

Built Environment and Energy Advisory Committee

Meeting Summary November 20, 2014

Attendees:

Joan Kelsch, Arlington County (Co-chair)
Emil King, District Department of the Environment (Co-chair)
Khoa Tran, City of Alexandria (by phone)
Kristen Larson, City of Bowie
Sosina Tadesse, District Department of the Environment
Ellen Eggerton, Fairfax County (by phone)
Susan Hafeli, Fairfax County
Noel Kaplan, Fairfax (by phone)
Danielle Liesten, Fairfax County
William Marsh, Fairfax County
Tim Stevens, Falls Church (by phone)
Kiera Austin, Green Wheaton, Montgomery County
Todd Lukesh, Integrated Environmental Solutions (by phone)
Eduardo Berlin, Mapdwell (by phone)
Michelle Vigen, Montgomery County (by phone)
Said Said, Prince William County

COG Staff in Attendance:

Steve Walz, COG DEP Director
Jeff King, COG DEP
Leah Boggs, COG DEP
Maia Davis, COG DEP
Isabel Ricker, COG DEP
Amanda Campbell, COG DEP

Call to Order and Approval of Meeting Minutes

The co-chairs called the meeting to order and took attendance. The October meeting minutes from were approved with no changes.

Arlington County Green Building Incentive Program, Joan Kelsch, Arlington County

Arlington County has had an incentive program since 2000, when LEED was very new. It has since been updated several times as building codes change, LEED standards change and as capacity and awareness of high performance building increases. The County wants to make sure the program is pushing the market and ahead of status quo, e.g. ensure the program is not incentivizing activity that would happen anyway without the incentive.

The green building incentive program offers developers extra density, essentially the ability to build a larger building, if they build to LEED silver, gold or platinum.

In the early years of the program, a small portion of buildings took advantage of the incentive, which grew quickly until the recession. In 2009 and 2010 there was very little construction activity in the county, but since then virtually all the buildings the County has approved are LEED certified and participating in the density incentive program.

The 2014 Green Building Incentive Program Update includes the following major changes:

- Accommodates LEED V4
 - Includes new credits for materials use and a revamp of energy efficiency credits
 - New multifamily mid-rise rating system
- Energy Star Building Certification
 - Energy Star verifies building performance based on one year of energy use
 - Arlington's program now *requires* offices to be Energy Star certified post-occupancy to make sure that the building is performing as it should
 - Energy Star is optional for residential buildings, provides a small amount of extra density
- Arlington Priority List
 - Specific measures the County wants to incentivize but does not usually see
 - Energy efficiency and renewables
 - Site ecology: light pollution, habitat, stormwater
 - Building construction and materials reuse
- Affordable Housing
 - Virginia developers can get funding through Virginia Housing Development Authority
 - VHDA requires Earthcraft green building rating system, so many buildings were having to get certified twice, which created a lot more work
 - Now can use Earthcraft to qualify for the density bonus at Gold and Platinum levels
 - The rating systems are about equal at Gold or Platinum
 - Earthcraft also does on-site testing
- Net Zero Energy Certification
 - Previous Stretch Goal is now included in the base program
 - New stretch goal is net zero
 - International living futures institute
 - Negotiate bonus separately

Comparison of 2012 policy with proposed 2014 incentive program:

- Both: additional floor area ratio (FAR) is awarded based on the level of certification (silver, gold, platinum)
- FAR levels are not significantly different between 2012 and 2014
- 2014 policy increases the environmental standard required for approximately the same level of FAR

- 2014 policy increases the bonus for platinum (larger jump from gold), to encourage people to do platinum buildings
- New EnergyStar requirement for commercial buildings and option (with bonus) for residential

Discussion:

In response to a question about using the IgCC as an alternative to LEED, Joan said that they did not consider using the IgCC for the program. Virginia is not considering adopting the IgCC at the state level, and developers in VA are not very familiar with it. Doing so would also require the County staff to learn the IgCC code structure and how it compares to LEED, which is a very large undertaking.

A question was asked about awarding credit for the Arlington priority points. Joan explained that the green building incentive program is voluntary, so developers are not required to build to LEED, but most seem to think it is a good idea. The Arlington priority credits are all LEED credits, so are within the framework developers are already using. The County offers a small amount of extra density for completing up to two of these credits.

A question was asked about whether the incentive is changing developer behavior - would developers choose not to do LEED absent the incentive? While there is no way to know this precisely, the program is designed to push developers toward higher levels of energy and environmental conservation. The policy was developed through a nine month stakeholder review process, so there is good buy-in from developers. All the Arlington priority credits are for measures that are not being done much or at all. The market would certainly accommodate LEED certified, and some developers would likely do Silver because GSA is emphasizing this. However, hardly anyone does renewable energy or higher levels of efficiency without the extra incentive.

In response to a question about documenting energy use, Joan replied that when the building is at least 50% full, the owner can start documenting energy use in Portfolio Manager. They have found that larger developers are familiar with Portfolio Manager and willing to use this tool. This makes it a manageable task for the County because Portfolio Manager does the certification analysis.

Regional Standard for Solar Permitting and Inspection, Isabel Ricker, COG DEP

COG is participating in the U.S. DOE SunShot Initiative Rooftop Solar Challenge II, to support our local government members in reducing the “soft costs” of solar in their communities. Permitting is one of the largest soft costs in terms of both money and time.

A national study by SunRun in 2011 found that on average, permitting & inspections add over \$2,500 to a residential solar system - about \$.50/watt which is quite significant given DOE’s goal to get solar costs down to \$1/watt by 2020. SunRun found that variation in requirements across jurisdictions added about \$730 per installation, so clearly, streamlining and making permitting more consistent is crucial for solar to be cost-competitive.

Based on the solar market baseline assessments that jurisdictions participating in RSC II have completed, there is significant variation in permitting practices across the COG region. To encourage increased consistency, we've developed a list of recommendations for residential solar PV systems, which tend to be very similar and should be simpler to permit and inspect than currently done.

The two primary motivations for pursuing regional consistency are: to make the NCR more attractive to solar installers and financiers, and to reduce costs for residents and businesses in the region who want to go solar.

The recommendations were developed with support from MDV-SEIA, the local solar industry association, and feedback was solicited from all the localities participating in RSC II. All of the offices we heard from were supportive or said they were already working toward or thinking about many of these measures. CEEPC voted to endorse the regional recommendations at their November 19 meeting.

The recommendations packet includes (1) a list of national best practices, modified to be compatible with current local practices; (2) two model checklists, which we are recommending for jurisdictions to adopt and modify as necessary; and (3) the Solar America Board for Codes and Standards model for a simplified permit review for qualifying systems. In addition to COG and MDV-SEIA, the Maryland Energy Administration, Northern Virginia Regional Commission and District Department of the Environment have written letters of support for the recommendations.

Several of the participating jurisdictions are already making great headway on improving their permitting process, including DC, which on October 1 implemented its new solar permitting standards for both PV and thermal, and Montgomery County, which is working to implement an expedited permit process for solar on single family detached homes. Both DC and Montgomery are also reducing their permit fees by 50%.

MEA is also working to streamline solar permitting through its Comprehensive Online Application Portal (COAP) project, which will be a one-stop-shop for solar applications, connecting to the County permit system, the state grant application, utility interconnection and SREC registration on one website.

COG is encouraging jurisdictions region-wide to examine current processes and adopt these recommendations, or adjust permitting and inspections requirements, where they can. We also hope that a regionally-endorsed document will help sustain progress after the Rooftop Solar Challenge ends, and in new jurisdictions. Now that the recommendations are approved, we will share them with all of COG's members and work with policy and permitting offices to identify measures for improvement and areas where we can provide technical assistance. Feedback is welcome, please contact Isabel at iricker@mwkog.org.

Solar Mapping Tools

Kristen Larson, City of Bowie

Bowie's solar initiatives began in 2010 with an EECBG grant. The City hired a consultant to write a report and make recommendations on measures the City could implement to save energy. The report also recommended that the city install renewable energy systems on its own buildings. The City now owns 5 solar PV systems, and estimates that over 20 years, the City will save \$50,000 in electricity costs. In 2013, the City Council adopted a Capital Improvement Program with dedicated funding for installing renewable energy on City property. The allocations are for \$50,000 the first year and a 3% escalation each year until 2019. Overall, \$381,500 will be allocated for renewable energy installations by 2019.

They are currently writing a Community Climate Action Plan, which states that "the largest potential for GHG emission reduction lies in the increased installation of residential and commercial solar." The plan should be approved in the spring.

Residential solar is made more affordable with Prince George's County tax credits in addition to the federal and state incentives. So far, 297 Bowie residents have installed ~2,400 kW of solar PV. The city is also going to launch a community bulk purchase in January 2015.

Bowie is also hoping to ride Montgomery County's pending contract to install a large PV array – probably 2.4MW – on a farm owned by the City. The PPA rate under that contract is \$3.45 for 20 years. The City Council is expected to approve the project in January, and the project should be complete February 2016 (it will take some time to get a Certificate of Public Convenience and Necessity (CPCN) required for net metering).

The MEA Smart Energy Communities program provides localities with grants for installing solar on public works facilities, so the City is also exploring installing PV at municipal facilities such as water treatment plants and landfills.

They are also working to provide solar educational resources to constituents, including a GIS solar map on the City website. The map shows specs, installer, and install date of each solar system in the City. The data was collected from the system permits. No exact addresses are used, and photos are only used for City buildings due to privacy concerns. The City's GIS staff put together the map.

Eduardo Berlin, Mapdwell

Mapdwell is a company that uses data and design to create decision-making tools for renewable energy generation. They designed a solar map for DC, in coordination with DDOE.

Eduardo provided a live demo of the site showing how to choose a building, and view the estimated cost, finances, investment payback and carbon offset. Users can choose to design a system by desired cost savings, free-hand drawing on the roof area, or have the tool estimate potential solar area. You can also add an existing system to the map, with data on size, date, installer, etc.

They are piloting a new lead generation tool in Portland, OR called “move forward”, which can share data generated through the map with participating installers. They are partnering with Energy Trust of Portland, which aggregates the leads and shares them with the vendor. In exchange for the leads, vendors agree to contact the customer within 24 hours. This tool is different from Energy Sage in that Mapdwell works with the community partner, and the partner works with local vendors, rather than they working directly with the installers.

Mapdwell is also working on integrating the sharing economy into the platform to facilitate community solar (e.g. through crowd-funding). They are working on a big update, to launch in early 2015, which will integrate more fully the Forward tool and add new components including solar hot water.

Todd Lukesh, Integrated Environmental Solutions

IES is a consultancy and tool developer based in Glasgow, Scotland. Among many other topics, they provide software to design net-zero and super sustainable buildings based on building simulation and advanced analytics. Their models can also be linked together to do analysis for smart communities and smart cities.

They recently designed a tool for San Francisco that uses a Google Earth image with extruded 3D models from open street map (a free 3D modeling tool for various cities), and integrated with Sketch Up and Painter. For example, the tool can display shadow casts and solar irradiation at any time of day for any month throughout the year, and estimate totally annual irradiation. The tool can be used and leveraged by the building operator, building owner and planning community.

San Francisco recently passed an ordinance that would require solar for new commercial buildings over a certain size. This tool will enable developers to determine solar potential and optimal location, as well as enable the city to assess solar rights and access issues by estimating the impact from proposed new buildings (e.g. shading neighbors).

A question was asked about integrating electric, natural gas and water lines into the models, such as to facilitate modeling microgrids or district energy systems. Todd explained that this would be possible because the models are district scale, and they can work with utilities to input this data. They currently have projects with utilities using their tools to forecast infrastructure needs.

Roundtable Discussion and Updates

COG Transportation, Environment and Community Planning Joint Task Force, Steve Walz, COG DEP

At the October 2 joint MWAQC-CEEPC meeting, the committees directed COG to establish a multi-sector multi-disciplinary working group to study the costs and benefits of various greenhouse gas reduction measures and targets for all sectors. The working group will include about 30 participants at the Director level. COG will be reaching out to communities to ask for nominations. In December there will be a more complete discussion about the process and the role of BEEAC as a technical advisory group in this effort.

Energy Security & Resilience, Jeff King, COG DEP

- Resiliency Planning - CEEPC is interested in establishing a regional resilience vision and network, which BEEAC would be asked to help develop and make recommendations for.
- Energy Emergency Exercise – COG is organizing a table top exercise looking at how localities do/should work with power companies to assist in getting fuel and restarting the grid in the event of a sustained power outage. The exercise will take place in spring 2015.
- Microgrid study – COG is partnering with DC DGS and US DOE to assess microgrid potential and optimization for Saint Elizabeth’s campus using the DOE’s DERCAM tool.

Next meeting dates

- BEEAC Planning Call – December 4, 2014
- BEEAC Meeting – December 18, 2014
- CEEPC Meeting - January 28, 2015
- COG Green Purchasing Fair – January 29, 2015

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