

**Metropolitan Washington Council of Governments
777 North Capitol St. NE, Ste. 300
Washington, DC 20002**

**Built Environment and Energy Advisory Committee (BEEAC) Meeting Highlights
First Floor Rooms 4 and 5
May 16, 2013**

Attendance

Noel Kaplan, Fairfax County

Bill Topper, JFHQ-NCR/MDW

Jeannine Altavilla, Arlington County

Joan Kelsch, Arlington County, BEEAC Co-Chair

Aida Velasquez, MWAA-DCA

Dr. Sam Hancock, Emerald Planet/Emerald Planet TV

Olayinka Kolawole, DDOE, BEEAC Co-Chair

Najib Salehi, Loudoun County

Nicole Steele, Alliance to Save Energy

Tim Stevens, Falls Church Environmental Services Council

William Marsh, Fairfax County

Tom Lee, Samaha Associates

Eric Coffman, Montgomery County

Khoa Tran, City of Alexandria

Jeff Bond, Prince George's County

Phone:

Marie Debbie, Loudoun

Patty Rose, Green Spaces NCR

Staff:

Julia Allman, COG DEP

Leah Boggs, COG DEP

Maia Davis, COG DEP

Jeff King, COG DEP

Joan Rohlfs, COG DEP

1. Celebrating Green Building in the Region: Part II

This two-part series will provide an update on green building programs around the region. In our first installment we heard from the City of Alexandria, the District, and Fairfax County on their policies and progress. This month, we'll hear from Arlington and Montgomery Counties.

Joan Kelsch, Arlington County

- Arlington County's green building efforts began in Green building policy started in 1999, with the development of a Green Building Density Incentive. The County undertook an Analysis of Global Best Practices in the 2000s, and began the Arlington Initiative to Rethink Energy (AIRE) in

2007. Most recently, the County has been crafting a Community Energy Plan that will officially launch later this year.

- The County is focused on encouraging the private sector to build green through targeted incentives. Originally, a density bonus was awarded for commercial buildings achieving LEED Silver. In 2003, the incentive was updated to include all LEED levels and all site plan projects (including multifamily buildings).
- As LEED has become more standard practice, the requirements have been increased. In 2012, the incentive puts a bigger emphasis on energy efficiency in order to align the program with the Community Energy Plan goals.
- Arlington is also greening their public buildings. All public buildings are built to at least LEED Silver, but more if possible. A number of different building types, from offices to schools to fire stations, are represented.
- The Green Building Incentive Program awards a floor area ratio (FAR) bonus for office and multifamily buildings meeting LEED and energy efficiency criteria. The incentive levels are set high enough to push limits but not so high as to be unattainable. Developers must post a bond to be held by county until LEED certification is met. In addition to certification, buildings are asked to report utility data annually for 10 years. The policy is officially re-evaluated at least every 3 years, but progress is monitored continuously.
- Over the last decade, there has been a transition from almost no new buildings being LEED-certified to the majority having green building characteristics.
- The Community Energy Plan came about as a means of approaching green building more holistically, including a greater consideration of the energy impacts of the built environment. The Plan focuses on improving competitiveness, the environment, and energy security. The goal is to reduce greenhouse gas emission by 78% by 2050, and reduce per capita emissions from 13.4 to 3.0 metric tons annually. Strategies to reach these goals include district energy/combined heat and power, transportation, and renewables.
- Next steps include reducing energy use by 55-60% through the bonus density incentive program, lighting incentive, energy performance labels, and Green Games outreach initiative. The County is also interested in facilitating District Energy in high-density areas. The target for renewables is to install 160 MW of solar PV. The County is aiming for a 70% reduction in transportation-related greenhouse gas emissions. In terms of education and behavior change, tracking energy use is an important first step. Games and participatory activities in the community are being hosted to raise awareness.
- Discussion:
 - In the GHG per capita forecast graph, how were sector allocations determined?
 - We worked with consultant. The reductions were estimated based on existing and planned programs, building turnover, and renovation rates. They are not meant to be set in stone—reductions may come more readily in some sectors over others.
 - Have you had any problem receiving utility data through the incentive program?
 - We have only been doing this since last June, so there is not much data yet—will see results in 4-5 years. Everyone has agreed to do it.

Eric Coffman, Montgomery County

- Montgomery County has 150.4 million square feet of building space in the commercial sector. The County's green building policy can be characterized as a "carrot and stick" approach—it

requires green building certification for applicable buildings, and also offers a tax credit to go beyond the requirement.

- The mandate requires all private sector commercial and multifamily new construction and renovations over 10,000 feet to achieve LEED-NC, -CS, or equivalent. It also requires all public sector new construction and major renovations over 10,000 square feet to achieve LEED Silver or equivalent.
- One challenge is that many buildings are just under 10,000 square feet. And as there becomes a greater emphasis on in-fill development, there will be fewer opportunities for 10,000+ sf buildings. The policy is missing an opportunity to green smaller buildings.
- There are three paths to certification. Given that LEED is a for-profit certification, there was some discomfort with requiring only that standard. The options are: 1) Go through the LEED certification process and turn in the certificate, 2) Comply with LEED guidelines without receiving certification through USGBC, and demonstrate certification through Montgomery County staff, and 3) Demonstrate compliance with an alternative, but substantively equivalent, certification such as Green Globes.
- Some lessons learned: developers are supportive of green building, but find LEED too restrictive. Some have suggested using the IGCC code instead. Additionally, without collecting utility data, the impact of the mandates is hard to measure.
- The Green Building Incentive Program encourages developers to go a step further in green building. The incentive is tiered to LEED achievement levels – for those covered by the mandate, they must achieve LEED Gold to receive the tax credit. Other buildings must get LEED Silver. The tax credit is up to 75% for up to 5 years. There is a cap of \$4 million annually for the tax credit, and in 6 years, only \$1.8 million per year has been utilized. So there are opportunities to increase the impact of the program. We are now looking at how the standard might be revised to encourage more green building and utilize the remaining tax credit funding. We also want the standard to be more applicable to the building profiles in the community.
- In terms of achieving climate change goals, the 2009 Climate Action Plan recommends a 25% reduction in energy consumption by commercial and multifamily buildings. LEED and IECC may not be strong enough to achieve this goal on their own. The County is conducting a survey on code stringency, and is considering developing a tax credit program for energy performance, among other potential solutions. Metrics and reporting mechanisms will need to be developed.
- Discussion:
 - What kind of staff resources did you need to conduct a LEED review within the county?
 - We have a lot of expertise in permitting office; including LEED-AP certified staff, though we did provide training. We recapitalized the staff training cost by increased cost of fees. There is some overlap in the review process with existing building review functions.

Najib Salehi, Loudoun County

- Loudoun County's green building policy guidelines began in 2007, and apply only to county buildings. The goal is to achieve at least LEED Silver certification, and each project is reviewed for cost effectiveness.
- Community centers, detention centers, youth centers, public safety buildings, and fire stations have been LEED certified at the silver or gold level. The program does not include schools, but they have applied green building policies that are equivalent to LEED and/or Energy Star.

- Through the program, the County has learned that green building is not as expensive as had been expected. Energy savings have been in the 20% range, and increase the overall cost by less than 2%. In cases where geothermal energy has been implemented, the payback is 7.3 years.

Thomas Lee, Samaha Associates

- Samaha Associates led Loudoun County's youth shelter and fire station projects, which integrated geothermal energy, LEED, and other green building practices into the design.
- The project was unique in that it had to incorporate important operations-oriented considerations, such as passive (visual security), flexible and multi-purpose spaces, etc, along with green design. The design encourages flexible, dynamic spaces with lots of natural daylight.
- The fire station integrated rainwater harvesting, geothermal heating/cooling through a radiant floor system, solar water heating, and LED lighting. As a design challenge, it included adaptive re-use of a home to maintain the community character of the site while meeting operational needs for the fire station.

Discussion:

- Have you been able to track building energy performance, post-construction?
 - (Eric Coffman) We need more information and tracking over time. We want to utilize portfolio manager (at least for buildings utilizing the tax credit). This is an often overlooked characteristic of green building.
 - (Tom Lee) This is a very common issue in GB discussions. We have to integrate documentation and proof of performance. Early planning is important to coordinate building operations and maintenance. Another challenge is that it can be hard to model new buildings' energy use, as new capabilities and technologies make it hard if not impossible to compare with older buildings (consider the technology used at a fire station 20 years ago versus now). This is a major hurdle in measurement and verification.
 - (Noel Kaplan) We can use monitoring to identify operational improvements. Two identical buildings can be run very differently, and can have very different energy use profiles because of how they are managed.
 - (Najib Salehi) We use energy star portfolio manager and energy monitoring technology for county buildings. We emphasize automatic/passive controls, but we must also pay attention to the education and personal responsibility aspect of energy management.

2. Energy 2030 Plan – Nicole Steele, Alliance to Save Energy

- The Alliance to Save Energy is a non-profit advocacy organization that promotes energy efficiency. They have a broad bipartisan, bicameral congressional membership, in addition to industry, non-profits, and think tanks. The organization's mission is rooted in the idea that energy efficiency is our greatest energy resource.
- The Alliance Commission on National Energy Efficiency Policy was created to develop an innovative policy plan to promote energy efficiency from the federal to state and local level. The Commission set the goal of doubling energy productivity by 2030. We chose the term "energy productivity" because it sends a positive message about promoting economic growth without increasing energy use and emissions. The core idea is doing more with each unit of energy.

- The impact of this goal is to save \$327 Billion across the economy by 2030. Taxpayers will save \$13 billion, and household energy spending will go down by \$1,039 per year, per household. This is enough to pay off all existing credit card debt. It would cut GHG emissions by 33% over 2005 levels by 2030.
- The Commission’s report puts forth a set of recommendations to reach this goal. They include financing, tax reform, innovation and market adoption, governments leading by example, better access to information, and outreach.
- Some include a “race to the top” program for energy efficiency, and using energy productivity to achieve regulatory and planning goals through utility policy, transportation and land use, environmental regulations, and infrastructure investments.
- ASE is currently holding “Energy 2030 on the Road” events. These are discussions with mayors and others at the local level about implementing the plan. If any COG members are interested, get in touch with Nicole to facilitate a conversation (NSteele@ase.org).
- To engage state and local governments, ASE is looking into collaboration projects, gathering and elevating local case studies, leveraging media opportunities, and supporting grassroots advocacy.
- The plan’s recommendations to state and local governments include:
 - Promote a secondary loan market, such as through the WHEEL program, to standardize projects and open up more funding into the market.
 - Establish energy financing mechanisms for residential and commercial (such as On Bill Finance, PACE, etc)
 - Provide assistance for R&D and test beds for new technologies and practices
 - Lead by example, by making all cost-effective efficiency improvements to public buildings and fleets

Round table:

- Jeff Bond, Prince George’s County – We were just awarded a new DOE grant of 6.6 mil for housing and energy use; we are in the beginning stages of determining how to design and implement the program.
- Khoa Tran, City of Alexandria – Note that 94% of square footage under development is LEED certified in Alexandria. We are using a policy without the authority to require GB standards. Has anyone asked for an energy audit as part of the real estate transaction?
 - Joan Kelsch – We talked with the developer community, but they were strongly resistant. We want to keep conversation going and perhaps see a shift in the future.
 - Eric Coffman – Look at the DOE program for retro commissioning and audit requirements, put out by the SEE Action Committee.
- Dr. Sam Hancock, Emerald Planet – We run a broadcast television program every week. ASE went on a few weeks ago, and Eric joined the program last week. We highlight best practices and “good news” energy stories.
- Eric Coffman – We are close to issuing an RFP for the collaborative regional solar procurement. Currently a Commercial PACE bill is in play in the Council.
- Noel Kaplan – We are updating the green building policy, and enter the hearing phase in Fall. We are working with planning commission on EV charging – to what extent should guidance (such as EV-ready design) be included in comprehensive plan?
- Jeff King, COG – We will be hosting a training exercise in October for energy security – how to move convoys, use utilities as better information conduits during energy emergencies. In terms of the Microgrid project, utilities have signaled interest. Conversations are ongoing about moving state level assurance plans down to local/regional plans.

- Leah Boggs, COG– The next meeting of the Electric Vehicles Working Group is on May 30. The topic is volume purchase of electric vehicles and cost of level 2 charging.
- Joan Rohlf, COG – The next meeting of CEEPC is May 22 – the topic is energy efficiency finance.