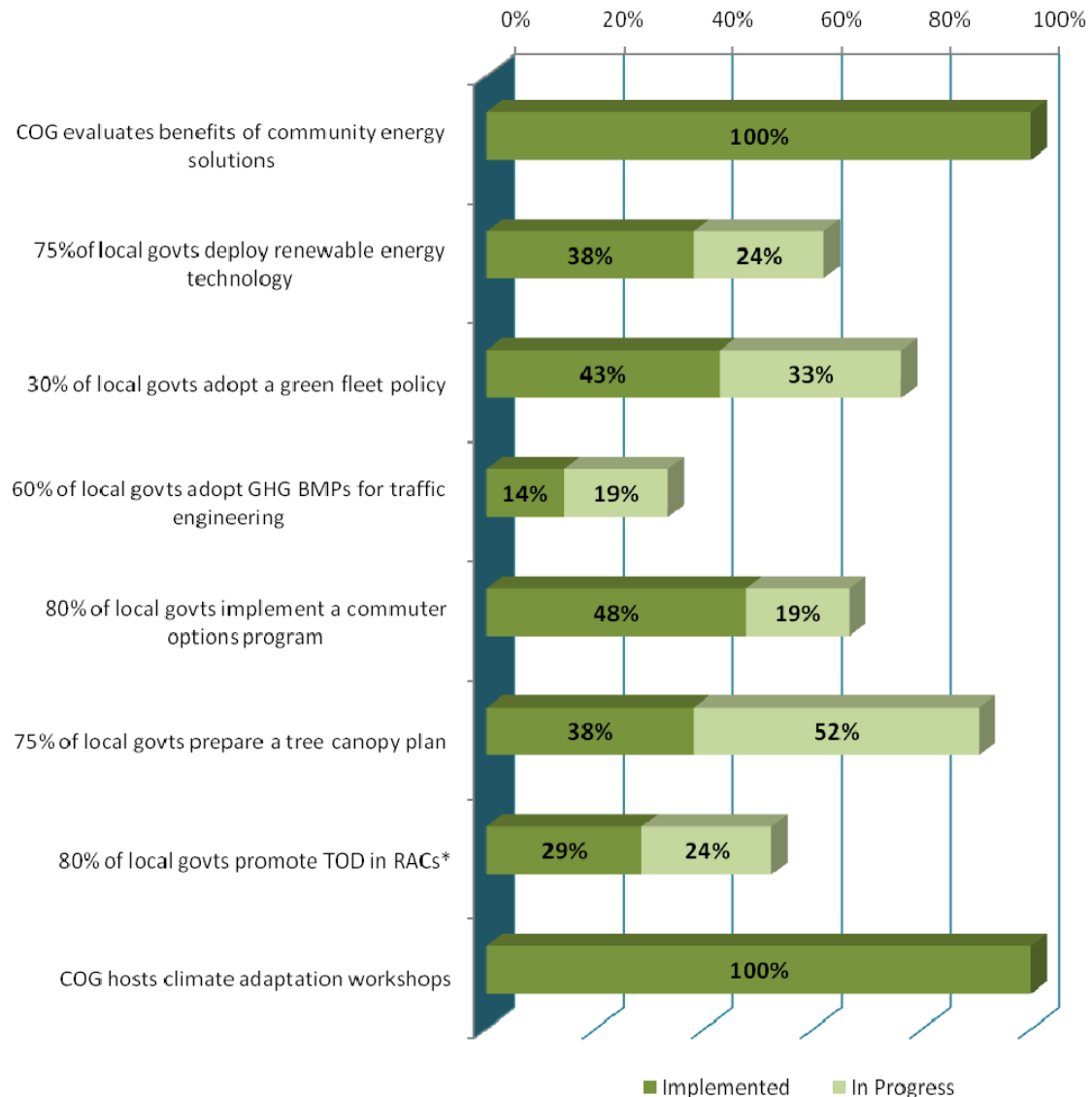
This document is the second annual progress report to track the region's progress toward meeting the goals CEEPC adopted in the Workplan. A survey process was established to track progress and local governments, school districts, and utilities were surveyed. Nineteen out of 21 of COG member local governments responded to the survey. Results reported for the 2010 Progress Report were incorporated into this report for the two local governments that did not respond to the current survey. Nine 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.

**Charles County joined COG in 2012 as the 22nd member and its school district is the 13th. Both will be included in the 2012 Progress Report.*

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 chart below summarizes many of the 2011 regional goals and progress towards achieving those goals and the following discussion describes some activities that have assisted in that progress.





Greenhouse Gas Emission Inventories

The 2011 regional goals for GHG inventories are for 100 percent of COG member local governments to prepare GHG inventories for both government operations and community-wide emissions. Currently, 81 percent of local governments in the region have completed or are in progress on the government inventory and 72 percent have completed or are in progress on the community inventory.

In order to support local governments in their efforts to develop their GHG inventories COG hosted the ICLEI – Local Governments for Sustainability Greenhouse Gas Inventory Training on Feb. 17, 2011. Participants learned how to conduct government operations and community greenhouse gas inventories and received hands-on training for the Clean Air and Climate Protection (CACP) inventory software.

Green Building

Currently, 66 percent of local governments have adopted or are in progress on a green building policy for public and private buildings. The goal is for 100 percent of local governments to have a policy.

COG supports local government green building efforts in a variety of ways. In April 2011, COG arranged tours for the Energy Advisory Committee (EAC), the Intergovernmental Green Building Group (IGBG), and other stakeholders including a tour of World Resource Institute's (WRI) green roof and labyrinth as well as the U.S. Green Building Council's (USGBC) LEED for Neighborhood Development – Neighborhoods Go Green!

Exhibit. WRI's green roof, which is owned by the American Psychological Association (APA), opened in October 2008 and is the nation's first green roof and labyrinth system. In 2007, a portion of WRI's space (about 6,200 square feet) was awarded LEED Commercial Interiors Gold Certification. The USGBC exhibit uses LEED for Neighborhood Development as a framework to discuss key elements of a green neighborhood. It features text, photographs, and illustrations representing the features of a model green neighborhood, and showcases successful local projects.



LEED – ND Go Green Exhibit (Source: www.usgbc.org)



WRI green roof (Source: www.apabuilding.com)

On May 5, 2011 COG held The Green Building for Energy Savings and Climate Protection Workshop. The workshop provided information about advanced green building tools and on effective strategies for applying them to reach energy reduction and climate protection goals. Major issues discussed include the nexus between green building, energy and climate protection; the trend to address not only new infrastructure but also existing buildings; and the evaluation of the impact of green building strategies.

Energy Efficiency Appliance Incentive

The regional goal for energy efficiency appliance incentives is for 30 percent of local government to offer an incentive or promote a state incentive. Survey results show that the region currently falls just short of this goal; 29 percent of local governments are currently offering or promoting incentives. Some of the local government efforts are highlighted below.

Local Government Highlights

- The City of College Park publicizes state incentive programs on the City's website.
- The District of Columbia provided 1,811 rebates with \$338,636.41 of the American Recovery and Reinvestment Act (ARRA) funds.
- Montgomery County has launched a rebate program and is expected to award over 850 homes and businesses with energy efficiency rebates, including appliance rebates, through ARRA funding.
- The City of Rockville promotes state, county and Pepco incentives to residents and businesses.

Smart Grid Implementation

Twenty percent of local governments are implementing or in progress on partnering with utilities to implement smart grid. The 2011 regional goal for this measure was for 30 percent of local governments to be partnering with utilities to implement smart grid. Below are examples of smart grid implementation in the region.

Local Government Highlights

- Dominion Virginia Power has converted all residential and commercial meters to Smart Meters in the City of Falls Church.
- Over 900 smart meters were installed as part of Pepco's smart meter pilot program in the District of Columbia. Participants were put on a pricing structure in which if they took no action, their bill would be around the same as what they've been currently paying but if they saved energy and/or reduced their usage during peak hours they would save money. A post-pilot survey revealed that over 90 percent of participants saved money, more money was saved when customers used programmable thermostats and 14 to 1 participants wanted to stay on the smart meter pricing.
- Pepco and Baltimore Gas & Electric (BG&E) are currently deploying smart meters in Montgomery County. This install includes all commercial and residential meters. The Counties are working with the utilities to educate consumers on how to use this infrastructure effectively.

Community Energy Planning

COG formed an Integrated Community Energy Solutions Task Force in 2010. The task force was created in response to requests from members for support in the area of community energy planning and deployment of energy solutions such as combined heat/power, district energy systems, and microgrids. The main priorities identified by the task force included a database of existing sites operating in the region, study tours to learn more about the technology deployed, information on best practices for state and local policies to facilitate clean energy solutions, and information on the costs and benefits of the leading technologies involved.

COG organized several events in 2011 to move forward on the priorities of the task force. On January 26, 2011 COG held the Integrated Community Energy Solutions Workshop: Advancing Clean Energy Solutions in the Metropolitan Washington Region. The purpose of the workshop was to define district energy, present case studies in Denmark and the U.S., to identify strategic issues critical to community energy planning in the region, and to discuss the potential for a regional community energy strategy. COG arranged study tours of community energy projects active in the region including the University of Maryland campus energy plant, the U.S. Department of Agriculture White Oak facility, and U.S. General Services Administration (GSA) central plant in Washington, DC.

In addition, on November 14th, COG co-sponsored a community energy forum in Arlington and on December 14th, COG co-hosted a workshop with the Northern Virginia Regional Commission (NVRC) and the Urban Land Institute (ULI) on Opportunities for District Energy in Virginia.



COG tour of White Oak combined heat/power and district energy facility.



COG tour group of the GSA Central Plant in Washington, D.C.

With funding from the Metropolitan Washington Air Quality Committee (MWAQC), COG awarded a contract to FVB to support the task force. The statement of work included support for identification of current local policies and programs with recommendations for potential changes to facilitate new clean energy. It also included a task to develop information on the costs and benefits of available clean energy resources as well as the business case for select approaches. FVB final reports were delivered in December 2011.

Local Government Highlights

The community energy plans for both Arlington and Loudoun Counties call for exploration of the potential for implementing district energy systems.

Renewable Energy

In 2011, one regional renewable energy goal is for 75 percent of local governments to deploy renewable energy on government property. Currently, 62 percent of local governments have deployed or are in progress on deploying renewable energy. The figure on the following page represents some of the local government renewable energy projects in the region.

To help reach regional renewable energy goals COG has helped organize a large cooperative solar purchase in the region through the U.S. Environmental Protection Agency (EPA) Green Power Partnership's Clean Energy Collaborative Procurement Initiative. This initiative provides a collaborative platform for deploying clean energy technologies across multiple government and educational organizations for maximum impact on installed solar system capacity, local economic activity, and the regional environment. EPA paid for 170 on-site solar feasibility surveys in the region during 2011 and joint procurement is anticipated in 2012.



A Solar Workshop was held on October 6, 2011 to address ways to reach regional goals, barriers, financing, and solar technology. COG held the workshop in partnership with the American Planning Association, International City/County Management Association, ICLEI-Local Governments for Sustainability and National Association of Regional Councils (NARC) through their Solar America Communities Outreach Grant. Solar America Communities is a U.S. Department of Energy (DOE) program designed to increase the use and integration of solar energy in communities across the United States.

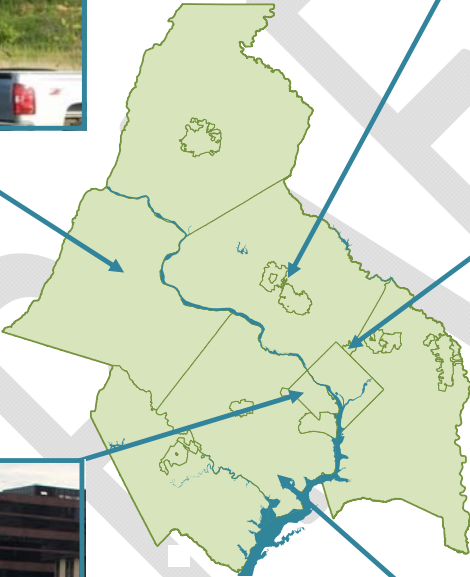


Local Government Renewable Energy Projects

Loudoun County's Harmony Park and Ride at Scott Jenkins Memorial Park features 48 solar arrays, LED lights and charging stations for electric vehicles.



Montgomery County's first large-scale solar project is located at the Shady Grove Transfer Station. There are 1,248 solar panels that produce 280 kilowatts, or about 30% of the facility's energy needs.



Arlington County Central Library's 60 kilowatt solar panel system consist of 250 panels - each capable of producing a maximum of 240 watts.



The City of Takoma Park has installed 94 kilowatts of solar panels on city facilities including the community center and public works facility.



Fairfax County's Noman M. Cole, Jr. Pollution Control Plant uses a solar mixer in one of the plant's ponds. It replaced four standard 25 horsepower mixers and is saving about \$40,000 a year in energy costs.

Green Fleet Policies

The 2011 regional goal for green fleets is for 30 percent of local governments to have a green fleet policy. This regional goal has been accomplished with 43 percent of local governments having a green fleet policy. In addition, a combined 76 percent of local governments are implementing or in progress on a green fleet policy. Several examples of green fleet policies and programs are highlighted below.

Local Government Highlights

- The City of Bowie has adopted a hybrid vehicle purchasing policy.
- The City of Falls Church "Green Fleet" policy was adopted in 2008 with the goal to reduce air pollution and greenhouse gas emissions. Through federal Congestion Mitigation and Air Quality Improvement (CMAQ) grants administered by the Virginia Department of Transportation (VDOT), the City has been able to expand its fleet of hybrid vehicles.
- The City of Greenbelt has a goal for 10 percent of the fleet to be alternative fuel vehicles by 2012.
- The City Manassas has a goal of 10 percent of fleet to be clean alternative or clean fuel vehicles.
- In 2009, Montgomery County won second place for the Government Green Fleet Award. It is a national competition that is judged based on criteria of the U.S. Department of Energy's "Clean Cities" program.
- Although the District of Columbia is still developing a policy, they have purchased alternative fuel/hybrid vehicles, eliminated more than 350 fleet vehicles and have implemented a government fleet car-sharing program.

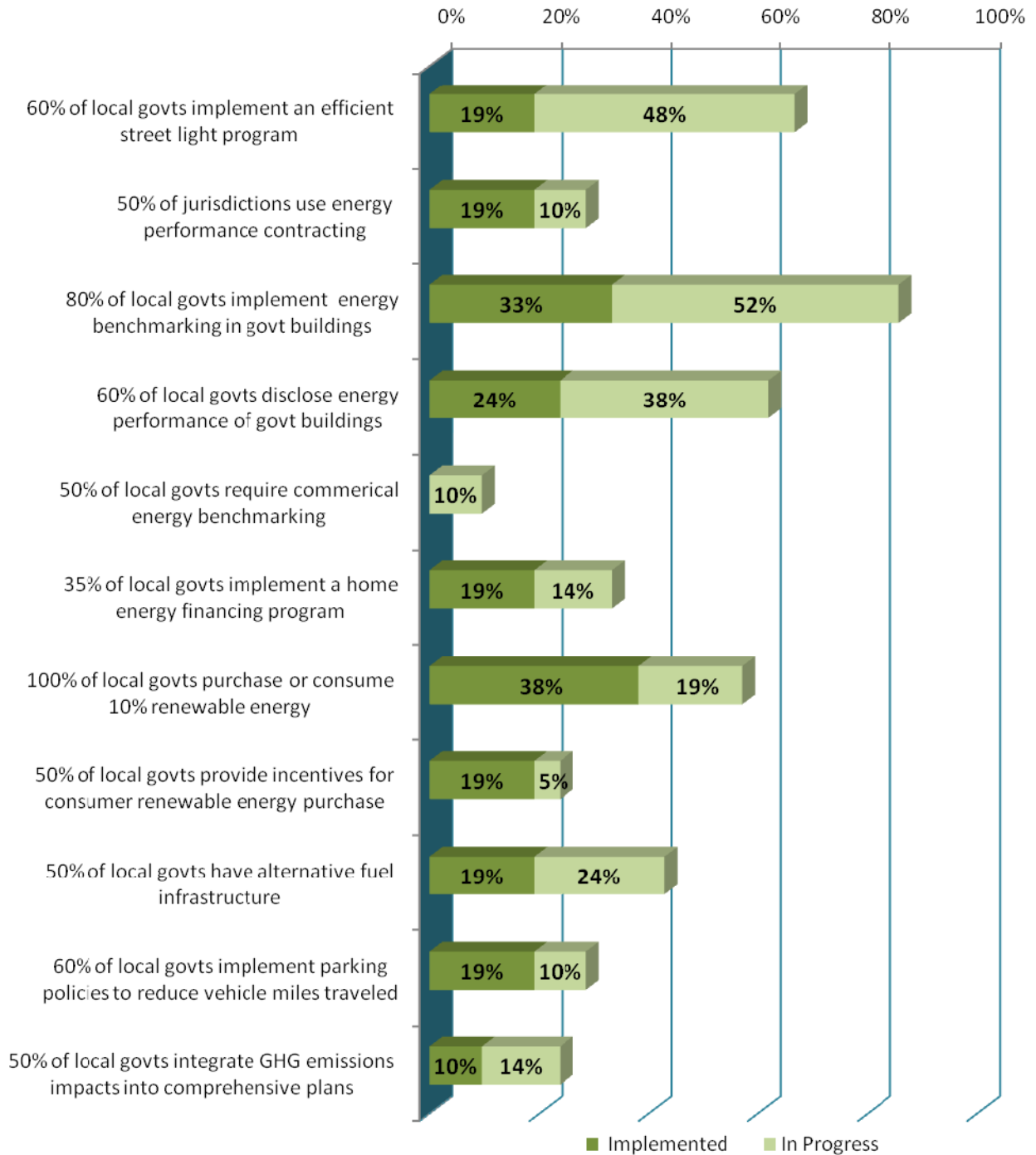
Climate Adaptation

In October 2010, the EPA awarded COG technical assistance through the Smart Growth Implementation Assistance Program (SGIA). Through the program, EPA is developing a guidebook for adapting to risks from climate change in four sectors: land use, transportation, buildings and water sectors.

On March 3, 2011, COG hosted the National Oceanic and Atmospheric Administration's (NOAA) Roadmap to Adapting to Climate Risks Workshop to educate stakeholders and assist in the development of the guidebook. The roadmap process is designed to help communities identify priority vulnerabilities and develop strategies for integrating hazard and climate change issues into local operations. In September 2011, stakeholder meetings were held for each sector where presentations were made on sector-based preliminary vulnerability assessments and local government climate adaptation best practices from around the nation. Stakeholders shared their strategies, priorities and barriers to assist in the development of the EPA's guidebook. In December 2011, stakeholders provided feedback on the draft guidebook. The final guidebook will be available in March 2012.

PREVIEW OF 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 chart below summarizes many of the 2012 regional goals and progress towards achieving those goals. The following discussion describes some activities that have assisted in that progress.



Consumer Renewable Energy Incentives

In 2012 there is a regional goal for 50 percent of local governments to provide incentives for consumers to purchase renewable energy. Currently, 24 percent of local governments have implemented or are in progress on providing these incentives. Examples of local renewable energy incentives are below.

Local Government Highlights

- The City of Alexandria offers a property tax abatement for renewable energy.
- Montgomery County encourages clean energy purchasing by offering points in their Green Business Certification to green power purchasers. The County also provides technical support to the Non Profit Energy Alliance which is organizing members of the non-profit community in Maryland and District of Columbia to purchase clean energy supply from competitive energy suppliers.
- The Prince George's County Council adopted energy tax credit for residential solar.
- The City of Rockville joined the U.S. EPA Green Power Community Challenge in 2011 to encourage businesses and residents to purchase green power.

Electric Vehicles

The 2012 regional goal related to electric vehicles (EV) is that 50 percent of jurisdictions implement alternative fuel infrastructure projects needed to support alternative fuel vehicle technology implementation. This includes natural gas, biofuel, hydrogen, and EV).

Currently, 43 of local governments have implemented or are in progress on alternative fuel infrastructure projects.

In order to smoothly introduce electric vehicles (EVs) into the mainstream market COG launched an EV Planning Initiative. COG held an EV Forum on April 29, 2011 to begin the conversation on a regional level on how to transition the region to be "EV ready." Two EV Planning Workgroups were established in 2011 - one to address EV infrastructure deployment strategies and another to address EV policies and processes.



A Chevrolet Volt was one of the electric vehicles on display at the April 2011 EV Forum.

SELECT LOCAL MEASURE HIGHLIGHTS

Local Government	2010 Census Population ¹	Comprehensive Energy Strategy	Building Energy Performance Contracting	Community Energy Challenge	Green Business Challenge	Purchase or Consume 10% Renewable Energy	Green Fleet Policy	Alternative Fuel Infrastructure	Parking Policies to Reduce VMT	Commuter Options Program	Promote TODs in RACs	GHG Impacts in Comp Plan
District of Columbia	601,723	●	NR	○	○	●	●	NR	NR	●	NR	NR
Suburban Maryland												
Frederick County	233,385	●	NR	●	○	●	●	NR	NR	●	NR	NR
City of Frederick ²	65,239	○	○	●	○	○	○	○	○	○	●	○
Montgomery County	971,777	●	○	●	●	●	●	●	○	○	●	●
City of Gaithersburg ²	59,933	●	●	○	○	●	○	●	○	●	●	○
City of Rockville ²	61,209	●	●	●	●	●	●	●	●	●	●	○
City of Takoma Park ²	16,715	○	○	○	○	●	●	○	○	●	N/A	N/A
Prince George's County	863,420	●	NR	○	○	N/A	●	○	N/A	○	●	○
City of Bowie ²	54,727	●	●	●	●	●	●	NR	●	○	●	NR
City of College Park ²	30,413	○	○	N/A	N/A	●	N/A	N/A	N/A	●	●	N/A
City of Greenbelt ²	23,068	○	○	●	○	●	●	●	●	○	●	N/A
Town of Bladensburg ²	9,148	○	NR	○	○	○	●	NR	NR	●	NR	NR
Northern Virginia												
Arlington County	207,627	●	●	●	●	●	●	●	●	●	●	●
Fairfax County	1,081,726	●	NR	●	○	N/A	●	●	NR	●	NR	NR
Loudoun County	312,311	●	●	●	●	○	●	●	●	●	●	●
Prince William County	402,002	●	NR	●	●	N/A	●	NR	NR	●	NR	NR
City of Alexandria	139,966	●	NR	○	●	●	NR	○	NR	●	●	●
City of Fairfax	22,565	●	NR	○	○	○	●	NR	NR	○	NR	●
City of Falls Church	12,332	●	○	○	○	●	●	●	○	●	○	○
City of Manassas	37,821	●	N/A	N/A	N/A	N/A	●	●	●	N/A	N/A	N/A
City of Manassas Park	14,273	○	NR	●	○	○	○	NR	NR	●	NR	NR

● - Implemented ● - In Progress ○ - Not Started

N/A - Not Applicable

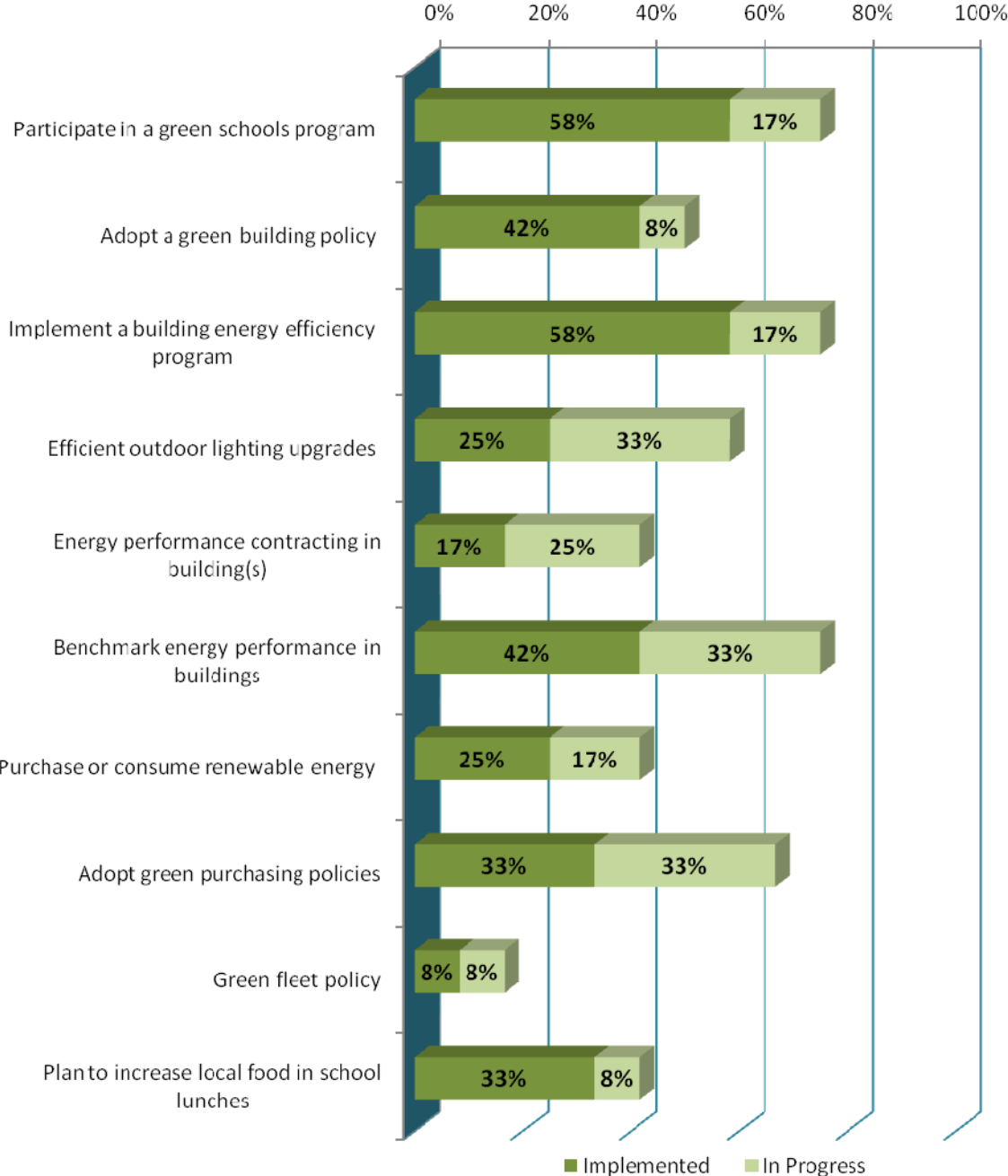
NR - No Response

¹Source: COG tabulation of Census 2010 PL 94-171 Redistricting Data

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

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. Nine 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.





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