Draft Meeting Summary

COG Climate Energy and Environment Policy Committee (CEEPC)

January 30, 2014 (Rescheduled from January 22)

Members and Alternates Present:
Hon. Jonathan Way, City of Manassas
Hon. Roger Berliner, Montgomery County (Chair)
Hon. Jay Fisette, Arlington County
Hon. Del Pepper, City of Alexandria
Dr. Kambiz Agazi, Fairfax County
Steve Walz, NVRC
Dale Medearis, NVRC
Erica Bannerman, Prince George's County
Judith Davis, Greenbelt
Melissa Adams, Washington Gas
Ray Bourland, PEPCO
Scott Sklar, Stella Group & George Washington University
Caroline Petti, COG Air and Climate Public Advisory Committee

Webinar Participants:
John Lord, Loudoun County Public Schools
Julie Palakovich Carr, City of Rockville
Luisa Robles, City of Greenbelt
Mark Buscaino, Casey Trees
Michael Barancewicz, Loudoun County Public Schools
Michelle Mitch-Peterson,
Bill Eger, City of Alexandria

Staff Present:
Stuart Freudberg, Senior Director, Environment, Public Safety, and Health, COG
Amanda Campbell, COG DEP
Jeff King, COG DEP
Leah Boggs, COG DEP
Maia Davis, COG DEP
Isabel Ricker, COG DEP

1. Call to Order/Introductions/Chair Remarks *Hon. Jonathan Way, Vice Chairman*

2. Climate and Energy Leadership Award Pilot Program *Maia Davis, COG DEP*

Maia Davis gave a brief description of the genesis of the awards program based on a recommendation of the COG Air and Climate Public Advisory Committee (ACPAC).

- Goals of the program: 1) Recognize environmental achievement in the region; 2) Encourage advancement toward CEEPC Action Plan goals; 3) Foster healthy competition; 4) Learn from each other
- Four award categories are proposed (one award per category):
    - small communities (population under 50K)
    - medium communities (population 50K - 200K)
    - large communities (population over 200K)
    - non-governmental organizations (NGOs)

Pilot Program:

- During the pilot, CEEPC will accept applications from CEEPC stakeholders only
- Application period: March 26 – June 18 deadline
    - 3 month window to give applicants enough time to gather the necessary documents and get feedback from COG staff if there are questions

Judging Criteria:

- Results – achievements, outcomes, measurable results
- Creativity – innovative, resourceful or unique aspects
- Model – can be adopted by others, transferrable
- Engagement – stakeholder and community participation & acceptance

COG staff will develop a rubric for ACPAC members to use when judging each applicant on each category using a scale of 1-5. COG staff will total scores for each applicant and announce the winners in each of the four categories. We will not announce scores.

Recognition:

- A unique award
- A press release, social media, blog, and e-newsletter announcements on the COG website
- Announced at 3 events over a 2 month period, including COG Board meeting and COG annual meeting
- COG will develop a poster, fact sheet and brief video highlighting their awarded project/program/policy

<u>Questions:</u>

- Jay Davis, Greenbelt asked if a community could submit a program they had already used for another award or grant program, especially since small communities would be challenged to come up with a new project. Maia noted that this would be fine.

- Virginia Municipal league has a similar contest for local governments and for school systems. It was suggested that in the future the COG awards program could include school districts. Maia noted that we do not mean to exclude schools, they are COG stakeholders, and can participate in the pilot awards program as such. Stuart Freudberg noted that COG is reaching out to school superintendents to increase collaboration and participation of public schools in the region on a number of issues, environmental issues among them.

Vice Chairman Way moved to approve the Awards Pilot Program, the motion was seconded and the Awards program is approved.

Chairman Berliner announced the new CEEPC membership and introduced the new members present.

3. Net Zero Energy, Water, Waste – How will we get there? Is it Affordable?

Kristine Kingery, Office of the Deputy Assistant Secretary of the Army for Energy and Sustainability; David Mrgich, State of Maryland Net Zero Waste Plan; Ryan Colker, National Institute of Building Sciences; John Spears, Sustainable Design Group

The Army's Net Zero Initiative: Kristine Kingery, Army Energy Program

Kristine provided an overview of the Army's Net Zero Initiative and discussed Army's collaboration with other groups and partners.

- The Army has 2.2 million soldiers, members and civilians, comparable to 153 small cities
- The Army spends $1.2 billion on energy each year, and is the largest energy consumer in the federal government
- Uninterrupted access to energy, water and other resources is very important in the field and in installations

The Net Zero Initiative began in 2011. It is the cornerstone of the Army's energy and sustainability strategy. Due to the political connotations, the word "sustainability" was not used when the program began. Instead they used "Net Zero", a term Katherine Hammack proposed. "Sustainability" is used a bit more now as acceptance has grown.

Pilot programs:

- The Army is piloting five installations each to be Net Zero Energy, waste and water, and one that is all three, by 2020. The Army goal is to have 25 Net Zero Installations by 2030.
- There are currently 17 locations piloting net zero energy, water and waste programs, including Fort Bliss, Fort Carson and Fort Dietrich in Maryland.
- Step 1: establish a baseline. Energy audits, water balance studies, material flow studies.
- Step 2: develop a roadmap to reach each goal

The Army Energy program developed an Army Directive, signed yesterday (January 29), to take the program beyond the 17 pilot locations by directing other locations to implement net zero where fiscally responsible.

It is important to note that with net zero, it is not about achieving the goal, but working toward the goal. It is not about replacing all energy use with renewable energy, but conservation and load reduction are critical points of the strategy. The army has taken a holistic approach, being aware of where water, water and energy goals may have synergies or be in conflict.

Interagency collaboration:

- Partnership with EPA, specifically to help with water goals.
- Partnership DOE makes use of the National Labs
- Interagency collaboration provides expertise for baseline studies and for setting roadmap goals
- Pilot sites collaborate with each other to share best practices
    - Have codified these to help the other locations adopt net zero goals

Net Zero energy Building Codes: Ryan Colker, National Institute of Building Sciences

The National Institute of Building Sciences was established by Congress to support advances in building sciences and technology to improve the built environment, such as by:

- Developing, promulgating, and maintaining building-related performance criteria
- Evaluating and pre-qualifying existing and new building technology
- Assembling, storing, and disseminating building- and construction-related technical data and other information

The Institute focuses a lot on codes, which provide the baseline for building performance, but codes influence design & construction <u>not</u> operation. This can mean that large energy savings are not realized.

- Currently, no requirement to measure actual energy use relative to the code
- Code compliance is one of the biggest challenges.
    - ARRA requires 90% compliance with building codes by 2018. This is going to be a huge challenge and very expensive.
- The building industry is finally entering the information age, gathering and analyzing data about how buildings are actually performing, so proving performance is becoming more important

Current Net Zero Energy Efforts:

- Not all buildings are going to be able to be net zero
- An effective operations and maintenance program is key
- The most well-known net zero program is Architecture 2030: initiative to move buildings to net zero by 2030
- There are requirements for GSA and other federal buildings to achieve net zero and no fossil energy by 2030
- Living building challenge

- Most examples involve the establishment of a "net zero district"

Codes are developed by ASHRAE: 90.1 is the commercial energy code. There are many other codes, the Army uses 189.1 to establish energy performance
Outcome based codes: a newer development

- Address the performance issue and impact operations and maintenance
- Ex: Seattle Target Performance Path: requires 3 years performance metrics and has a $4/sq ft penalty for not meeting the requirement

Zero Energy & Grid Independent Buildings: John Spears, Sustainable Design Group (SDG)

Mr. Spears is a proponent of market-based zero energy development. His design group builds custom buildings focused on sustainability and zero energy and water. Many of their clients are concerned about what happens when the power goes out. Grid-independent net-zero homes do not have to be expensive, in fact most of the homes are modest and have a favorable return on investment.

Key elements:

- Highly efficient building envelopes
- Highly efficient heat pumps (geothermal)
- Lighting and appliance loads (LEDs have been very helpful)
- Solar PV and batteries
    - Made more cost effective with rebates and subsidies

Examples of the SDG's work:

- Research facility in Maryland that is completely off-grid, has a PV, geothermal and fuel cell systems
- The group is working to build a net zero education center that will be net zero energy & water and will grow food for the occupants within the building
- Rainwater collection is very important. VA allows rainwater to be potable; MD needs to declassify rainwater as grey water to allow it to be used as potable water.

Net zero homes are cost effective

- Increase in mortgage payments < energy savings
- Initial cost is higher, so the mortgage is higher, but the energy savings are usually greater than the increase in the mortgage, so people generally save monthly
- It becomes more economically appealing when considering rebates and other incentives

State of Maryland Net Zero Waste Plan – David Mrgich, MDE Recycling & Solid Waste Program

Mr. Mrgich gave a presentation on Maryland's Draft Energy Waste Plan, which was initially outlined in the State's greenhouse gas reduction plan.

Zero Waste Hierarchy (also used by the Army): prioritize policies to achieve net zero in the following order: Reduction → reuse → recycling/composting → recovery → disposal

Draft Maryland Zero Waste Goals: 80% recycling rate & 85% waste diversion by 2040

- According to EPA about 80% of waste stream is recyclable
- Largest waste materials: paper, food scraps, yard waste, plastics
- MD waste generated per capita dropped quite a bit due to the recession and has stayed lower

Objectives of MD Zero Waste Goal:

1. Increase diversion of organics: looked at food waste and yard waste. Regulations for recycling (including composting) are open for public comment
2. Increase recycling access and participation: looked at numerous options including pay as you throw, producer responsibility for packaging
3. Address specific target materials: pilot program for electronics recycling, will look at mattresses, beverage containers, restrict sale of certain non-recyclable products
4. Incentivize innovation and develop markets
5. Increase source reduction and reuse: counties are responsible for waste collection
6. Collaborate and lead by example: increase state government recycling and waste reduction
7. Education and Outreach: funding is an issue

Discussion:

Chair Berliner noted that the market-competitiveness of net zero is very exciting and he is interested to hear what local governments can do to encourage such programs.

- Ryan Corker noted that in addition to encouraging energy efficiency in codes it is also necessary to increase education and outreach among the public as well as the construction industry.
- Mr. Spears said that one of his main obstacles is appraisal. There needs to be improved education and understanding among lending institutions to fairly value these homes.

Mr. Sklar emphasized the opportunity for storage to help support critical services

- Mr. Spears noted that diesel generators are not a good option for backup power. Solar is cost-competitive with diesel, and batteries can be immensely effective combined with solar. Batteries can also be effective when people cannot get solar panels.

Mr. Fisette noted that Arlington is hoping to establish a zero-waste goal and is concerned about plastic in particular. Mr. Fisette also asked what advice the panel can give COG to help educate code enforcement officials about energy performance and design elements.

- Mr. Corker said the Institute has found a disconnect between what code officials and local governments see as key needs. Training and education are critical, particularly cooperative education between code and design & construction industry. Identifying best practices within code departments is also important.

Mr. Way asked whether each building needs to achieve net zero in a net zero district. The panelists responded that the goal is usually on a community level, or an Installation level. Some buildings are not capable of being net zero and it makes more sense and is more holistic approach to do this on a community level.

Jay Davis from Greenbelt asked about the expiration date for foods. A lot of food waste is perfectly fine for consumption, but because of the expiration date is thrown away. Mr. Mrgich noted that they are aware of the issue and grocery owners are taking the lead in addressing it.

Caroline Petti asked about the rainwater recycling issue. Mr. Spears suggested that MD declassify rainwater as grey water to allow it to be used with appropriate filtration.

Mr. Spears said he had not found solar permitting to be a huge issue, but said it can be quite cumbersome in DC, and for geothermal is a barrier in all three jurisdictions. Mr. Agazi said that the bigger problem is that the code does not give the government the authority to require that thermal tests be performed, and without blower door tests or energy audits it is difficult to assess energy performance. Several committee members suggested a presentation on geothermal in the future.

4. 2014 Legislative Overview – What Important Legislative Initiatives are on the Horizon?

Federal outlook: Andy Seth, Climate Communities

Obama's State of the Union was strong on climate change and the need to act. The administration has many items in the works regarding energy and climate change, including: Regulating carbon emissions of power plants, Tax incentives for solar energy, Increasing fuel efficiency of trucks, Energy performance contracting, New energy efficiency standards and Building climate resiliency.

The Administration's Climate Action Plan released in 2013 pledges investments in clean energy and climate-ready infrastructure and has three organizing principles:

- Cut carbon pollution
- Prepare the U.S. for the impact of climate change
- Lead International efforts to address global climate change

Other initiatives of interest:

- State, Local &Tribal Leaders Task Force on Climate Preparedness and Resilience
- Better Buildings Challenge

Congress is a Sisyphean task

- House Appropriations Committee did not fund any new HUD sustainability programs
- Energy Savings & Industrial Competitiveness Act (Shaheen Portman) may pass if reintroduced

Climate Communities Priorities:

- Competitive Energy Efficiency & Renewable Energy Grants
- PACE Residential Fix in Energy Efficiency Bill
- TIGER Funding in Transportation Reauthorization Legislation

Maryland Outlook: Devon Dodson, MEA

There are a number of bills to help support solar power and energy efficiency, including grant programs, tax credits and special green business incentive zones. The Governor's main focuses are the RPS and net zero buildings. There will be a bill proposed to increase the RPS to 40% Tier 1 by 2025 and phasing out black liquor. The Governor has also asked MEA to work with the General Assembly to develop an Energy-Efficient Homes Construction Loan Program.

The CEEPC advocacy subcommittee will have a call and will send a number of letters on these bills. Isabel can provide more detail for those interested.

Virginia Outlook: Steve Walz, NVRC

Due to a lack of time, this item was moved to a more informal discussion over lunch.

5. Projects and Subcommittee Updates

- Local Government Survey (Maia Davis) – the survey has been sent out and we are collecting responses. This information will be used to develop the progress report update for 2013.
- Solar Projects Update (Jeff King) – COG will be meeting with Prince George's County soon to choose best management practices to focus on implementing over the course of the grant. We hope to have similar meeting with the other participating jurisdictions.
- 8 State MOU on Zero Emission Vehicles (Leah Boggs) – this will be discussed at the next Electric Vehicle Workgroup meeting on March 28

6. Adjourn – *Chairman Berliner*