

**Special Joint Meeting:
COG Climate, Energy, and Environment Policy Committee
And
Chesapeake Bay and Water Resources Policy Committee**

July 24, 2013

Members and Alternates Present:

Hon. J. Davis, City of Greenbelt
Hon. Andrew Fellows, City of College Park
Hon. Cathy Drzyzgula, City of Gaithersburg
Hon. Craig Rice, Montgomery County
Hon. Shelley Aloi, City of Frederick
Hon. Mary Cheh, District of Columbia
Hon. Jonathan Way, City of Manassas
Hon. Del Pepper, City of Alexandria
Hon. Penny Gross, Fairfax County
Hon. Fred Schultz, City of Takoma Park
Hon. Konrad Herling, City of Greenbelt
Hon. Jay Fiset, Arlington County
Hon. Libby Garvey, Arlington County
Hon. David Snyder, City of Falls Church
Hon. Johannah Barry, City of Falls Church

J.L. Hearn, WSSC
Hamid Karimi, DDOE
Karen Pallansch, AlexRenew
Steve Shofor, Montgomery County
Mark Peterson, Loudoun Water
Shannon Moore, Frederick County
John Heermans, DDOE
Dave Molchany, Fairfax County
Kambiz Agazi, Fairfax County
Bob Grow, Board of Trade
Dawud Abdur-Rahman, GSA
Chris O'Brien, American University
Nicole Rentz, DC Council
Tim Stevens, Sierra Club
Mark Busciano, Casey Trees
David Hunter, EPRI
Kanti Srikanth, VDOT
Caroline Petti, ACPAC
Monica Lear, District of Columbia
Kathy Magruder, MCEC
Chris Peot, DC Water
Chris Randolph, GSA

Devan Willemsen, MEA
Didian Tsongwain, Prince George's County
Jessica Sanders, Casey Trees
Melissa Adams, Washington Gas
Brian Moorehouse, Pepco
Jeff Platenburg, Fairfax County Public Schools
Rich Dooley, Arlington County
Dyan Backe, Gaithersburg

Staff

Andrew Breese
Leah Boggs
Becky Schodt
Julia Allman
Amanda Campbell
Jeff King
Joan Rohlf
Stuart Freudberg
Brian LeCouteur
Tanya Spano
Heidi Bonaffon
Karl Berger

1. Call to Order/Introductions/Chair Remarks, Hon. Roger Berliner and Hon. Penny Gross

Chair Berliner remarked that this meeting is the first of its kind. The approach to climate, energy, and water issues can be stove-piped, and this meeting represents an effort to work more collaboratively. The purpose of the meeting is to introduce ourselves to one another, understand overlapping issues, and identify areas where we can work together.

- One area of overlap concerns Chesapeake Bay pollution. Nitrogen is one of the big issues for the Bay, and one of the main contributors is air pollution from energy production. Energy efficiency and renewable energy are two solutions that can improve Bay health while meeting our climate change reduction goals.
- To formally introduce the work of CEEPC, the Committee was established by the COG Board of Directors in 2009, as the body responsible for implementing the recommendations of the 2008 Regional Climate Change Report. Mr. Fissette was the leader of the committee from its inception, and did an extraordinary job providing leadership. Members include state and local elected officials, government staff, and a group of stakeholders from the business, non-profit, education, and think tank worlds.

- The committee advises the Board on the issues of climate, energy, solid waste, and recycling, in addition to other environmental issues. Our goal is to achieve long-term GHG reductions of 20% below 2005 levels by 2020, and eventually an 80% reduction by 2050. We aim to reduce emissions in local government operations and in communities by identifying opportunities for regional collaboration.
- The 2013-2016 Climate and Energy Action Plan contains 59 recommendations across 6 categories. The plan focuses on energy use, recognizing that 2/3 of our total energy use is from buildings, and 1/3 is from transportation. There is also a focus on land use as a key driver of transportation emissions.
- We are concerned with addressing the water/energy nexus, which refers to the energy impact of water delivery and treatment systems. We want to make this infrastructure more sustainable and more resilient to natural and manmade disasters.

Chair Gross remarked that we have never had CEEPC and the Chesapeake Bay and Water Resources Policy Committee meet together. She looks forward to a robust discussion to discover commonalities between the two committees' missions.

- There are many challenges and opportunities for our region. The committees should look for opportunities to collaborate and strengthen COG's role and develop relationships with utilities.
- CBPC was formed in 1998, with an initial focus on getting local government and regional utilities involved in the Chesapeake Bay 2000 agreement. It was a two-year effort, and a new agreement is on the fast track, between spring and fall. We were successful in getting a lot of references to local governments in C2K. There were four items on the original agenda—we wanted the plan to be based on good science, equity, local government voices, and voluntary measures. CBPC also strengthened the 2010 TMDL, or "pollution diet," and state water implementation plans. In 2005, we added Water Resources to the committee's title and expanded its mandate to address water quality issues and advise the board on those issues.
- Issues we deal with include the Clean Water Act TMDL, and permit requirements for wastewater treatment plants and stormwater infrastructure; water resources infrastructure issues, including cost challenges to replacing aging infrastructure; resiliency and sustainability; water supply and drought coordination; integrating water resource issues with other regional visions and goals, including public health, Region Forward, the CEEPC Climate and Energy Action Plan. We recognize that water treatment facilities are major energy consumers, so they have a role in emissions reduction plans. The specific issues and challenges facing our region vary from year to year, but we focus on ways to meet our overall goal to protect water quality and health in a sustainable way.

2a. 2013-2016 Climate and Energy Action Plan Overview, Joan Rohlfs, COG DEP

- Ms. Rohlfs gave an overview of the Climate Action Plan, to illustrate some of the items Mr. Berliner mentioned about CEEPC's mission. CEEPC's goal is to reduce GHG emissions in the region, implement the recommendations of the 2008 Regional Climate Change Report, and advise COG's Board of Directors on issues related to climate, energy, green building, alternative fuels, and solid waste/recycling.
- CEEPC's GHG reduction goals are: 10% below business-as-usual by 2012, 20% below 2005 levels by 2020, and 80% below 2005 levels by 2050.
- In 2010, the same year that Region Forward was adopted, CEEPC adopted a Climate and Energy Action Plan. The plan recommends short-term actions that local governments can take to reduce emission in their own operations and in their communities. The plan is followed up by annual surveys of local governments to determine whether action plan measures are being adopted.
- In 2012 we began to produce Progress Reports on achievements toward the action plan goals. Thus far, 77% of jurisdictions have conducted GHG inventories for government operations; 95% are tracking or benchmarking building energy performance; 82% are generating renewable energy on government facilities; and 72% have green fleet policies.
- This year, CEEPC adopted an updated Climate Action Plan for 2013-2016. It includes goals in six categories: Regional GHG reductions through inventories and plans, Built Environment and Infrastructure, Renewable Energy, Transportation and Land Use, Sustainability and Resiliency, and Outreach. Each category has an overarching goal as well as recommendations for local government programs and policies to meet that goal.
- COG Staff has also conducted a survey of water utilities in the region. The survey found that of the 5 respondents, 4 had completed a GHG inventory, 2 had implemented energy efficiency or alternative/renewable energy projects, 3 had assessed their vulnerability to climate change, and 2 had implemented an employee sustainability program.

2b. CBPC 2013 Priorities and Work Program, Tanya Spano, COG DEP

- Ms. Spano commented that it is exciting to explore the crossover between these committees. She highlighted key parts of the CBPC 2013 Priorities list. They include:
 - Addressing water-resource related issues under Region Forward and Economy Forward; enhancing connections to CEEPC;
 - Continuing to track Chesapeake Bay TMDL/WIP implementation and dialogue with EPA and states; and

- Advocating for right-sizing water quality permitting
- It's important to consider the energy impact of any water quality solution that is being considered, especially in the face of limited resources. There is also an opportunity to apply the CBPC Policy Principles to CEEPC, and explore joint policy recommendations. Water and energy issues are growing together—there is becoming more of a regional focus on water quality and management in the face of reduced funding; at the same time, climate change action requires coordination and can't be solved on an individual jurisdiction basis.
- CBPC's mission is connected with Region Forward and CEEPC's Climate Action Plan. Achieving the Bay implementation goals is already integrated into Region Forward; we are also addressing the issue of wastewater treatment capacity given projected regional population growth. Each of the Climate Action Plan goal categories matches up to one of CBPC's missions or activities.
- The Regional Water Quality Management Work Plan for FY 2014 includes several initiatives linked to climate and energy. It studies the energy intensity of wastewater treatment technology, affordability across sectors, and potential climate change impacts on the Potomac River. As well, the work plan highlights energy and emissions reductions by wastewater and water utilities and linkages between water quality, CEEPC goals, and Region Forward.

DISCUSSION:

- Penny Gross commented that community resilience is the touchstone of NACO's priorities this year. Every county in America has been touched by a disaster of some kind. As president of NARC, Ms. Gross will be working with NACO leadership about incorporating the work that regional councils are doing to increase resiliency. This is an issue that COG should have involvement in, to inform jurisdictions and assist in coordinating regional efforts.
- Ms. Davis commented that the focus of climate change and resiliency has shifted in recent years. The issues have evolved from mitigation to adaptation, and now to resilience. We used to focus on prevention, now we are focused on what to do when the inevitable impacts affect our communities.
- Ms. Gross commented that though the specific nature of climate impacts varies across the country, every community is concerned with water. Resiliency is usually built around sustaining critical infrastructure, including water, power, and transportation networks. In this region, the issues are fresh water, wastewater, stormwater issues, and flooding.
- Mr. Berliner commented that CEEPC is addressing resilience another way. We have been having discussions about "hardening" the system through microgrids and other resilient energy technologies. Water and power issues both impact all communities. There is a larger conversation to be had about utility service, and how it can integrate distributed generation, renewables, and microgrids.

- Ms. Magruder invited CEEPC members to attend the Maryland Clean Energy Center's annual Summit. The topic is Solving the Distributed Energy Puzzle: Microgrids and Other Smart Solutions. It will address the issues in designing, building, and supporting advanced distributed energy projects. Rich Dooley will be giving a presentation on Arlington County's model, and there will be expertise from around the country. CEEPC and CBPC members are welcomed to attend. It will be held on October 15 and 16 at the UMUC Marriott Inn and Conference Center in Hyattsville, MD. More information is available at . www.mcecs Summit.org.

3. Tree Canopy Report Overview, Brian LeCouteur, COG DEP and Mike Knapp, Fairfax County

Mr. LeCouteur gave an overview of the Tree Canopy Workgroup's activities and the process for developing the report.

- Trees provide multiple benefits to communities, including aesthetics, environmental benefits, and regulatory compliance. These "services" have been quantified. The National Tree Services Calculator will quantify the benefits of trees, by age, of carbon sequestration, stormwater mitigation, and other factors. Trees have been estimated to have a 4:1 benefit to cost ratio, but they require maintenance over their lifetime. Storm cleanup and maintenance for power line safety must be prioritized to capture the benefits.
- Trees play an important role in water and air quality control. The Chesapeake Bay TMDL uses forest coverage as one of the land use categories for modeling, recognizing that forest has a lower total nitrogen and phosphorous contributions to the bay than other land use types. This presents an opportunity for local governments to account for their green infrastructure assets. Tree cover can also help meet Wastershed Implementaiton Plan (WIP) and MS4 (stormwater) Permitting requirements.
- Trees present air quality benefits through shading and cooling, which mitigates the formation of ground-level ozone. They also reduce evaporative emissions, such as Volatile Organic Compounds (VOCs). Their cooling effect reduces the need for air conditioning and therby reduces energy use and related emissions.
- As the region grows in population, we need to maintain a balance of growing out the built environment and preserving tree cover. The region's population is projected to grow 24% by 2030, and at the same time we are losing at least 28 acres per day of open space. Across the entire Chesapeake Bay region, the loss is estimated at 100 acres per day.
- The first step in developing the tree canopy report was to conduct an assessment of forest cover in the region, and determine what data sources were available. Tree cover data is available for Fairfax County, Arlington County, Alexandria, DC, Prince George's County, Montgomery county and other towns and independent cities.

- The CEEPC annual local government survey also helped collect information. One question this year was whether local jurisdictions were designated as a “TreeCity USA”, which is a basic metric for whether a jurisdiction has a forest program. Other questions included whether jurisdictions had conducted a tree canopy inventory; had a tree or forest protection ordinance; had developed a green infrastructure, urban forest, or green space plan; and whether they had set a tree canopy goal.
- The Tree Canopy Workgroup compared current tree canopy levels to stated goals. Many jurisdictions with tree canopy goals had met them, or were close to meeting them. There is also a current study being done with the DC Forestry Association to determine potential for planting in several large counties in the region.

Mr. Knapp provided an overview of the Tree Canopy Work Group’s goals and recommendations. He acknowledged the great amount of work that stakeholders have contributed—specifically state forestry departments and county and town governments.

- The mission of the Workgroup is to look at current data and determine what we need to do as a region to grow and protect tree resources in the long run. One important objective is elevating the importance of tree canopy in the planning process. The elements of the groups’ strategy include building a foundation of data gathering, communicating the workgroup’s goals and strategies to jurisdictions that don’t have a tree plan, look at opportunities and challenges of regional tree stewardship, and build interest and commitment to tree canopy goals throughout the region.
- The group faced some challenges related to the diversity of the region. Cultural and geopolitical diversity, as well as community values, place different emphasis on the importance of trees relative to other community issues.
- Regional collaboration provides the potential to strengthen existing tree planning efforts through economies of scale and resource sharing. It can also strengthen local ability to manage regional issues such as pests, invasive plants, and climate change.
- The groups’ overarching goals are to:
 - Protect, manage, and expand regional urban forest assets
 - Optimize impact of local urban forestry programs through inter-jurisdictional collaboration
 - Develop regional urban forest management plan and canopy goals
 - Engage and partner with the community
 - Integrate urban forests into local and regional planning efforts
- The Workgroup has developed a set of recommendations to local governments and the region. They include tapping the full potential of forestry tools to meet water and air quality goals. There are big opportunities to make progress in this area. The report also encourages COG members to develop tree programs, and make existing programs more consistent across the board. The region should establish a forest policy and planning committee to guide regional collaboration and to develop and

implement a regional tree canopy management plan. Education, outreach, and the formation of partnerships will be an important step to engage the public in tree canopy management. Finally, forestry goals should be integrated into the Region Forward vision.

- The Workgroup's next steps include proposing a structure for the permanent Regional Forest Policy and Planning Committee in Fall 2013 and finalizing the Tree Canopy Strategy Report by Winter 2014.

DISCUSSION:

- Frederick County has robust forestry program. What interaction have you had with them, in terms of managing and tracking tree canopy and meeting the "no net loss" goal?
 - Members of work group have had interaction with those processes. Taking advantage of stormwater and water quality compliance are at the forefront of those efforts. They also want to make sure that the plan dovetails with regional and state plans. There has already been a lot of good work done, and we want to make sure there is not a duplication of efforts.
- How can we ensure there is more local government participation and input in this group?
 - Local governments are invited to participate in a local policy group.
 - Invite to participate with local policy group?
- This conversation makes me think of the book "Collapse" by Jerry Diamond. There may be an opportunity to connect with the public through regional book and speaker events. In particular we could highlight how crucial trees are.
- Tree canopy is an important part of stormwater management, which is getting increased attention. Having an urban forest canopy is essential to meeting WIP and TMDL requirements. Options for compliance in the urban setting are limited, so this is a potential solution.
- Mr. Berliner shared that Montgomery County passed 2 tree bills recently—the Tree Canopy Bill and the Street Trees bill. The Tree Canopy bill represents the first time the county has stated that trees on private land have community value. Businesses on small commercial lots have few options for building, so they often take down mature trees. The bill requires that they account for 50% of the tree canopy on each lot by either planting new trees or by contributing to a county fund that adds tree cover elsewhere. It was a contentious issue with small developers, and I received more emails on this issue than almost any other. Mr. Berliner also noted that stormwater regulations often conflict with keeping trees, and that the full value of these assets should be accounted for in regulation and policies.
- Ms. Magruder noted that her organization has done a lot of work on combined heat and power. In Maryland, waste wood fiber from tree maintenance is an opportunity

to create energy. However, they have come up against regulations that prevent use of collected wood for CHP. Can this consideration be integrated in your plan?

- COG has been working in waste recovery and urban timber. Many jurisdictions are dealing with trees after storms, in terms of how to manage the wood waste. There is a demonstration project in Montgomery County, and we are now working with DC to establish a pilot there as well. There are a number of obstacles to get around, but we are working with the Forest Service and DC government to make that happen.
- Ms. Drzyzgula asked about whether they had studied the percent of land that is suitable and unsuitable for trees
 - On the map, light green areas have potential for planting. Montgomery County has 50% tree cover already, and the possibility to add 43% more.
- Ms. Petti emphasized the role that trees can play in climate change and air quality. ACPAC has devoted considerable attention to this subject, and recently heard from Casey Trees about their role. Earlier this month, ACPAC got sneak preview on the tree canopy report and recommendations, which were very well received by the committee. In particular, the attention to both quantity and health of tree canopy is important, as well as engaging the public on these efforts. ACPAC can play a role in garnering public input and participation. Ms. Petti asked noted that the report was focused on trees on public lands, and asked whether any consideration has been given to trees on private land.
 - We need to look at public lands as a way of educating private landowners about the need to preserve and plant trees, and how to do it in ways that don't harm existing communities.
- Ms. Davis commented that Greenbelt has a lot of trees. After recent storms, citizens who have big trees near their homes are becoming fearful and considering chopping them down. We need to educate them on best practices, on how to monitor and maintain trees for safety and preserving home value.
- What will the committee structure be?
 - We want to include a cross-section of individuals, including professional foresters but not limited to them.

4. DC Water's Energy Management Strategies, Chris Peot, DC Water

- Mr. Peot discussed several ongoing energy projects at DC Water's Blue Plains facility.
- DC Water has recently started referring to Blue Plains as a resource recovery facility, rather than a wastewater treatment plant, because they want to emphasize that the materials they handle have re-use potential. Projects underway are designed for recovering nutrients, water, and energy from sewage. Blue Plains is the

largest advanced resource recovery facility in the world and the largest energy user in DC.

- DC Water is currently implementing digesters to recover energy from biosolids. The process converts organic matter to methane, then creates green power by burning it. The process will also create fertilizer, which returns carbon to the earth. The project, once implemented, will enhance the overall energy efficiency of the plant and help control costs for ratepayers.
- Blue Plains has very power-intensive processes. One estimate is that around 20% of energy consumed in society is used to convey and treat drinking and waste water. Recognizing this, we are trying to reduce our energy use and reduce our carbon footprint. From a recent carbon footprint assessment, 88% of carbon emissions linked to the facility are from electricity use. The total annual footprint is 143,000 metric tons of carbon dioxide. In terms of breaking down the plant's electricity use, 20% of the power consumed goes to nitrification aeration, which is important for meeting discharge permits. This highlights the importance of discussing the carbon impacts of the water quality processes we use.
- In 2009 and 2010, we implemented more efficient bubble diffusers, which reduced carbon impacts by 16%.
- DC Water is also pursuing an enhanced nutrient removal project, scheduled to start up in 2014, which will cut nitrogen contribution to the Bay in half. However, it will add to the plant's carbon impact.
- The anaerobic digestion and CHP project is a discretionary project, costing \$450 Million. It will reduce biosolids production and produce a higher quality product that is suitable for fertilizer use in an urban setting, while also offsetting energy use. The process includes microbes converting biosolids to methane, which is captured and burned in a turbine. The heat created by combustion feeds back into the digestion process, so no external energy is needed to run the unit. When fully implemented, the project will bring Blue Plains' carbon footprint down to 71% of the 2008 baseline.
- Another consideration is how to treat ammonia from the resource recovery process. In 2017, DC Water will be implementing a new "side stream" system that treats ammonia without ramping up energy use.
- DC Water is evaluating other discretionary projects to reduce Blue Plains Discretionary projects to reduce its carbon footprint. Options being considered include a main stream anammox process, which is very efficient but not yet proven at a large scale; co-digestion of food waste, fats, oils, and greases; and solar power implementation. If all three solutions were implemented, it is estimated to bring emissions down to 23% of the baseline by 2025.
- The decision process for all new projects should consider the carbon impact, including future discharge permit reductions. It is important to talk to regulators about permit flexibility when piloting innovative technologies. Currently, the risk/reward ratio is unbalanced—there are steep fines and potential jail time for the plant manager if pilot projects fail, making it very difficult and risky to try new, less energy-intensive technologies.

DISCUSSION:

- Ms. Gross commented that this is the outcome of a recent \$3 Billion investment by DC Water and surrounding jurisdictions.
- Are the technologies you discussed transferrable to other utilities in the COG region?
 - Yes, they are transferrable, but in some cases Blue Plains is so large that we achieve economies of scale that are not feasible in other applications. For example, annamox bacteria is only successful in tanks of with certain specs, so we were lucky that our configuration worked.
- Mr. Hunter commented that EPRI has been doing a lot of work on the total amount of energy used by water infrastructure. We found that 2-3% of the nation's electricity goes to water treatment. In some places it is much higher, such as in California where water is pumped over mountains. EPA has shown interest in these studies and their connections to resiliency and the availability of backup power in the event of an outage.

5. Issues & Opportunities Discussion, Led by Chairs Berliner and Gross

- Ms. Gross commented that a number of shared issues have been brought up throughout the meeting. Both water and tree issues are “no brainers” that the committees can work on together. She recommended that staff highlights crossover issues. We have had good suggestions for simple solutions and more difficult challenges. There are good opportunities for more in-depth conversations to come.
- Mr. Berliner commented that there is an array of expertise in the two committees, and that we should look for opportunities to come together more often.

6. Adjournment

- The meeting was adjourned at 12:04 p.m.