

GOVERNMENT OF THE DISTRICT OF COLUMBIA

Department of Energy and Environment

Green Building Advisory Council

Meeting Date: October 6, 2021 at 3pm

Meeting Location: Online – WebEx

Recording: <https://dcnet.webex.com/dcnet/ldr.php?RCID=6185585ddeb307341708ee70225b61ec>

Attendees (all by Webex/phone):

Kate Johnson* (DOEE), Casey Studhalter (DOEE), Jenn Hatch (DOEE), Stephen Gyor* (OP), Katie Bergfeld (DOEE), Connor Rattey (DOEE), Michael Brown (DCRA), Michael Feldman-Wiencek (DOEE), Anica Landreneau* (HOK), Dave Epley (DOEE), Edward Yim (DOEE), Mark Bryan (DCSEU), Maribeth DeLorenzo (DOEE), Monique Bocock (DCRA), Joseph Knackstedt (DHCD), Mike Towler (IMT), Avneet Gujral (Sustainable Design Consulting)

*(*denotes members of the Green Building Advisory Council)*

Administrative Items: GBAC Vacancies and Budget Update – *Kate Johnson, DOEE*

- There are currently five vacancies on the GBAC: one representative from DCRA, one representative from DGS, two non-profit members, one private member
- Mayor's Office of Talent and Appointments (MOTA) is facilitating the appointment of DCRA/DGS representatives.
- We have received and are reviewing a few applications for the private sector position, but have not yet received any applications for the nonprofit positions.
- GBAC members may encourage colleagues and people in their networks to apply through this page: <https://motaboardstheresumator.com/apply/CDm4XF/Green-Building-Advisory-Council>
 - Applicants must either live or work in DC. Strong preference for DC residents.
- Fiscal year 2022 (FY22) began on October 1, 2021. Beginning this year and for the next three years, the Green Building Fund (GBF) will be directly split by legislation between DOEE and DCRA, rather than going through a memorandum of understanding (MOU). In this arrangement, DOEE will receive \$900,000 from the GBF in FY22. After three years, the Fund will be split evenly between DOEE (50%) and DCRA (50%).
 - This arrangement may allow DOEE GBF resources to span multiple fiscal years.
 - This also lowers the administrative burden on both agencies and allows greater clarity for budgeting purposes.
 - DOEE expects to have about \$300,000 from the GBF available for grants this year.

Building Energy Performance Standard (BEPS) Updates – *Katie Bergfeld, DOEE*

- The second round of public comment on the BEPS Guidebook closed a few weeks ago and is still under review. A draft of the BEPS compliance guidebook is posted on the BEPS webpage.
- A DOEE grantee completed their work on a cost-benefit analysis. The BEPS team is compiling deliverables received from the grantee, and expects to publish a report soon.

GOVERNMENT OF THE DISTRICT OF COLUMBIA

Department of Energy and Environment

- Preliminary, high-level results were presented to the BEPS Task Force, showing that the cost of compliance is about \$10/square-foot.
- The benchmarking map has been updated, and now includes BEPS compliance indicators, individual building scorecards, and a building comparison tool.
 - Mapping tool: www.energybenchmarkingdc.org
- Additional website updates are underway, including updates to the BEPS portal. This portal is intended to provide all information on BEPS compliance requirements in one place. The “Ask for More Help” button creates a ticket which is routed through the Help Desk.
 - Knowledge Base/Helpdesk: <https://dc.beam-portal.org/helpdesk/>

Retrofit Accelerator – Dave Epley, DOEE

- DOEE requested and received FY22 funds from DC’s distribution of American Rescue Plan Act (ARPA). This expands \$3M of the Sustainable Energy Trust Fund (SETF), annually, to support affordable housing and other under-resourced building types that are not meeting BEPS. This program is referred to as the “Retrofit Accelerator.”
 - DOEE has a future goal to expand this support to market-rate buildings.
- 140 buildings qualified for accelerator support; 40 of these are DC Housing Authority properties; another 40 are covenanted affordable housing (subsidized with public funds); remaining 60 are naturally occurring affordable housing.
- FY22 ARPA budget (~\$35M) includes:
 - ~\$21.244* million increase for BEPS support (*Includes \$3M in SETF)
 - \$10 million for mid-cycle (covenanted) affordable housing, intended to negate the need for buildings to seek funding from DHCD
 - \$8.244 million for BEPS Energy Audits and Predevelopment Grants
 - ~\$10.8 million proposed for BEPS Construction Loans
 - \$5.3 million to support public housing (DCHA)
 - \$428,702 for DOEE Admin
- Timeline: the Retrofit Accelerator will be rolling out in Q1 of FY22.
- Recent hire, Jessica Abralind, will lead Retrofit Accelerator program.

DHCD Qualified Allocation Plan Update – Michael Feldman-Wienczek, DOEE

- DHCD recently updated their Qualified Allocation Plan (QAP), which is required by IRS for issuance of Federal Low-Income Housing Tax Credits and the Request for Proposals (RFP), which is a companion piece that governs all other funds, both federal and local.
 - QAP: <https://dhcd.dc.gov/node/1562101>
 - RFP: <https://dhcd.dc.gov/node/1561061>
- The changes make DC’s green building threshold requirements the most stringent in the nation.
- New construction greater than 50,000 sf must comply with Enterprise Green Communities Plus certification.

GOVERNMENT OF THE DISTRICT OF COLUMBIA

Department of Energy and Environment

- Major retrofits over 50,000 sf must meet the Deep Energy Retrofit requirements within BEPS.
- The updates better align the DCHD funding cycles with BEPS compliance cycles.
- The value of Green Building incentives increased by 6x in this year's RFP.
- The RFP funds include the recently announced \$400M Housing Production Trust Fund (HPTF) funding injection as well as other funding streams.
- Applications open October 15 and close on December 3. Another round of applications will be accepted, starting in February.

Green Building Fund Early Design Assistance Grants Debrief – Connor Rattey & Casey Studhalter, DOEE

- FY2021 Green Building Fund grant recipients have completed their work and are finalizing their final reports, which DOEE expects to post to a case study page on the DOEE website. The projects that were funded are described below.
- Hickok Cole, Arup and DPR conducted a Life Cycle Analysis (LCA) of Redbrick's 1300 Sycamore Drive SE (St. Elizabeth's Campus), 6-story office building
 - Compared a low-carbon concrete design and a cross-laminated timber (CLT) design against their baseline building. The LCA evaluated the product and end-of-life stages.
 - Found that their low-carbon concrete design reduced CO₂e by 17% at a 2.4% cost increase and their CLT design reduced CO₂e by 32% at a 21.2% cost increase.
 - The team also found that there is a lot of inconsistency among the environmental product declarations that manufacturers produce and among LCA software.
 - Recommended that the District government should regulate against the use of typical cast-in-place concrete and require the use of low-carbon concrete because the carbon savings outweigh the cost premium.
- Quinn Evans and Silman conducted an LCA of DC Public Library's Southeast Neighborhood Library
 - The existing building is a historic structure and must retain its character, so most of the renovation involves adding a 9,000 sf basement.
 - Baseline design involves demolishing the existing structure and rebuilding (with basement) from scratch.
 - The LCA evaluated options to reuse the existing structure with two options for below-grade designs with varying concrete and steel quantities. The LCA also evaluated the impact of low-carbon concrete options.
 - Reuse of the existing structure requires greater amounts of below-grade steel and concrete to achieve the necessary structural integrity. However, the impact of this is more than offset by the savings from having preserved the above-ground building components.
- Quinn Evans and New Ecology conducted a net-zero energy (NZE) analysis of Hyacinth's Way, a new construction, affordable housing project for formerly homeless seniors with mental health diagnoses.
 - They evaluated several variables in their design options: window-to-wall ratio,

GOVERNMENT OF THE DISTRICT OF COLUMBIA

Department of Energy and Environment

screening, HVAC system, slab insulation, wall insulation, window insulation, roof insulation. Also evaluated several renewable energy options.

- Found that HVAC system selection had the biggest impact on the energy performance and that solar PV was the most practical renewable energy option.
- AllenBuilt's grant team designed a two-story alley dwelling unit and conducted an NZE analysis.
 - The energy model evaluated three wall assemblies (which they did a pricing exercise for), window-to-wall ratio, and inclusion of a garage. Also evaluated PV array sizing.
 - Grant team has prepared a six-seminar curriculum to engage with Phelps High School students and teach them about building design principles, HVAC systems, energy analysis, wall construction, etc.

Green Building Report Update – Connor Rattey, DOEE

- The Green Building Act of 2006, which established the Green Building Advisory Council, requires the GBAC to publish an annual Green Building Report. This report provides high-level data/trends on the greenhouse gas emissions, LEED/Enterprise Green Communities certifications, and other metrics pertaining to the District's performance in the green building industry.
- The 2019 Green Building Report is available here: <https://doee.dc.gov/publication/green-building-reports>
- DOEE has started compiling information and data for the 2020 Green Building Report. DOEE aims to have a rough draft ready in time for the next GBAC meeting in December.
- The 2020 report will feature brief case studies for:
 - 1441 L St. NW – a 1960s commercial office building that has been renovated and retrofit with a DOAS system that delivers 100% outdoor air. The building also installed a 232-panel PV array with a 100 mW annual capacity and had a demonstrated EUI of 17.4 kBtu/sf/year over the first 12 months of operation.
 - Southwest Neighborhood Library – LEED v2009 Platinum, mass timber design with 160 mW annual solar capacity and backup batteries. Located in a floodplain, the project was designed with resiliency in mind. Includes rooms that are accessible to the community after library hours and movable furniture (including bookshelves) for adaptability of internal space. The project is also associated with DOEE's Solar for All program.
- The report also highlights DOEE's Solar for All program.
- A couple other notable findings:
 - There were 102 LEED certifications in 2020, compared to 105 certifications in 2019.
 - Over 790,000 square-feet of new green roof area was installed in 2020, compared to ~630,000 sf in 2019. This makes 2020 the highest year on record for green roof installations.
 - As of 2019 (the District's most recent GHG inventory), the District has achieved a 31% reduction in GHG emissions from its 2006 base year.

GOVERNMENT OF THE DISTRICT OF COLUMBIA

Department of Energy and Environment

Building Electrification Institute's DC Customer Economics Analysis Overview – Casey Studhalter, DOEE

- Building on the Customer Economics Analysis conducted by the Building Electrification Institute (BEI) over the past year plus, BEI conducted four stakeholder engagement sessions to gather feedback on the initial results and electrification efforts more broadly.
- The stakeholder groups were:
 - Affordable housing owners/advocates/developers/DHCD and lenders
 - Environmentally focused consultants
 - Developers and owners of market rate residential buildings
 - Environmental advocacy organizations
- Common themes included feedback on cost concerns (whether real or perceived), lack of familiarity with the technology, and a need to align BEPS with electrification goals. Some participants also highlighted the indoor air quality and occupant health benefits and pointed out a need to better connect those two goals.

Methane Leaks and Building Electrification – Edward Yim, DOEE

- Building electrification as a non-pipe alternative, providing a way to avoid costly natural gas distribution infrastructure investments while also meeting other environmental and public health goals.
- Two-thirds of gas usage comes from single-family residential buildings – potentially 54,270 individual buildings. Given the size of these buildings, they are unlikely to be captured by BEPS requirements, even as those requirements expand.
- Washington Gas proposed infrastructure replacement with an estimated cost of \$4.5B. However, an independent auditor estimated the cost at \$3B. The current valuation of these assets in DC is ~\$900M.
 - Washington Gas is planning to charge rate-payers \$15,000-\$30,000 to replace service connections (not the main pipes). If this money can be redirected toward single-family home electrification, that will provide most of the money necessary for building electrification.
- Next steps:
 - Triage and plug super-emitting leaks (there are relatively few of these).
 - Identify a set of contiguous blocks in leak-dense neighborhoods where pipe decommissioning is feasible for a pilot program. Redirect the pipe replacement costs to building electrification of these neighborhoods.
 - Overlay leak maps with public health and equity indicator maps to help inform the neighborhoods that should be prioritized.
- Results of study will be filed with the Public Services Commission (PSC), and then can be shared with the public.
- Deeper public engagement opportunity may exist with BEI's support. More to come.

GOVERNMENT OF THE DISTRICT OF COLUMBIA

Department of Energy and Environment

Roundtable Updates – All

- Michael Brown: DCRA is starting to compile plan review metrics for the last year. Completed 5,100 energy and green reviews. DCRA will be compiling the most frequent plan review comments to help focus their trainings for this year.
 - The Residential Energy Code Technical Advisory Group (TAG) has completed its work and voted unanimously for the approval of 100% electrification in the next code cycle.
 - The 2017 DC Energy Efficiency Code specific REScheck and COMcheck were included on the last release by DOE's Office of Energy and Efficiency & Renewable Energy, Building Energy Codes Program.
 - REScheck - <https://www.energycodes.gov/rescheck>
 - COMcheck - <https://www.energycodes.gov/states-can-use-comcheck-show-compliance>
- Anica Landreneau: Numerous members of real estate community (including GBAC, BEPS Task Force, and Commercial Energy Code TAG members) endorsed the passage of an amendment to the Clean Energy DC Act that would codify the part of the Clean Energy DC plan that calls for an NZE code by 2026.
- Steven Gyor: The Office of Planning is working with DOEE and a consultant on figuring out how to empower District residents to move some of the actions forward on Sustainable DC goals.
- Mike Towler: The Building Innovation Hub was awarded a grant from DOEE for FY22 and we are excited to keep working. One of our biggest outputs from our work with DCSEU is a Building Commissioning Guide: <https://buildinginnovationhub.org/resource/improve-building-operations/building-commissioning-guidelines/>
 - This guide was funded by the DCSEU and created in partnership with Baumann Consultants. DCRA provided critical input on the resource as well

Meeting adjourned at 5:02pm.

The next meeting will be:

December 1, 2021 at 3-5pm

WebEx link TBD