

MWCOG Built Environment & Energy Advisory Committee (BEEAC)

Meeting Summary: September 18, 2014

Attendees:

Joan Kelsch, Arlington County (Co-Chair)
Emil King, District Department of the Environment (Co-Chair)
Tom Liebel, AIA-Baltimore Chapter
Kristen Larson, City of Bowie (by phone)
Bill Updike, District Department of the Environment
Jay Wilson, District Department of the Environment
Sosina Tadesse, District Department of the Environment (by phone)
Sam Hancock, Emerald Planet (by phone)
Lisa Orr, Frederick County (by phone)
Luisa Robles, City of Greenbelt (by phone)
Alan Brewer, Loudoun County (by phone)
Mark Naumann, Montgomery County, Dept. of Permitting Services (by phone)
Michelle Vigen, Montgomery County
Erica Shingara, City of Rockville (by phone)
Tim Stevens, Sierra Club
Brendan Owens, US Green Building Council
Rachel Healy, WMATA

MWCOG Staff:

Leah Boggs, COG DEP
Maia Davis, COG DEP
Jeff King, COG DEP
Isabel Ricker, COG DEP

1. Call to Order

Joan Kelsch, Arlington County & Emil King, DDOE, Co-Chairs

2. IgCC Adoption in the Region

Tom Liebel, AIA-Baltimore Chapter

When updating their building codes, many jurisdictions around the country are finding that the International Green Construction Code (IgCC) is the best alternative to LEED and the most effective route for improving building efficiency.

- Maryland Green Building Council previously looked at IgCC as an alternative to the state green construction code (Tom was formerly the Council Chair)
- Baltimore is currently looking at IgCC as an alternatives to adopting LEED V4

What is the IgCC?

- International Code Council's "International Green Construction Code"
- Two compliance paths: IgCC vs. ASHRAE 189.1
 - ASHRAE 189.1 is more prescriptive and has less flexibility
 - Ultimately, IgCC and ASHRAE 189.1 are going to merge in 2018
- 3 year adoption cycle (the new 2015 code will be released in the spring)

- Offers training modules for inspectors and plans examiners
 - LEED also requires staff to be specially trained but does not offer any training programs
- Ability to customize the code
 - MD is interested in customizing for land use and site development – to point to a specific MD law or regulation
 - MD also planning to offer extra credit for materials developed locally (within 5 miles)

IgCC adoption process:

- There are opportunities for lobbying during both the ICC hearings and a jurisdiction’s code revision process
 - BEEAC members participated in the ICC hearings last year
 - The wood and asphalt lobbies were very active and vocal during MD’s adoption process
 - LEED has a technical advisory council and third party reviewer, less opportunity for advocacy
- No jurisdiction has adopted the entire IgCC as fully mandatory
 - Many have adopted as an alternate compliance path to LEED or another green code, or have made parts of the IgCC as mandatory
 - MD is using IgCC as an alternate compliance path for state buildings
- MD hopes their process sets an example/provides a model for local jurisdictions

LEED vs. IgCC:

- LEED was never meant to be a code, it is a voluntary, aspirational rating system
- LEED, ASHRAE, IgCC, and other systems measure and value similar criteria and areas of construction, but approach them differently
- LEED is good as a common metric across system types and jurisdictions, but there is no way to modify for local needs
- LEED has made the built sector much greener: 20 years ago building net zero was crazy, now it is fairly common. The whole built environment is greener because of code improvements.

Lessons Learned:

- One cannot really establish “equivalency” with LEED and IgCC
 - Possible to ensure that the performance is close to a LEED equivalent, but can’t translate one to the other
- The IgCC allows for opportunities to support local priorities
 - Baltimore planning to require 75% recycling rate for building materials in new code
- Adopting IgCC may not be easy or quick (MD took about 2 years)
 - Especially because it can get bogged down by lobbying
- Consensus building is critical: get all important entities on board before implementing
- IgCC is probably the future in terms of greening the building code
 - LEED can still be useful as an aspirational measure, a higher level of compliance

Bill Updike, District Department of the Environment

DC is a national leader in green buildings:

- 2006 – Green Building Act
- 2008 – First city to pass an energy & water benchmarking law
- 2010 – PACE law passed

- 2011 – Increased RPS, established solar carve out → one of the strongest national REC markets
- 2013 – Community Renewable Energy Act
- 2013 – Storm water regulations and green area ratio
- 2014 – Adopted new green construction code
- Most LEED and Energy Star certified buildings per capita in the nation
- First in nation on green power purchasing (DC buys 100% renewable)

Development of DC's new green construction code:

- Process began in 2012
- Construction Codes Coordinating Board (CCCB) determines DC code and updates to it
- Made up of Technical Advisory Groups (TAGs)
 - TAGs and CCCB are public-private entities: diverse membership
- No Council hearings were held because there was already consensus with the private sector through the TAGs and CCCB
- One of the main challenges was to avoid creating dissonance between code and the several permeability and storm water regulations DC already had

DC's New Green Construction Code:

- Applies to all commercial project 10,000 square feet and above, all multifamily buildings 10,000 square feet and above and over 4 stories
- LEED-like Sections:
 - Site Development and Land Use
 - Material Resource Conservation and Efficiency
 - Energy Conservation and Efficiency
 - Water Resource Conservation and Efficiency
 - Indoor Environmental Quality and Comfort
 - Commissioning
- Alternatives: ASHRAE 189.1, LEED, enterprise green communities

Next Steps:

- In fiscal year 2015, DC will look at the green building law and make changes to policy around it
 - May remove the private sector requirement for LEED and make the public sector requirement more stringent
 - Private buildings are being covered by code now, so less need for LEED requirement
- Net zero by 2030 Sustainable DC goal – DC is making good progress but there is a ways to go yet

Mark Naumann, Montgomery County, Dept. of Permitting Services (by conference call)

- Montgomery County Department of Permitting Services is responsible for code enforcement
- 2008 – Montgomery County began enforcing new green building law
 - Private buildings 10,000 sq ft or more must be LEED certified, public buildings must be LEED Silver
 - However, the law has only applied to 100 permits since then → not achieving the County's sustainability goals

MD adopted the IgCC in 2011 and allowed localities to adopt and amend the code as needed

- Montgomery County has been working to review and understand IgCC since then
- Engaging with many local agencies and authorities, as well as AIA and other private entities
 - Only real pushback is from asphalt industry

- Taking a different approach than other jurisdictions have taken
 - Working to modify their green building law to mandate compliance with IgCC
 - Developers will be able to request code modification if prefer LEED or other standard instead of IgCC, as long as shown to be equivalent or higher
- Earlier this year, the Council proposed a law to require all new private buildings be LEED Silver
 - However, the County does not see LEED as making a lot of progress on sustainability, so they have fast-tracked the IgCC process instead
- Approach and rationale are available on the website
- Moved much of chapter 4, 5, 7, 10 to Appendix A (optional items)
 - Moved items are already required under other local regulations, federal standards
 - Must satisfy 2 items from Appendix A to comply with the County's new code

Next Steps:

- Have been hosting public sessions since July, Comment period ends November 30
- Hope to have the Council approve by end of year and start enforcement in January, mandatory compliance starting in March or April

Brendan Owens, US Green Building Council

- USGBC never intended LEED to be a code, but it has become popular with policy makers around the country as a building standard
- Different applications and ways of achieving LEED, and numerous other building standards made for a somewhat messy approach, there has not been one "green" code
- Now, ASHRAE 189.1, IgCC, LEED are working together

LEED is a rating system, not a code

- Thousands of ways to get to specific point level
- Put priority on different measures that they want to emphasize more, but certified buildings can be completely different

Agreement to align IgCC, LEED and 189.1

- All entities agreed to add 189.1 as an alternate compliance mode
- However, the codes were essentially just stapled together, no changes were made to make them compatible
 - IgCC is a model code, while LEED is a rating system
 - 189.1 is a standard, not a model code (there is no model adoption language, etc.)
- The organizations have different expertise: ASHRAE is technical building science expert, IgCC is code implementation expert, and USGBC is good at getting people to act
 - Hoping to integrate their various expertise into one consensus standard, which will make it much easier to implement in the future
- Product will be easily adoptable and relatively uncontroversial; it will codify green building best practices. Putting thee in code can raise the floor for building performance.
- LEED can raise the ceiling for performance
 - If there is broad adoption of IgCC, USGBC can leverage that work to encourage doing more to achieve higher LEED standards
 - USGBC is also sligning documentation requirements to make getting LEED simpler

Next steps:

- Make it easier people to adopt by creating a consensus code, not by eliminating competition

- Developers generally accepting as long as it is a uniform requirement across the AHJ
- Opportunity for collective training
 - Have a broader coalition and louder voice to advocate for education and training

3. Local Funding Programs for Green Buildings

Bill Updike, District Department of the Environment

DC Green Building fund

- DDOE-DCRA partnered in FY13 to create the grant program to fund innovation and research to drive deeper green buildings in DC

FY13 funded 3 projects:

- Study on mortality and urban heat island effect
- Development of a green building program manual
- Financial study on net zero/water buildings and the living building challenge
 - Looking at how to incentivize deep retrofits

FY14 funded 5 projects:

- Training the banking and appraisal community on value of green buildings
- Adding green building attributes to MLS real estate listings
- Smart buildings plan – deep analysis into 100 buildings in DC, create energy and water models for each one, integrate into a city-wide model that can be used to assess efficacy of policy and make more intelligent changes (“virtual energy audit”)
- Tool to perform quality assurance for energy benchmarking scores
- DC smarter business challenge program

Sustainable DC advisory group has recommended the city look into several new ideas in FY15 and FY16: Green Bank, carbon tax, microgrids, and sustainability guidelines for historic buildings

Findings from the Net Zero Study:

- 33-37% return on investment for net zero buildings with energy conservation measures
 - Slightly lower ROI for net zero only
 - Much lower ROI for deep energy conservation measures only
- Indicates that DC is incentivizing solar much more than efficiency
- Available on DDOE website
- Net zero water projects had a much lower ROI, but DC expects this to go up with the new storm water credits

4. Mosaic Power: Turning Electric Water Heaters Into Power Plants

Dan Conant, Mosaic Power

Mosaic Power is “creating a virtual power plant” made of interconnected electric water heaters

- Based in Frederick, 5 full time staff and two part time employees
- The company was in pilot mode until the fall, now fully launched
- 370 units installed so far, another 300 in the works

- First projects in DC are with National Housing Trust

Grid instability and load fluctuations exacerbated by renewable energy

- Solar and wind ramp up and down very quickly, but large coal and nuclear plants are extremely slow ramping, and gas is not fast enough
- In PJM, it costs \$2 billion annually to smooth out fast electric load changes
- FERC order 1000 created a market for frequency regulation at the ISO level
 - PJM was first to implement the order

Mosaic is using electric water tanks to respond to changes on the grid

- Manage a network of heaters over the internet, PJM integrates their power supply into the grid the same as a power plant
- Frequency regulation: ramp heaters up and down to smooth out the power supply
 - Can scale up and down within 2 minutes
- Carbon savings are quite large – equivalent to 1.5 kW of solar
- They put the device on heaters for free, PJM pays Mosaic for the service, Mosaic gives participants \$100 per year
- Connect the box to the internet to allow for networking and management

Solar Crowd Funding Project:

- Used funding stream from the Mosaic electric heater regulators to crowdfund the upfront cost of a solar project for a church in WV
- Goal to do solar projects with this model in all 55 counties of WV
- Solar Holler – providing solar financing for the projects

Opportunity in DC area:

- 40% of tanks in DC are electric (70-75% in West Virginia)
- Affordable housing is likely their biggest market, most have electric water heaters
- FERC order 1000 will be implemented in other RTOs in the coming year so Mosaic is also looking at expanding across the country.

5. Roundtable Discussion/Project Updates

Energy Emergency Exercise

- CNA has been selected as the vendor to manage the process
- Kicking off in October, 10 small group meetings, culminating in one big tabletop exercise

Institute for Sustainable Communities Leadership Academy

- COG regional team went to the training in Houston last week
- Mission: focus on community and civic engagement as relates to climate resilience
- Engaging with different types of communities
- EcoAmerica presentation on climate messaging and what works
- Upcoming trainings in Alexandria in October

Rooftop Solar Challenge

- Nov 17 workshop on Solarize and Municipal Solar Purchasing
- Developed National Capital Region Solar Permitting Recommendations with MDV-SEIA – more to come on this in the future

VA Small Solar Working Group - Utility participants pulled out, but report will come out November 1

WMATA

- Transit & WMATA is being highlighted at UN Summit next week
- UITP report: transit oriented development as the most effective way to leverage sustainably
- NetZero building in Prince George's is done, having open house in October
- ID locations for install of
- Universal solar capacity analysis for WMATA facilities

Vision Fleet – new EV financing model

- ESCO/PPA model for transitioning fleet to EVs
- Vision Fleet takes all financial risk, provides analytics for fleet management and charging infrastructure to make the fleet more efficient
- Working with Indianapolis to do first project, goal to be “post petroleum” by 2025
- Interested in providing a free preliminary analysis for a jurisdiction in the COG region

Montgomery County

- 5 new electric vehicles
- Coalition intervening in Exelon-Pepco merger
- PACE bill going to Council soon

District of Columbia

- DCRA Green Building Symposium on September 26, solar permitting session in afternoon
- GRID Alternatives just launched a DC office, hosting solar builds next week if anyone is available to volunteer (installations on Habitat houses in Ivy City)
- GWU hosting national scale low-income solar conference on September 24
- DC just awarded Groundswell a contract to plan and establish a framework for municipal aggregation and solarize campaign. DC will be putting out an RFP to implement the project(s) in the new year

Sierra Club – event on October 1 at 7pm at Ballston Library with staff from several Northern VA jurisdictions talking about their work and priorities for improving energy efficiency.

Emerald Planet – new series on sustainability in China, posted on the website

6. Next Meeting Date, Proposed Topics, Other Announcements and Adjournment

- EcoDistrict Practitioner Training – September 24
- EcoDistricts Conference – September 24-26, 2014
- Joint MWAQC/CEEPC Meeting – October 2, 2014
- BEEAC Planning Call – October 2, 2014
- BEEAC Meeting – October 16, 2014