



Local governments working together for a better metropolitan region

Chesapeake Bay and Water Resources Policy Committee

Date: Friday, Sept. 19, 2008

Time: 10:00 a.m. – 12 noon *

Place: Third Floor Board Room
777 North Capitol Street, NE
Washington, DC 20002

- District of Columbia
Bladensburg*
Bowie
College Park
Frederick
Frederick County
Gaithersburg
Greenbelt
Montgomery County
Prince George's County
Rockville
Takoma Park
Alexandria
Arlington County
Fairfax
Fairfax County
Falls Church
Loudoun County
Manassas
Manassas Park
Prince William County

*Lunch will be available for committee members and alternates after the meeting.

Meeting Agenda

- 10:00 1. Introductions and Announcements..... Hon. Martin Nohe
Chair, Prince William County
• New LGAC Chair from District of Columbia
10:05 2. Approval of Meeting Summary for May 16, 2008..... Chair Nohe
Recommended action: Approve DRAFT Meeting Summary (Att. 2).
10:10 3. Presentation of COG's Climate Change Report..... Stuart Freudberg
DEP Director
COG's Climate Change Steering Committee has released its draft report (Att. 3 provides executive summary; see https://www.mwcog.org/environment/climate/Documents/Climate_Change_Report_Public_Review_Draft%207_9_08.pdf for full copy of the 105-page report). The report presents 78 recommendations that the region's local governments and citizens can take to reduce greenhouse gas emissions. The COG Board has requested comment by Sept. 30. Mr. Freudberg will outline some of the major recommendations in the report, including those that also could have an impact on water quality. COG staff will also present proposed comments from the Water Resources Technical Subcommittee.
Recommended Action: Receive report and determine whether to make formal comments
10:40 4. Report on Montgomery Stormwater Permit Meosotis Curtis
Montgomery County Dept. of Env. Protection

*Adjunct member

Recommended Action: Receive report

- 11:00 **5. New Challenges for Local Stormwater Programs** Lisa Ochsenhirt
Staff Attorney, VAMSA and SWAM

Pending updates to state stormwater regulations in Maryland and Virginia and to the MS4 permits issued to individual jurisdictions in the region are raising concern about how local governments can meet and pay for proposed new requirements. Ms. Ochsenhirt, who represents the Virginia Association of Municipal Stormwater Agencies and the Stormwater Association of Maryland as an attorney for Aqualaw PLC, will highlight some of the challenges facing local governments in the region and discuss their implications for state and local government funding of stormwater programs. She will briefly discuss potential legislative initiatives regarding stormwater in the two states

Recommended action: Discuss plans for state legislative advocacy in 2009; establish legislative subcommittee.

- 11:30 **6. Update on Greater Washington 2050**..... COG staff

At its May meeting, the committee approved four potential metrics that could be used to assess the status of water quality under future growth scenarios in the region. These were presented to the coalition at its May meeting and members of the Coalition's Planning Tools Workgroup have since been discussing how to do these scenarios. Action on metrics is expected to follow a decision on scenarios COG staff will report on the status of this effort.

Recommended Action: Receive report

- 11:40 **7. Bay Program Updates**..... COG staff

- TMDL development timetable/allocation issues
- Report to Congress (see *Att. 7* for executive summary)
- Bay Program re-organization

Various members of COG staff will highlight recent Bay Program developments that could affect local governments.

- 11:55 **8. New Business** Members

- 12:00 **9. Adjourn**

The next meeting is scheduled for Friday, Nov. 21, 2008, 10 a.m. - 12 noon.

Enclosures/Handouts:

- | | |
|--------|---|
| Item 2 | DRAFT meeting summary of May 16, 2008 |
| Item 3 | Excerpts from National Capital Region Climate Change Report 7/9/08 review draft |
| Item 4 | MDE fact sheet for draft Montgomery County MS4 permit |
| Item 7 | Executive summary from Chesapeake Bay Program Report to Congress July 2008 |

CHESAPEAKE BAY and WATER RESOURCES POLICY COMMITTEE
777 North Capitol Street, N.E.
Washington, D.C. 20002

MINUTES OF MAY 16, 2008, MEETING

ATTENDANCE:

Members and alternates:

Chair Martin Nohe, Prince William County
Vice Chair J Davis, City of Greenbelt
Vice Chair Hamid Karimi, District of Columbia
Penelope Gross, Fairfax County
Barbara Favola, Arlington County
Cathy Drzyzgula, City of Gaithersburg
Bruce Williams, City of Takoma Park
Glen Rubis, Loudoun County
Mohsin Siddique, District of Columbia WASA
J. L. Hearn, WSSC

Staff:

Stuart Freudberg, DEP Director
Ted Graham, DEP Water Resources Program Director
Steve Bieber, DEP
Tanya Spano, DEP
Heidi Bonnaffon, DEP
Brian LeCouteur, DEP
Karl Berger, DEP

1. Introductions and Announcements

Chair Martin Nohe called the meeting to order at 10:05 a.m.

2. Approval of Meeting Summary for March 14, 2008

The committee approved the draft summary.

3. Water Quality Metrics for Greater Washington 2050

Mr. Freudberg noted that COG has had a long history of developing scenarios of potential future development patterns in the region, particularly in its analysis of the Constrained Long-Range Plan for transportation. This analysis has used various detailed measures of performance, but, for the most part, these metrics have focused on aspects of the transportation system, such as vehicle miles traveled. Other than air quality and, more recently, climate change-related parameters, the metrics have not addressed environmental issues and never water quality, he said.

Mr. Freudberg said staff, working with the Water Resources Technical Committee, has developed a set of potential metrics that address water infrastructure and quality issues that could be used to help evaluate future scenarios. For example, he said, under a scenario in which the region added a lot of new residents would there be enough drinking water and wastewater capacity.

He said the goal for this meeting would be to approve the four metrics being recommended by staff for consideration by the Greater Washington 2050 Coalition, which has established a “planning tools” subgroup to decide upon a set of metrics. This subgroup will hold its first meeting June 26.

Discussion: Mr. Gross wondered whether the region hasn’t already done the ground work on the water supply issue through an analysis of supply and demand through the year 2050 that was issued several years ago..

Mr. Karimi asked what type of agreement the Coalition anticipates producing and at what level of government it will be approved. Mr. Freudberg replied that the goal is to have it signed by local elected officials. Mr. Nohe, who is on the coalition, said it is not as yet clear how jurisdictional consensus will be achieved.

Mr. Berger showed a slide that projected the total percentage of developed land in the future based on current trends and Mr. Freudberg asked whether this is an acceptable outcome. In the ensuing discussion, Mr. Siddique noted that there are natural constraints to growth and areas, such as parkland, that are basically off limits to future development. He suggested the Coalition look at how other metropolitan regions address growth and what they use to measure its impact.

Ms. Favola said that the region will not be able to avoid the pressure to bring more people and housing into it. Given that constraint, she said, the region should focus on what has been called the “smart growth” approach. She said promoting or requiring smart growth is the single most important action that the region’s local governments could take to help the Chesapeake Bay. However, both Ms. Davis and Mr. Williams noted that there is a problem with getting people to accept this approach. People are for smart growth until it happens near them, Mr. Williams said.

Mr. Berger showed a slide indicating there is an inverse relationship between population density and stream health, as measured by a technical index involving numbers and types of macroinvertebrate animals found in streams. Several of the members, including Ms. Favola, Ms. Drzyzgula and Ms. Davis, noted that the single relationship shown on the slide simply shows that population growth in a watershed is bad for stream health and doesn’t take account of technology that can mitigate some of the negative impacts on water quality. The members asked that the metric be refined to show the relationship between stream health and population density with and without stormwater mitigation measures. Mr. Berger said this is possible, but it will take more technical work from staff.

Ms. Gross said that for the purposes of the Coalition’s visioning process it would be good to link water quality to local streams rather than the Potomac River or the Chesapeake Bay.

Mr. LeCouteur showed a slide depicting contiguous forest patches of various sizes in the Sligo Creek watershed in Montgomery County that was produced using data from satellite-produced imagery. He noted that using patches of contiguous forest land of a certain size would be a better measuring rod than just adding up the total amount of forested acres because of the many benefits that concentrated forests provide that are lost if the forest land is more widely dispersed.

Ms. Spano explained slides suggesting how future wastewater and drinking water capacity could be used as metrics.

Action item: The committee authorized staff and its representatives on the Greater Washington 2050 Coalition to explore the potential use of these four metrics in the coalition’s scenario analysis work. However, they directed staff to modify the stream health metric along the lines suggested during discussion.

4. Update on Emerging Contaminant Response to Board

Mr. Bieber reported on the results of a workshop that he and officials from the area's water utilities attended in April that was sponsored by the American Water Works Research Foundation. He said the utilities are discussing a coordinated plan for testing some of the compounds that have been identified in the Potomac River and which may be contributing to the phenomenon of "intersex" fish and other aquatic creatures. He said the utilities have agreed to do a one-time survey of a target list of 20 compounds using common methods.

Ms. Spano discussed research indicating that the upgrades in treatment technology that wastewater plants are now installing to capture more nutrients (known as enhanced nutrient removal) also shows some benefit in reducing discharges of these compounds. She also said that COG's work program in FY 2009 envisions staff work with local water and wastewater utilities to coordinate regional education efforts designed to encourage the public to dispose of unused pharmaceuticals and other potential contaminants in a manner that will not pollute local waters. This effort will build on both national efforts and local ones already being pursued by Fairfax Water and the Washington Suburban Sanitary Commission.

Discussion: Ms. Davis asked if the effort would provide the public with a clear message about what to do with such materials, since there appears to be a lot of confusion about this issue. Ms. Spano said that the effort would have a common core message, around which individual members can add their own specific messages.

Mr. Karimi asked if there was a possibility of future regulations for wastewater plants in this area.

5. Review of Proposed FY 09 Work Program and Budget for the Regional Water Fund

Ms. Spano briefly summarized the proposed work program and budget for the Regional Water Fund in 2009. She noted that the document distributed in the committee's meeting package was still draft and lacked several final details. In previous years, the committee had directed staff to send the final budget document and a ballot to all of the committee members, including those not present at the meeting, to seek approval.

Action item: The committee directed staff to poll members on approving the budget when the final budget package is complete and fully documented.

6. Comment on Loudoun County Septic System Ordinance

Mr. Berger noted that the Loudoun County Health Department had requested comment on a proposed ordinance addressing septic systems in the county. He reviewed the proposed comments that staff developed in consultation with officials who oversee septic system policies in several other counties.

There was no discussion.

Action: The committee approved the staff comments for transmission to Loudoun County.

7. Bay Program Updates

Ms. Spano briefly discussed the status of Bay Program efforts to put in place a Bay-wide TMDL regulatory process by 2011. This will require a revisiting of the nutrient and sediment load targets that were established back in 2003 and the Bay Program has been upgrading its modeling efforts to generate new numbers. She also noted that COG staff continues to work with Bay Program staff on its efforts to model the impacts of future land use

change and population growth on nutrient and sediment load projections.

Ms. Gross noted that the Bay Program's Local Government Advisory Committee held a meeting last week in concert with the Citizens Advisory Committee to discuss the program's response to the criticisms made by the General Accounting Office in a recent report on the program. She said there is a lot of concern about efforts to re-organize the Bay Program structure and about the role of local governments in that structure. The GAO report did not mention local government involvement, she said.

Chair Nohe asked if Jeff Lape, the director of EPA's Bay Program Office, "gets" the importance of local government involvement in the program. Ms. Gross said that she thinks he does, but the current re-organization efforts will provide a test of that commitment.

8. Old Business

Mr. Berger noted that action is needed by one additional member from Virginia to officially approve the meeting summary for Jan. 18, 2008, because of a lack of a quorum at the March 14 meeting.

Action: Mr. Nohe approved the minutes, thereby meeting quorum requirements

9. New Business

Mr. Berger noted that the next meeting will coincide with a meeting of the Greater Washington 2050 Coalition, on which Chair Nohe and several other members serve.

Action: The committee directed staff to tentatively plan to cancel the meeting unless some development should arise that would require the committee to act before its next meeting after July, which will be in September.

10. Adjourn

The meeting was adjourned at 12:05 p.m.

National Capital Region Climate Change Report

Prepared by the Climate Change Steering Committee for the
Metropolitan Washington Council of Governments Board of Directors

July 9, 2008 Review Draft



Climate Change Steering Committee – Member and Alternate List

Climate Change Steering Committee Chair and Vice Chairs

Nancy Floreen
Councilmember, Chair
Montgomery County

Gerry Connolly
Board Chair, Vice-Chair
Fairfax County Board of Supervisors

Mary Cheh
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George Nichols, Naomi Friedman, Leah Boggs,
Ted Graham, Tanya Spano
COG Department of Environmental Programs

NATIONAL CAPITAL REGION

Climate Change Report

REVIEW DRAFT July 9, 2008

Prepared by the

Climate Change Steering Committee

for the

COG Board of Directors

July 2008



Metropolitan Washington Council of Governments

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1. Preface

The coming decades will likely be a time of rapid change and uncertainty with dramatic changes in cost of energy and in the environment. The Metropolitan Washington region's historical growth trends in housing, land use and energy have been disrupted by recent events such as the price of oil and the uncertainty of mortgage lending. Energy, climate and environmental concerns are having profound effects on the region by reshaping development preferences and goals for the types of uses and transit options that are desired by communities. Future economic growth will likely depend on finding reliable low-carbon alternatives to build a sustainable future.

The Metropolitan Washington region has unique advantages that enable it to respond rapidly to increasing energy prices and vagaries of economic cycles. In facing the challenges of energy and climate, the region's advantages include one of the best transit systems in the country, thoughtful and progressive governments that are able to coordinate strategic responses to rapidly changing conditions, a diversified economy, excellent airport and high speed rail hubs, and many viable communities and "activity centers" around the area that provide transit options for future growth.

The region faces serious challenges in the near term dealing with the economy, environment and energy prices. In the longer term, responding to the potentially dramatic impact of global climate change will present an enormous challenge. Early action is needed to avert the worst predicted impacts from climate change. The region needs to transition to a low-carbon future starting today. This report provides the regional framework to do so.

Looking Back and to the Future

On April 11, 2007, the Metropolitan Washington Council of Governments (COG) celebrated its 50th anniversary. As part of its 50th anniversary year, the COG Board of Directors examined the extraordinary changes that took place during the first half century of its existence and how COG grew up along with the region and helped shape its growing and vibrant communities.

The Board then set its sights on the next 50 years. It recognized that one profound force fundamental to defining the decades ahead is global climate change. The Board resolved that the region would become a leader in the growing national and international effort to combat this major challenge to the region's quality of life.

Thus on April 11, 2007, the Board adopted Resolution R31-07 (see Appendix A), creating a regional climate change initiative. In its resolution, the Board stated: "The failure to reduce greenhouse gases can undermine the quality of life in our region and its economic and environmental sustainability." The Board action called for creating a regional climate change program that would include developing a greenhouse gas inventory, setting regional goals and identifying best practices for reducing emissions, advocating policies at the federal and state levels, making recommendations on regional climate change policy, and recommending a governance structure to guide COG's efforts in the future.

By adopting R31-07, the metropolitan Washington region joined more than 28 states and 200 local governments that are taking actions to mitigate and prepare for climate change. The COG initiative was among a handful of regional climate action programs. With its focus on the National Capital Region, COG placed itself front and center on the national landscape of those taking leadership action on climate change.

Resolution R31-07 established a Climate Change Steering Committee to guide the initiative. The committee's initial work, which began in May 2007, focused on examining climate initiatives in Maryland, Virginia, and the District of Columbia, as well as among its twenty-one member local jurisdictions. Between May, 2007 and May, 2008 this work included:

- Reviewing the work of the Intergovernmental Panel on Climate Change, as well as local assessments of potential impacts in the mid-Atlantic region;
- Preparing a report cataloguing best practices and greenhouse gas reduction activities already underway in the region;
- Developing an inventory of greenhouse gas emissions, and forecasting the future level of emissions out to 2050 under a “business as usual” scenario;
- Evaluating a wide range of potential regional greenhouse gas reduction goals, and reaching consensus on an aggressive sequence of reduction targets starting in 2012;
- Examining state and federal legislation;
- Preparing advocacy positions primarily focused on enhancements to local and regional roles and resources to support local and regional initiatives;
- Endorsing the Cool Capital Challenge, a grassroots effort to jumpstart emission reductions in the region;
- Reviewing a wide range of measures to reduce greenhouse gas emissions;
- Framing a regional Climate Action Plan; and
- Recommending a governance structure to guide COG's efforts in the coming years.

This report reflects the work of the COG Climate Change Steering Committee during the past year. It presents recommendations for regional action by proposing broad goals, identifying actions that will begin to reduce regional greenhouse gas emissions, and it setting in place a process to implement the regional framework crafted in this document.

An overarching tenet of this report is the Climate Change Steering Committee's acceptance of the overwhelming evidence presented by the Intergovernmental Panel on Climate Change, U.S. National Academies of Science, National Center for Atmospheric Research, and others that the Earth is gradually warming and this warming trend is due in large part to human activities. The Committee also acknowledged the need for taking action now in an effort to avoid the potentially catastrophic consequences of climate change forecast for the middle and latter parts of this century. The committee was motivated not only by the need for action to address global climate change, but also by the growing body of evidence that adverse consequences are already taking place in our region.

While climate change concerns provided the foundation for the action plan recommended in this report, the committee also notes that many, if not virtually all, of the recommended actions will provide very significant benefits and will enhance the future of the region's quality of life, irrespective of whether the anticipated climate changes materialize as predicted, or whether the collective intervention of those in this region, across the United States, and elsewhere in the world ultimately produce the desired greenhouse gas mitigation benefits.

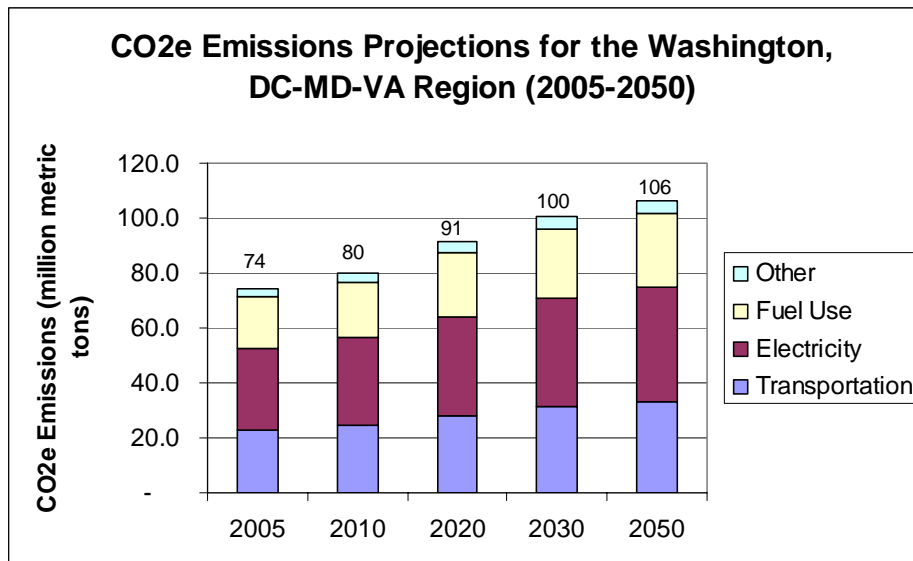
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2. Executive Summary

Facing the Facts

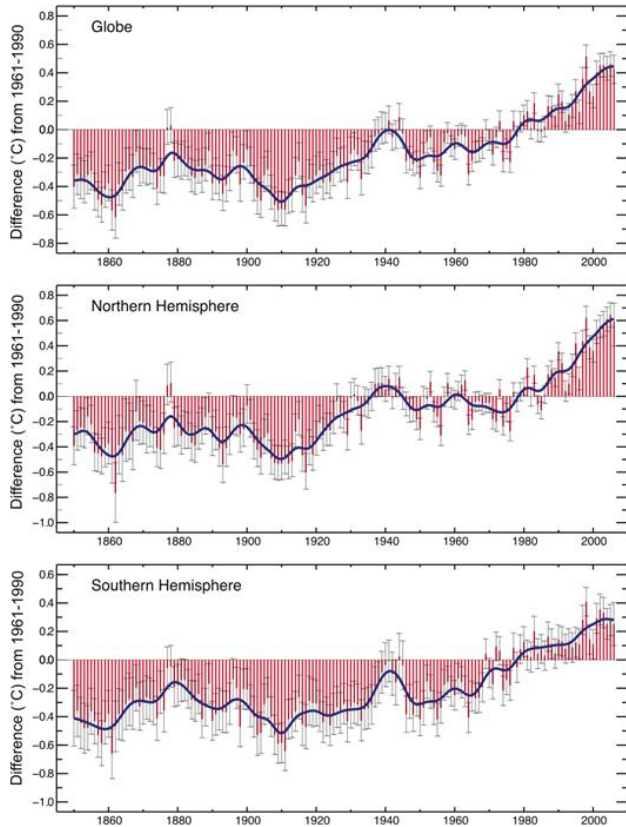
The Washington metropolitan region is growing. The Metropolitan Washington Council of Governments (COG) forecasts that between 2005 and 2030, the region will gain 1.6 million new residents and 1.2 million new jobs. The forecasts are based on historical growth patterns or “business as usual.” The region’s growth has been fueled by relatively inexpensive gasoline prices, encouraging development in outer suburbs and bringing more cars and traffic congestion to the region’s roads. Population in the outer suburbs is predicted to experience the fastest growth, a 47 percent increase by 2030, compared to 18-20 percent in the regional core and inner suburbs (MWCOG 2007a). Based on current business-as-usual projections of growth in population, housing, employment, and energy use, total greenhouse gas emissions in the region will increase by 33 percent by 2030 and 43 percent by 2050. (see Figure ES-1)

Figure ES-1. Projected Growth in Regional Greenhouse Gas Emissions Under a Business As Usual Scenario



An enormous amount of energy is needed to fuel the region and the nation’s economy and lifestyle. Industrial development and the spread of the automobile have created a strong, growing economy but the consequences are emissions that cause global warming. Global-warming is happening and leading to climate change that is accelerating faster than scientists anticipated as recently as three years ago (see Figure ES-2). The Intergovernmental Panel on Climate Change (IPCC) concludes “most of the observed increase in globally averaged temperatures since the mid-twentieth century is very likely due to the observed increase in anthropogenic (man-made) greenhouse gas concentrations.” Scientists predict that irreversible changes in temperature and weather will occur by mid-century if current energy use, fuels and life-styles do not change. There is an urgent need to address the causes of global warming, as the costs of inaction are greater than the costs of mitigation and adaptation.

Figure ES-2. Global Temperature Trends



Observed Global Warming

Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level

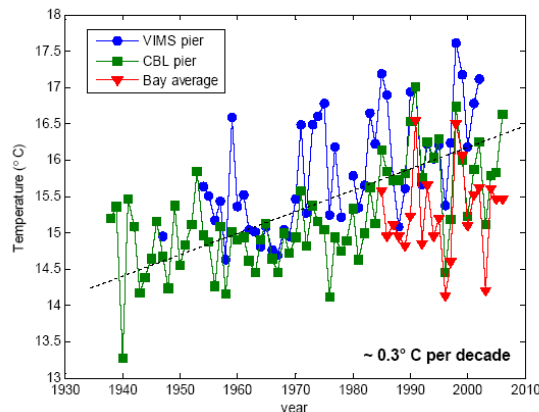
Global average warming in the past century is 0.74°C (1.3°F)

U.S. temperatures warmed during the 20th and into the 21st century; temperatures are now approximately 0.56°C (1.0°F) warmer than at the start of the 20th century, with an increased rate of warming over the past 30 years

The Metropolitan Washington Region is experiencing the effects of climate change with rising sea levels and a **warmer Chesapeake Bay**; more than 2°C (3.6°F) in the past 70 years (see Figure ES-3). With the warming, the Bay's ecosystems like submerged aquatic vegetation and oyster farming are adversely impacted. Changes in the climate will have significant effects on the region's natural environment, built environment, all sectors of the economy, and on residents of the region, their families, communities and workplaces.

Figure ES-3.

Measured Temperature Changes in Chesapeake Bay Surface Waters



Taking Stock: Regional Inventory

Developing a greenhouse gas inventory is an important first step in reducing the region's contribution to global CO₂ levels. The inventory provides a basis for developing an action plan and setting goals and targets for future reductions, helps to identify the largest sources of greenhouse gases, enables tracking of trends over time, and documents the impacts of actions taken to reduce emissions.

In the base year, 2005, greenhouse gas emissions in the metropolitan Washington region totaled 74 million metric tons (MMt). As shown in Figure ES-1, the inventory includes emissions from electricity generation; on-road motor vehicle transportation; residential/commercial/industrial and commercial aviation fuel use; and other sources, including hydrofluorocarbons used as refrigerants and solvents, and methane from wastewater and landfills. In 2005 two sectors, transportation and electricity use, contributed more than 70 percent of regional CO₂ emissions.

Projected Growth

Based on current business-as-usual (BAU) projections of growth in population, housing, employment, and energy use, ***total emissions from energy consumption (electricity and fuel use) in the region will increase by 35 percent by 2030 and 43 percent by 2050 and total emissions from transportation in the region will increase by 38 percent by 2030 and 47 percent by 2050 (see Figure ES-1).*** Energy consumption is 66 percent of the total inventory; transportation contributes 30 percent of the region's greenhouse gas emissions inventory.

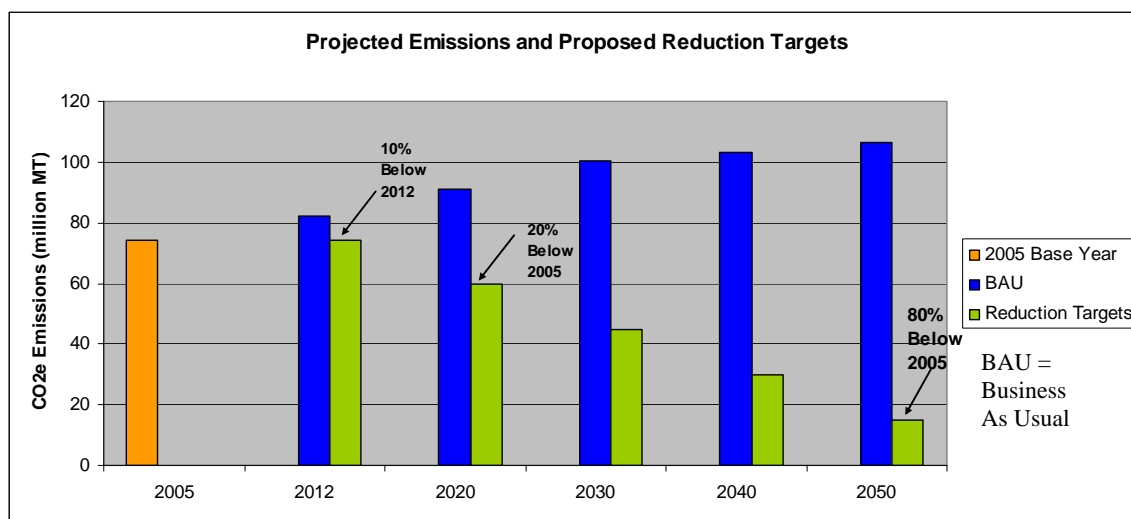
The inventory projections do not account for the recently adopted federal CAFE and energy efficiency standards. The inventory also does not account for the 4.1 MMt of CO₂ emissions that are absorbed (or "sequestered") by the metropolitan area's 1.3 million acres of undeveloped forests and grassland. As development increases, these areas are expected to decline, reducing the region's overall capacity to absorb and temporarily store greenhouse gas emissions. Further research is needed to better project the anticipated loss of forest and grassland in the region.

Regional Targets

COG's Climate Change Steering Committee recommends establishing regional greenhouse gas reduction goals for three target years: 2012 to force early action, a medium-range goal (2020) to encourage expansion of recommended policies and programs, and a long-range goal (2050) to stimulate support for research into technologies and clean fuels needed to stabilize greenhouse gas emissions.

The goals are based on scientific evidence from the Intergovernmental Panel on Climate Change and are equivalent to similar goals adopted by jurisdictions in the Washington region. The recommended goals are to reduce greenhouse gas emissions 10% below business as usual by 2012; reduce 20% below 2005 levels by 2020; and reduce 80% below 2005 levels by 2050.

Figure ES-4. Comparison of Projected Regional Greenhouse Gas Emissions Under Business As Usual (BAU) and Proposed Emission Reduction Scenarios: 2005–2050



2012 Target: Reduce Business As Usual Emissions (BAU) by 10 Percent

Between 2005 and 2012, regional energy consumption and greenhouse gas emissions are expected to grow by about 10 percent under a Business As Usual scenario. The goal is to stop projected growth in regional greenhouse gas emissions by achieving a 10 percent reduction in regional emissions between 2008 and 2012.

Strategy to Modify Energy-Consuming Behaviors

Changing the energy-consuming behavior of individuals, households and businesses offers a potentially significant gold mine for greenhouse gas reductions. Individuals and businesses can take simple measures to reduce energy consumed daily by driving, heating and cooling in the home and workplace, and disposing of trash. Opportunities for education and outreach efforts include persuading consumers to purchase more energy-efficient cars, appliances, and heating and air conditioning units, and to consider alternatives for commuting to work other than by driving alone, and increasing recycling. Many of the measures are relatively easy to achieve through incentives from utilities and local governments working together.

2020 Target: Reduce BAU Emissions by 20 Percent Below 2005 Levels

The Climate Change Steering Committee recommends an interim goal of 2020 to reduce emissions to 20 percent below 2005 levels. Some of the reduction will be achieved by a combination of federal, state, and local policies, such as the Energy Efficiency Act of 2007, the new federal CAFE standards, and regional cap-and-trade program for utilities, such as the Regional Greenhouse Gas Initiative (RGGI). To assess what would be involved in meeting the 2020 goal, the Climate Change Steering Committee prepared a preliminary analysis of current and potential future greenhouse gas reduction measures with an estimated reduction benefit by 2020. That reduction works out to be 55-57 percent of the quantity of reductions needed to reach the 2020 goal. The Committee believes that a plan for achieving the full reduction can be developed in the next 1-2 years.

2050 Target: Reduce BAU Emissions by 80 Percent Below 2005 Levels

An ambitious long-term goal of reducing emissions to 80 percent below 2005 levels by 2050 would present a challenge to the region and would place the region among national leaders calling for aggressive action to address climate change. Strategies to achieve the goal include energy efficiency and conservation; fuel switching and carbon capture and storage; renewable fuels and electricity/forest and soil storage, low-carbon vehicle technology; changes in development patterns in new and existing developments; and nuclear energy. All require a coordinated effort involving actions on the part of individuals, businesses, federal and state policy and regulations, academic research and development, and new technologies.

Cost of Meeting the Targets

McKinsey & Company and the Corporation Board (2007) studied the cost of measures to reach a 2030 goal. The most cost-effective options are improving the energy efficiency of buildings (e.g., lighting and heating, ventilation, and air conditioning systems) and appliances, and increasing the fuel efficiency of vehicles. Such investment in energy efficient technology can actually save consumers money. The most expensive options—but still less than \$50 per metric ton of avoided emissions—involve shifting to less carbon-intensive energy sources, such as wind, solar, and nuclear power. The study concluded that the savings of these measures outweigh the costs, and the measures can significantly abate greenhouse gas emissions. A more intensive financial analysis of the specific measures identified in the report is recommended in the coming year.

Taking Action

Mitigating Emissions from Energy Consumption

The region has many advantages to help address the challenge of a changing climate. It has a good transit system, local governments have a history of working together to develop strategic response to changing conditions, the region has a diversified economy and serves as a hub for rail and air traffic. Reduced energy use provides significant regional benefits, such as enhanced quality of life, reduced energy expenses and less pollution in addition to reduced greenhouse gases. Rising to the challenge of transforming to a low-carbon economy will produce economic benefits for the region as well as helping to minimize the adverse impacts of changing climate.

COG's Climate Change Steering Committee recommends a number of measures to reduce regional carbon dioxide emissions, listed in Table ES-1. The Committee recommends reducing emissions from the energy sector, 66 percent of emissions in the region, by **improving energy efficiency, reducing demand for energy, and developing clean (alternative) energy sources.**

Mitigating Emissions from Transportation and Land Use

The Climate Change Steering Committee (CCSC) recommends reducing emissions from transportation (30%) by **reducing Vehicle Miles Traveled (VMT), increasing fuel efficiency, and reducing the carbon content of fuel.** Changes to land use planning are recommended to reduce greenhouse gas emissions from future development. A list of recommendations for transportation and land use are given in Table ES-1.

Regional Economic Development

In the Washington region employment is projected to grow 39 percent by 2030. What types of jobs will be created in the next 20-25 years? Are we adequately training our workforce to assume these positions? The CCSC views environmental protection, greenhouse gas reduction, and green energy development as an opportunity to create new green jobs. The passage and expansion of renewable portfolio standards and increased purchases of renewable energy, plays an important role in stimulating the green economy and in creating new green jobs.

Preparing for the Impacts of Climate Change

The full scope of the impacts of climate change on the Washington region is yet to be analyzed. Risks and costs are critical to any set of decisions that will require an investment of substantial resources. That said, it's not too early for the region to begin a systematic investigation of high-priority program areas and initiate early planning. The state of Maryland has been actively addressing adaptation priorities and opportunities, but so far has focused mainly on coastal areas, which are particularly vulnerable. Virginia has also begun to assess the potential damage climate change could have on its coastal areas, agriculture and recreational resources.

Local governments and waste and wastewater utilities in the region are taking actions to adapt to the potential risks of climate change. CCSC recommends the region analyze changes and risks to the region's transportation infrastructure, buildings and population living in low-lying areas. Regional adaptation policies need to be developed for regional emergency response planning.

Financing Mechanisms

Local greenhouse gas reduction actions can help the region stabilize energy demand, diversify energy supply, lower utility bills, improve air quality, create more walkable community designs, and provide the region the chance to develop our impressive transit system, green collar workforce, and green building and technology base.

There are several ways area governments can cover the costs associated with climate change activities, such as paying for energy efficiency improvements through the use of energy performance contracting and using economies of scale through cooperative purchasing. Proceeds from federal energy block grants and proposed cap and trade legislation are also going to be essential for assisting the region to meet its greenhouse gas reduction goals.

Outreach and Education

The Climate Change Steering Committee (CCSC) believes that education and outreach is critical to meeting the region's target reduction goals. Developing a regional public education campaign to promote individual and institutional efforts to reduce greenhouse gases in the region is essential. Individual and institutional actions to achieve regional reduction goals include improved energy efficiency in buildings and residences, purchase of energy efficient appliances, driving less (public transit, bike, walk), recycling, and using less water. CCSC recommends developing partnerships with the private sector and other organizations such as ICLEI, Cool Counties, Cool Cities, and Climate Communities to achieve outreach goals.

Next Steps: COG Climate Change Initiative

Proposed Governance Structure for Ongoing COG Climate Change Initiative

The committee concludes that creation of a permanent COG Climate Change initiative is essential given the long-term nature of this challenge. To provide oversight and direction for the initiative, a COG Board **Climate and Energy Policy Committee** should be established with a broad membership from COG elected officials. State and federal agencies, and business and other key stakeholders should be requested to participate in this new committee.

Next Steps

The recommendations contained in this report fall broadly into several categories. Certain recommendations, such as the regional greenhouse gas emission reduction goals, are quantitative and time-specific. A significant number of the recommendations set the direction for regional policy, but require further analysis to support a definitive and quantifiable proposal, for example, setting a regional green power purchase goal, or a regional vehicle miles of travel (VMT) reduction goal. Other recommendations reflect policy principles to guide the region and COG's members as the climate change program moves forward.

To help define the work program in the coming year and beyond, the committee has developed the following matrix (Table ES-1) that contains, classifies, and analyzes all of the recommendations included in this report. The matrix provides a sense of timing, with many of the initiatives listed as having an immediate time frame. The initiatives identified as immediate necessarily will be the focus in the next year.

Partnership with regional stakeholders will be essential to carrying out most of the recommendations. In the next year CCSC recommends that COG develop detailed plans to achieve the reduction goals as well as to track progress toward the goals.

Table ES-1. Recommendations: Summary and Preliminary Assessment

Recommendations	Emission Impact	Implementation Timing	Cost	Economic Co-Benefits	Potential Partners
I. Regl GHG Reduction Goals					
1. 2012: Reduce 10% by 2012	Medium	Immediate	Low	Medium-High	COG Members, Fleet, Energy, and Building Managers, General Public, Board of Trade, Procurement Officers
2. 2020: Reduce 20% below 2005	High	Midrange-Long Term	Low-Medium	Medium-High	COG Members, Federal Government, Board of Trade, WMATA, MWWA, Procurement Officers
3. 2050: Reduce 80% below 2005	High	Midrange-Long Term	Medium-High	Medium-High	All
II. Energy					
1. Regional green building policy	High	Immediate-Midrange	Varies	Medium-High	COG Members, IGBG, Facilities Managers, GSA, USGBC
2. Energy performance goals for public buildings	High	Immediate-Midrange	Varies	Medium-High	COG Members, IGBG, Facilities Managers
3. Incentives/outreach to improve private building efficiency	High	Immediate-Midrange	Varies	Medium-High	COG Members, IGBG, Facilities Managers, GSA, USGBC
4. Identify best practices for private buildings, improve efficiency	High	Immediate-Midrange	Varies	Medium-High	COG Members, IGBG, Facilities Managers, GSA, USGBC
5. Green affordable housing policies/programs	Medium-High	Immediate-Midrange	Varies	Medium-High	COG Members, IGBG, Facilities Managers, Housing Directors, MDPC, Planning Directors, GSA, USGBC
6. Energy conservation and efficiency goals, plan	Medium-High	Immediate-Midrange	Low-Medium	High	COG Members, Energy Advisory Committee, State Energy Offices, Utilities, Universities, Businesses, General Public, ACEEE
7. Home weatherization program, energy audits, retrofits	Medium-High	Immediate-Midrange	Low-Medium	High	COG Members, Utilities, State Energy Offices
8. Best practices to reduce methane, use biosolids	Medium-High	Midrange-Long Term	Medium-High	Medium-High	COG Members, Wastewater Treatment Facilities, Landfills, EPA
9. Identify best practices for local govt, reduce 15%	Medium-High	Immediate-Midrange	Low-Medium	High	COG Members, Energy Advisory Committee, State Energy Offices, Utilities, Universities, Businesses, General Public, ACEEE
10. Energy Use: Energy Star goals for new buildings	Medium-High	Immediate-Midrange	Low-Medium	High	COG Members, EPA, Energy Advisory Committee, Board of Trade, AIA, Trade Asscns
11. Green Power: utilization goals	Medium-High	Immediate-Midrange	Medium-High	Medium	COG Members, EPA Green Power Partnership, Energy Managers, Utilities, Procurement Officers
12. Green Power: regional cooperative purchase	Low-Medium	Immediate-Midrange	Medium-High	Medium	COG Members, Energy Advisory Committee, Energy Managers, Utilities, Procurement Officers
13. Regional street lighting analysis	Low-Medium	Immediate	Medium-High	Medium	COG Members, Energy Managers, Utilities, Board of Trade, Private Sector
14. Regional energy performance contracting	Low-Medium	Immediate-Midrange	Medium-High	Medium	COG Members, Energy Managers, State Energy Offices, Utilities, Private Sector
15. Long term goal: carbon neutrality for public buildings	High	Long-Term	Varies	Medium	COG Members, IGBG, Facilities Managers, USGBC, AIA
16. Recycling programs	Low-Medium	Immediate-Midrange	Varies	High	COG Members, Recycling Committee
17. Partnership programs	Medium-High	Immediate-Midrange	Low-Medium	Medium-High	COG Members, EPA Energy Star, USGBC, Board of Trade, Utilities
18. Promote 20% RPS, including imports	High	Immediate-Midrange	Medium-High	Medium	COG Members, Energy Advisory Committee, Energy Managers, Utilities, State Energy Offices
19. RGGI - Expand to DC & VA	Medium-High	Immediate-Midrange	Medium-High	Low-Medium	Virginia, DC, Maryland, RGGI States
20. RGGI funds for efficiency and renewables	Medium-High	Immediate-Midrange	Low-Medium	High	COG Members, Maryland, RGGI States

Table ES-1. Recommendations: Summary and Preliminary Assessment

Recommendations	Emission Impact	Implementation Timing	Cost	Economic Co-Benefits	Potential Partners
III. Transportation and Land Use					
1. Promote adoption of clean vehicles, including CAL LEV II	High	Immediate-Midrange	Medium-High	High	COG Members, State Legislature, Fleet Managers, Auto Manufacturers
2. Provide incentives for early vehicle retirement	Low-Medium	Immediate-Midrange	Medium-High	Low-Medium	COG Members, Local and State Govt, Auto Dealers
3. Green fleet policy	Medium-High	Immediate-Midrange	Medium-High	Medium-High	COG Members,
4. Traffic engineering and roadway improvements	Low-Medium	Midrange-Long Term	Varies	High	COG Members, DOTs, TPB
5. Anti-idling initiatives: rules and enforcement	Low-Medium	Immediate	Low-Medium	Low-Medium	COG Members, Local Govt, Police
6. VMT Reduction: goals	Medium-High	Midrange-Long Term	Medium-High	Low-Medium	COG Members, TPB, DOTs, Local Govt, Transit Authorities
7. VMT Reduction: shift short trips	Low-Medium	Immediate-Midrange	Low	Medium-High	COG Members, Local Govt, Transit Authorities, Commuter Connections
8. VMT Reduction: financial incentives	Low-Medium	Immediate-Midrange	Medium-High	Low	COG Members, State and Local Govt
9. VMT Reduction: car sharing	Low-Medium	Immediate-Midrange	Medium-High	Low-Medium	COG Members, Local Govt, Zipcar, Flexcar
10. VMT Reduction: parking policies	Low-Medium	Immediate-Midrange	Medium-High	Low-Medium	COG Members, State and Local Govt
11. VMT Reduction: financial and other incentives	Low-Medium	Immediate-Midrange	Medium-High	Medium-High	COG Members, State and Local Govt, Private Sector
12. Develop conformity process for GHGs	Medium-High	Midrange-Long Term	Medium-High	Low	COG Members, TPB, DOTs
13. Stated goal of GHG reduction in transportation planning	Medium-High	Midrange-Long Term	Medium-High	Low	COG Members, TPB, MDPC, DOTs, WMATA
14. Direct development to activity centers	Low-Medium	Midrange-Long Term	Varies	High	COG Members, Planning Directors, MDPC, TPB, Board of Trade, DOTs, WMATA
15. Expand transit infrastructure and use	Medium-High	Midrange-Long Term	Medium-High	Medium-High	COG Members, Transit Authorities, TPB, DOT
16. Alternative Modes: exclusive transit routes	Low-Medium	Midrange-Long Term	Medium-High	Medium-High	COG Members, TPB, DOTs, State and Federal Govt, Transit Authorities
17. Alternative Modes: promote increase transit use	Low-Medium	Immediate-Midrange	Low-Medium	Medium-High	COG Members, Commuter Connections, TPB, DOTs, Local Govt, Transit Authorities
18. Targets for shifting modes	Low-Medium	Midrange-Long Term	Medium-High	Medium-High	COG Members, Private Sector
19. Alternative Modes: enhance access	Low-Medium	Immediate-Midrange	Medium-High	Medium-High	COG Members, TPB, DOTs, Local Govt, Transit Authorities
20. Travel management plan for new developments	Medium	Midrange-Long Term	Low-Medium	Low-Medium	COG Members, Private Sector, Planning Directors, MDPC
21. Equalize transit and parking benefits	Low	Immediate-Midrange	Low	Low	COG Members, State and Local Govt
22. Bicycle/pedestrian programs	Low-Medium	Immediate-Midrange	Medium-High	Medium-High	COG Members, TPB, DOTs, Local Govt, WMATA
23. Land Use Planning: Tree canopy preservation	Low-Medium	Midrange-Long Term	Low-Medium	High	COG Members, State and Local Forestry Agencies, U.S. Forest Service, Casey Trees, Center for Chesapeake Communities
24. Land Use Planning: Promote location & design of new development around regional activity centers	Medium-High	Immediate-Midrange	Low-Medium	High	COG Members, Local Planning Agencies, Local Developers, Greater Washington 2050
25. Land Use Planning: Promote walkable communities and affordable housing near transit	Medium-High	Midrange-Long Term	Medium	High	COG Members, MDPC, Planning Directors, Local Planning Agencies, Local Developers, WMATA
26. Evaluate LEED-ND Standards	Medium-High	Immediate-Midrange	Medium	Varies	COG Members, Planning Directors, MDPC, TPB, Board of Trade, DOTs, WMATA
27. Comprehensive Planning: best practices	Low-Medium	Immediate-Midrange	Low-Medium	Medium-High	COG Members, MDPC, Planning Directors, Local Planning Agencies, Local Developers
28. Comprehensive Planning: environmental review	Low-Medium	Immediate-Midrange	Low-Medium	Low-Medium	COG Members, MDPC, Planning Directors, Local Planning Agencies, Local Developers

Table ES-1. Recommendations: Summary and Preliminary Assessment

Recommendations	Emission Impact	Implementation Timing	Cost	Economic Co-Benefits	Potential Partners
IV. Economic Development					
1. Promote green business & green jobs	Low	Immediate-Midrange	Medium-High	Medium-High	COG Members, Board of Trade, Universities, Sustainable Business Alliance
2. Promote eco-business or green business zones	Low	Immediate-Midrange	Medium-High	Medium-High	COG Members, Board of Trade, Universities
3. Promote cooperative green purchasing	Low-Medium	Immediate-Midrange	Low-Medium	Medium-High	COG Members, Procurement Officers, Board of Trade
4. Promote local food production options	Low-Medium	Immediate-Midrange	Low-Medium	Medium-High	COG Members, State and Local Govt, Farmer's Cooperatives, Regional Agricultural Workgroup, Community Supported Agriculture, Freshfarm Markets
5. Promote local vendors and suppliers	Low-Medium	Immediate-Midrange	Low-Medium	Medium-High	COG Members, State and Local Govt, Farmer's Cooperatives, Economic Development Authorities
6. Regional green jobs analysis	Low	Immediate	Low-Medium	Medium-High	COG Members, Board of Trade, Universities, Sustainable Business Alliance
V. Adaptation					
1. Partner w/ university to develop 2050 Impacts Report	Low	Immediate-Midrange	Medium	Medium	COG Members, University of Maryland, NOAA
2. Develop adaptation policies based on report	Low	Midrange-Long Term	Medium	Medium	COG Members, Utilities, Private Sector, State and Federal Govt.
3. Conduct regional adaptation workshops	Low-Medium	Midrange-Long Term	Medium	Medium	COG Members, University of Maryland, NOAA
VI. Financing					
1. Evaluate financing mechanisms for GHG reduction & Energy Efficiency Projects	Medium-High	Immediate-Midrange	Low-Medium	High	COG Members, Chicago Climate Exchange, MD Strategic Energy Fund, Block Grants, Energy Efficiency Partnership of Greater Washington
2. Regional offset fund for tree canopy enhancement	Medium	Immediate-Midrange	Medium	Medium	COG Members, State and Local Forestry Agencies, U.S. Forest Service, Casey Trees, Center for Chesapeake Communities
3. Identify funding for transit	Medium-High	Immediate-Midrange	High	High	COG Members, State and Federal Govt, WMATA
4. Identify funding for building retrofits	Medium-High	Immediate-Midrange	High	High	COG Members, State and Federal Govt, ESCOs
VII. Outreach & Education					
1. Citizen Outreach Campaign	Medium-High	Immediate-Midrange	Medium-High	Low-Medium	COG Members, Clean Air Partners, Commuter Connections, Wise Water, Recycling Committee, IGBG
2. Develop partnerships w/private sector & others	Medium-High	Immediate-Midrange	Medium-High	Low-Medium	COG Members, Board of Trade, Federal Government, WMATA, MWAA, Cool Capitol Challenge
3. COG member outreach (assistance)	Low-Medium	Immediate-Midrange	Low-Medium	Low-Medium	COG Members, Cool Capitol Challenge, EPA, ICLEI, Sierra Club
4. Recognition program	Low-Medium	Immediate-Midrange	Low-Medium	Low-Medium	COG Members, EPA, ICLEI, US Conference of Mayors
5. COG Climate Change website	Low-Medium	Immediate	Low-Medium	Low-Medium	COG Members, ICLEI, EPA

Table ES-1. Recommendations: Summary and Preliminary Assessment

Recommendations	Emission Impact	Implementation Timing	Cost	Economic Co-Benefits	Potential Partners
VIII. COG Climate Change Program					
1. Establish the COG Climate and Energy Policy Committee	-	Immediate	Low-Medium	-	COG Members, State/Local Govt
2. Identify work program priorities, products and timetables	-	Immediate	Low-Medium	-	COG Members, State/Local Govt
3. Design outreach and education program	-	Immediate	Low-Medium	-	COG Members, State/Local Govt
4. Develop advocacy positions for federal and state legislation	-	Immediate	Low-Medium	-	COG Members, State/Local Govt
5. Evaluate recommended greenhouse gas reduction measures for cost effectiveness	-	Immediate	Low-Medium	-	COG Members, State/Local Govt
6. Identify regional goals for recommended greenhouse gas reduction measures	-	Immediate	Low-Medium	-	COG Members, State/Local Govt
7. Prepare plan to reach 2012 goal	-	Immediate	Low-Medium	-	COG Members, State/Local Govt
8. Develop system for tracking progress toward greenhouse gas reduction goals	-	Immediate	Low-Medium	-	COG Members, State/Local Govt
9. Seek additional resources such as in-kind contributions from stakeholders, partners, consultants	-	Immediate-Midrange	Low-Medium	-	COG Members, Greater Washington Board of Trade, EPA, DOE
9. Seek additional funding from foundations, grants to support selected work program elements	-	Immediate-Midrange	Low-Medium	-	COG Members, Foundations

Key:

Timing:

Immediate - Now to June 2009.

Midrange - 1-3 years.

Longterm -More than 3 years.

Emission Impact:

Low - Minimal emission reduction expected.

Medium - Some emission reduction anticipated.

High - Significant emission reduction anticipated.

Cost:

Low - Relatively low cost.

Medium - Moderate financial costs.

High - Expensive option to implement.

Economic Co-Benefits:

Low - Action will have limited impact on other areas of the economy.

Medium - Some economic synergies are anticipated.

High - Significant enhancement to the economy or sector are possible.



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**STATE OF MARYLAND
DEPARTMENT OF THE ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT
MONTGOMERY COUNTY, MARYLAND
(009-DP-3320) (MD0068349)**

TENTATIVE DETERMINATION TO ISSUE PERMIT

FACT SHEET

Permit Authority

According to 40 Code of Federal Regulations (CFR) §122.26, owners of large and medium municipal separate storm sewer systems must obtain a National Pollutant Discharge Elimination System (NPDES) Permit. This permit is a joint federal and State permit and subject to federal and State regulations. The Clean Water Act (CWA), federal regulations, and numerous guidelines and policies of the United States Environmental Protection Agency (EPA) provide the federal permit requirements. The Annotated Code of Maryland, Environment Article, Code of Maryland Regulations (COMAR), and policies and guidelines of the Maryland Department of the Environment (MDE) provide the State permitting requirements.

Permit History

Montgomery County is a large (population > 250,00) municipality and owns and operates a storm sewer system that serves the County and the Towns of Chevy Chase, Chevy Chase Village, Kensington, Somerset, and Poolesville; and the Village of Friendship Heights (co-permittees). The County's initial permit was issued on March 15, 1996 and reissued on July 5, 2001. This "second-generation" permit was subsequently modified on January 26, 2004 to include the co-permittees identified above. This permit action is in response to an application to renew submitted by Montgomery County on August 12, 2005. The proposed permit action is to issue a "third-generation" NPDES permit to Montgomery County to regulate the discharge of stormwater runoff from the storm drain system owned and operated by the County and its co-permittees.

A public informational meeting was held to discuss this permit on November 29, 2005. Based on comments received at this meeting, numerous discussions with the Maryland Stormwater Consortium and EPA, and building upon the framework established during the preceding permit terms, MDE has made a tentative determination to reissue Montgomery County's NPDES stormwater permit. This fact sheet

provides basic information about the requirements in Montgomery County’s next permit and explains opportunities for public participation.

Stormwater System in Montgomery County

Montgomery County, according to the United States Department of Commerce’s 1990 Census, had a total population of 757,021. The total population increased to 801,515 according to the 2000 Census and is projected to increase to 1,024,000 by the end of this permit term (2013). This rapid pace of growth and ensuing development presents many challenges. Significant pollutant reductions will be needed to maintain water quality in many of the County’s waterways.

Montgomery County covers an area of 499 square miles and has approximately 11,000 miles of storm sewer pipes and 900 “major” outfalls. Major outfalls are identified on Attachment A and defined by federal regulations as:

- An outfall pipe with an internal diameter of 36 inches or greater; or
- A discharge from other than a round pipe that drains fifty acres or more; or
- An outfall pipe with an internal diameter of 12 inches or greater that drains an area that includes land zoned for industrial use.

Stormwater from these outfalls is discharged into two of Maryland’s ten major Chesapeake Bay tributary basins: the Middle Potomac and Patuxent River basins. A number of stream segments in these basins are impacted by sediments, nutrients, fecal bacteria, toxics, and trash. Total Maximum Daily Loads (TMDLs) have been approved and waste load allocations established for Cabin John Creek, Rock Creek, and the Anacostia River for fecal bacteria impairments. A waste load allocation is that part of an impairing pollutant’s total allowable discharge that is attributed to regulated point sources. TMDLs and waste load allocations have also been established for sediments and nutrients in the Anacostia River and for phosphorous and sediments to Clopper Lake.

The following TMDLs are pending EPA’s approval: Lower Monocacy River for fecal bacteria; Triadelphia Reservoir for phosphorus and sediments; and Rocky Gorge Dam for phosphorus. A TMDL for sediments in the Lower Monocacy River is expected to be submitted to EPA by September 2008.

Other impairments to water bodies in, or partially in, Montgomery County to be addressed by future TMDLs include:

Basin Name	Basin Code	Impairment(s)
Rocky Gorge Dam	02131107	Biological
Potomac River Montgomery County	02140202	Nutrients, Sediments, PCBs, and Biological
Anacostia River (Nontidal)	02140205	Heptachlor Epoxide, PCBs, Biological, and Trash/Debris
Anacostia River (Tidal)	02140205	Trash/Debris
Rock Creek	02140206	Sediments, Nutrients, and Biological
Cabin John Creek	02140207	Sediments, Nutrients, and Biological
Seneca Creek	02140208	Sediments, Nutrients, and Biological
Lower Monocacy River	02140302	Nutrients and Biological

Maryland's NPDES Municipal Stormwater Permit Program (MS4)

The goals of Maryland's NPDES municipal stormwater permit program are to control stormwater pollutant discharges by implementing to the maximum extent practicable the best management practices (BMPs) and programs required by this permit, show a reduction of pollutants pursuant to EPA approved TMDLs, and improve water quality. Compliance with the conditions in this reissued permit will reduce pollutant discharges from Montgomery County's storm drain system. The proposed permit requires the County to develop and implement plans to reduce overall pollutant loadings and address approved waste load allocations.

Tentative Permit Requirements

The County will be required to regularly review and refine its BMPs to reduce pollutants to the maximum extent practicable. Therefore, a net reduction in pollutant loadings over the five-year permit term is required. Although EPA has not provided a precise definition of "maximum extent practicable," this permit requires measurable and steady reductions in pollutants and implementation plans to meet waste load allocations through an adaptive management process.

Where EPA approved TMDLs have been established, an iterative approach is required to identify where additional or alternative stormwater controls are implemented in order to achieve waste load allocations. The permittee shall evaluate and document progress toward meeting waste load allocations within its jurisdiction on an annual basis. This assessment is to describe specific efforts undertaken pursuant to the permit and how these efforts will be modified to achieve compliance with EPA approved TMDLs.

Sources of pollutants in stormwater runoff are required to be identified and linked to specific water quality impacts on a watershed basis. The County is required to conduct a systematic assessment of water quality for each watershed. These watershed assessments include detailed water quality analyses, identification of water quality improvement opportunities, and development and implementation of plans to control stormwater discharges to the maximum extent practicable.

Assessment of controls is critical to determine the effectiveness of the NPDES stormwater management program and progress toward improving water quality. Therefore, the County will use chemical, biological, and physical monitoring to document progress toward meeting its watershed restoration goals and any applicable WLAs developed under EPA approved TMDLs. Similarly, program activity measures will be used to monitor program implementation and progress. Activity measures are directly related to the BMPs implemented and source reduction efforts (e.g., tons of material removed from storm drain inlets, number of illicit discharge sources found and eliminated, and changes in recycling rates).

Management programs, designed to control stormwater discharges to the maximum extent practicable are required to be implemented and maintained for the term of this permit. These include implementation of the stormwater management design policies, principles, methods, and practices in the *2000 Maryland Stormwater Design Manual* and the provisions of Maryland's *Stormwater Management Act of 2007*. The Act requires that environmental site design, through the use of nonstructural BMPs and other better site design techniques, be implemented to the maximum extent practicable. Similarly, an approved erosion and sediment control program is to be maintained in accordance with the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland. Additionally, the County is required to implement an inspection and enforcement program to ensure that all discharges to and from the municipal separate storm sewer system that are not composed entirely of stormwater are either permitted by MDE or eliminated. The

County is also required to continue to implement its program to reduce pollutants associated with road maintenance activities and implement a public education and outreach program to reduce stormwater pollutants.

A new permit condition requires Montgomery County to establish a program to support and implement regional strategies to reduce trash and increase recycling. In 2006, Montgomery County committed to the goal of a trash free Potomac River by 2013 and signed the *Potomac River Watershed Trash Treaty* with other Washington, D.C. metropolitan area jurisdictions. Activities to meet obligations under the Treaty are specified in the *Trash Free Potomac Watershed Initiative 2006 Action Agreement* and include establishing a trash pollution baseline within one year, trash abatement program implementation, education, and evaluation to improve the quality of the Potomac River and its tributaries.

Another new permit condition requires the County to cooperate with the Maryland National Capital Park and Planning Commission during the development and completion of the Water Resources Element (WRE) of the Commission's comprehensive land planning process as required by the Maryland Economic Growth, Resource Protection and Planning Act of 1992 (Article 66B, Annotated Code of Maryland). During the 2006 legislative session, the General Assembly enacted House Bill 1141 Land Use – Local Government Planning (HB 1141). This bill requires local jurisdictions to include their future plans for water supply, wastewater and stormwater in their comprehensive plans.

Summary

This permit represents another step forward for Montgomery County's NPDES municipal stormwater program. In 1996, the County's initial permit laid the foundation for a comprehensive approach to controlling runoff. This was done by inventorying and mapping storm drain system infrastructure; identifying sources of pollution; monitoring storm events to judge chemical, biological, and physical stream responses; and enhancing existing, and establishing new management programs. The second permit in 2001 used the previous five year term to build one of the most formidable municipal stormwater programs in the Mid-Atlantic Region. The County evaluated jurisdiction-wide water quality through a comprehensive biological stream assessment program, prioritized watersheds in order to perform more detailed analyses to guide management implementation, and began to restore ten percent of existing impervious area.

This proposed permit requires an additional twenty percent of the County's impervious area to be restored, a strategy for a trash free Potomac River by 2013 to be developed and implemented, and TMDL implementation plans to be developed and carried out according to the county's schedule in order to meet stormwater waste load allocations established for impaired waters. All of these requirements are in addition to existing countywide management programs and ongoing monitoring efforts and will go a long way toward making Montgomery County's NPDES municipal stormwater program arguably one of the best in the country.

OPPORTUNITY FOR PUBLIC COMMENT

The Maryland Department of the Environment (MDE) has reached a tentative determination to issue a National Pollutant Discharge Elimination System permit to Montgomery County to control storm drain system pollutant discharges. MDE has drafted a permit designed to comply with the United States Environmental Protection Agency's regulations and to control stormwater pollutant discharges from the County's storm drain system.

Under the conditions of the permit, Montgomery County is required to possess the legal authority to control storm drain system pollutants, continue mapping its storm sewer system, monitor stormwater discharges, and develop and implement comprehensive management programs. The permit also increases impervious area treatment goals, requires the support and implementation of regional trash reduction strategies, and requires implementation of environmental site design technologies for new and redevelopment projects to the maximum extent practicable. The County is also required to develop and implement plans to address waste load allocations established under EPA approved total maximum daily load estimates. Penalties for failure to comply with the terms of the permit are provided. The permit is issued for five years.

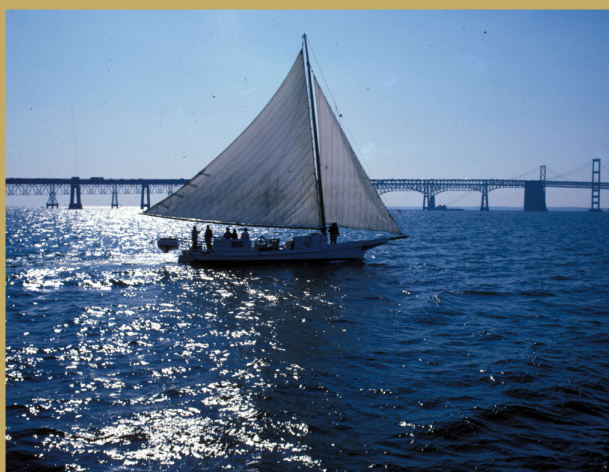
For more information on stormwater management in Maryland or to view this permit go to: <http://www.mde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/index.asp> or contact Mr. Brian Clevenger at 410-537-3543 or 1-800-633-6101. Copies of the document may be procured at a cost of \$0.36 per page. MDE will hold a public hearing concerning this tentative determination if a written request is received by October 7, 2008. Written requests should be directed to Mr. Brian Clevenger, Maryland Department of the Environment, Water Management Administration, Sediment, Stormwater, and Dam Safety Program, 1800 Washington Blvd., STE. 440, Baltimore, Maryland 21230-1708. Written comments concerning this tentative determination will be accepted through October 17, 2008.

United States Environmental Protection Agency
Region 3
Chesapeake Bay Program Office (3CB00)
Annapolis, Maryland
in cooperation with the Chesapeake Bay Program Partners



Strengthening the Management, Coordination, and Accountability of the Chesapeake Bay Program

Report to Congress



CBP/TRS-292-08
July 2008





Executive Summary

■ Chesapeake Bay Program Overview

The Chesapeake Bay Program (CBP) is a comprehensive cooperative effort by federal, state, and local governments, non-governmental organizations, academics, and other entities that share the mission of restoring and protecting the Chesapeake Bay and its watershed.

Created in 1983 and authorized by Section 117 of the Clean Water Act, the Chesapeake Bay Program is directed by the Chesapeake Executive Council (EC). The Chesapeake Bay Program Office (CBPO) is maintained by the U.S. Environmental Protection Agency (EPA), supported and staffed by many partners, and provides support to the EC and CBP. The CBPO serves several critical functions, as defined in the authorization, including:

- implementing and coordinating science, research, and monitoring;
- reporting on the environmental quality and living resources of the Chesapeake Bay and its watershed;
- in cooperation with other federal, state and local authorities, assisting in developing and implementing specific action plans;
- coordinating the actions of EPA with those of other federal, state, and local agencies and organizations; and
- implementing outreach programs for public information, education, and stewardship.

The Chesapeake Executive Council directs the CBP through signed agreements and

directives. The most recent agreement signed by the EC, the *Chesapeake 2000* agreement, describes a bold effort to combat the current trends and to restore the Bay by 2010. A hallmark of the CBP's success has been its use of science as the basis for building clear outcome goals for complex, multi-stakeholder restoration efforts, allocating those goals through a consensus-based approach among the partners, and measuring progress toward meeting those goals. The partnership has developed unparalleled cooperative efforts and pioneered clean up strategies that have resulted in measurable gains in reducing the flow of pollutants into the Bay and improving aquatic habitat for the Bay's living resources.

The CBP reports its comprehensive understanding of Bay health and restoration progress to the public through an annual assessment using a series of related indicators. The most recent assessment, *Chesapeake Bay 2007 Health and Restoration Assessment: A Report to the Citizens of the Bay Region*, was released in April 2008.

Despite substantial effort and progress by the full spectrum of partners, the Bay's health remains degraded. Restoration efforts are being overtaken by current trends. For example, population in the watershed has grown nearly 17 million bringing more roads, homes, industrial and business parks, and other impervious surfaces which harden the landscape. Development has drastically altered the natural hydrology and thereby the natural filtering systems for nutrient and sediment pollution.



Context for this Report

In October 2005, the U.S. Government Accountability Office (GAO) issued its report *Chesapeake Bay Program: Improved Strategies are Needed to Better Assess, Report and Manage Restoration Progress*. The GAO report recommended that CBPO:

- complete efforts to develop and implement an integrated assessment approach;
- revise its reporting approach to improve effectiveness and credibility; and
- develop a comprehensive, coordinated implementation strategy that takes into account available resources.

In December 2007, Congress passed the Consolidated Appropriations Act of 2008 (P.L. 110-161). The Act's Explanatory Statement directed EPA to:

- immediately implement all of the recommendations of the 2005 GAO Report;
- submit a report to Congress and to GAO, with supporting evidence, that demonstrates the GAO recommendations have been implemented; and
- develop a Chesapeake Action Plan for the remaining years of the *Chesapeake 2000* agreement that contains specified components (i.e., realistic annual targets, actual activities, amount and source of funding, process to track and measure progress).

2005 GAO Recommendations Fulfilled – At a Glance

This Report to Congress describes the collective efforts of CBP partners to implement all the GAO recommendations. This re-

port provides documentation and evidence to demonstrate how these recommendations have been implemented and will support enhanced coordination, collaboration, and accountability among the CBP partners.

In addition, this report describes the CBP's development of the Chesapeake Action Plan (CAP), which is an important enhancement of the CBP's management system that supports implementation of the GAO recommendations.

Chesapeake Action Plan – Purpose and Elements

Consistent with GAO's recommendations and the Explanatory Statement of the FY 2008 Consolidated Appropriations Act (P.L. 110-161), the CBP partners have designed, developed, and begun implementation of the first version of the CAP.

The CAP includes four primary components, each of which is described in this report to Congress:

- a strategic framework that unifies CBP's existing planning documents and clarifies how CBP partners will pursue the restoration and protection goals for the Bay and its watershed;
- an activity integration plan with comprehensive, quality assured data for 2007 that identifies and catalogues CBP partners' implementation activities and corresponding resources;
- dashboards, which are high-level summaries of key information, such as clear status of progress, expected progress toward certain *Chesapeake 2000* goals, summaries of actions and funding, and a brief summary of the challenges and actions needed to expedite progress; and



- an adaptive management process that begins to identify how this information and analysis will provide critical input to CBP partners' actions, emphasis, and future priorities.

This first version of the CAP includes the implementation activities and corresponding resources of ten federal agencies, six states, the District of Columbia, the Chesapeake Bay Commission and two non-governmental organizations.

These components should promote enhanced coordination among CBP partners; encourage the partners to continually review and improve their progress in protecting and restoring the Bay; increase the transparency of CBP's operations for partners and the public; and improve the accountability mechanisms of CBP as a whole and of the individual partners for meeting their Bay health and restoration goals.

The CAP includes the tools necessary to support a management system that more closely aligns implementation responsibilities with the unique capabilities and missions of the CBP partners. Through the activity integration plan, partner activities will be made transparent and maintained in a centralized database to position the CBP to identify potential activity overlap and gaps. This will improve our ability to avoid duplication of effort and better target our resources. As a whole, the CAP represents an important enhancement to the way CBP will operate.

It is important to note that CBP partners have long been engaged in significant actions to advance the protection and restoration of the Chesapeake Bay. CBP partners are strongly committed to achieving CBP's goals for the Bay. The CAP should place CBP on a course to accelerate the pace at which the partners implement actions to improve the Bay.

■■■ Chesapeake Action Plan – Next Steps

The CAP represents an important enhancement in coordination and accountability. While much has been accomplished in the design, development, and implementation of the plan, key next steps include:

- verifying and validating the preliminary 2008 and 2009 funding data currently contained in the CAP database;
- validating the design of the CAP;
- expanding the scope of the CAP to include additional watershed partners;
- continuing to refine the breadth and quality of the information on implementation activities by CBP partners;
- closely evaluating and considering how the CAP can better enhance coordination, collaboration, and accountability; and
- providing information about the CAP to the public and to other estuary and watershed programs.



Summary of CBP's Implementation of GAO's Recommended Actions

GAO Recommendation	GAO Recommended Action	Implemented	CBP Action
Complete efforts to develop and implement an integrated approach to assess overall restoration process.	1. Complete plans to develop and implement an integrated approach to assess overall restoration progress.	1a. April 2005	a. Reduced more than 100 Bay health and restoration indicators into three indices of ecosystem health and five indices of restoration effort.
		1b. May 2006	b. Organized 102 <i>Chesapeake 2000</i> commitments into a six-goal strategy and began managing the program according to this design.
Revise reporting approach to improve the effectiveness and credibility of reports.	2. Include an assessment of the key ecological attributes that reflect the Bay's current health conditions.	March 2006	Developed 13 environmental indicators that directly measure key ecological attributes of the Bay. These indicators were the basis for the first integrated health assessment of the Bay, published in March 2006.
	3. Report separately on the health of the Bay and on the progress made in implementing management actions.	March 2006	Separated restoration activities from ecosystem health and developed an annual reporting process for both. Published annual <i>Chesapeake Bay Health & Restoration Assessment</i> reports in new format starting in 2006.
	4. Establish an independent and objective reporting process.	September 2006	Established a new reporting process based on an independent review of the first integrated <i>Health & Restoration Assessment</i> and instituted longer term process for ensuring continued independent review of the <i>Assessments</i> through the Chesapeake Bay region's scientific community.
Develop a comprehensive, coordinated implementation strategy that takes into account available resources.	5. Develop an overall, coordinated implementation strategy that unifies the program's various planning documents.	May 2008	Developed a strategic framework that unifies CBP's past agreements, policies, plans, and indicators into a single, integrated implementation strategy. This action, along with the action described in response to GAO's sixth recommended action, constitutes the Chesapeake Action Plan.
	6. Establish a means to better target its limited resources to ensure that the most effective and realistic work plans are developed and implemented.	May 2008	As directed by Congress, designed and produced an initial activity integration plan that identifies current and planned protection and restoration activities undertaken by CBP partners, as well as funding allocated by CBP partners for those activities. The activity integration plan will continue to be revised and improved. Developed initial realistic annual targets for the remaining years of the <i>Chesapeake 2000</i> agreement.