T&E Item 2
March 14, 2022
Worksession 3

M E M O R A N D U M

March 9, 2022

TO: Transportation and Environment Committee

FROM: Ludeen McCartney-Green, Legislative Attorney

SUBJECT: Bill 16-21, Environmental Sustainability – Building Energy Performance Standards

PURPOSE: Worksession 3 – Committee to make recommendations on Bill

Expected Attendees:

- Adriana Hochberg, Acting DEP Director
- Stan Edwards, Chief of Energy, Climate, and Compliance Division, DEP
- Lindsey Shaw, Manager of Energy & Sustainability Programs, DEP
- Emily Curley, Commercial Energy Program Manager, DEP
- Chris Pendley, Senior Building Systems Engineer, BODE – CEM, Steven Winter Associates, Inc.

Bill 16-21, Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards - Amendments, sponsored by Lead Sponsor, Council President Hucker at the request of the County Executive, was introduced on May 4.[1] A virtual public hearing was held on July 15, 2021. An initial Transportation and Environment Committee worksession was held on October 28, 2021, and a second worksession was held on December 9, 2021.

Bill 16-21 would: (1) expand the number of buildings covered by benchmarking requirements; (2) amend certain definitions; (3) establish energy performance standards for covered buildings with certain gross floor area; (4) create a Building Performance Improvement Board; and (5) generally revise County law regarding environmental sustainability.

BACKGROUND

The County Council in December 2017 approved by Resolution 18-974 a climate emergency and initiated a massive global mobilization, to restore a safe climate and build a sustainable economy. In addition, the resolution established climate goals by reducing greenhouse gas emissions by 80% by 2027 and reaching 100% elimination by 2035. The Climate Action Plan encompasses several initiatives where a workgroup reviewed five technical areas: Clean Energy, Buildings, Transportation, Adaptation and Sequestration, and Public Engagement. Bill 16-21

[1] #EnvironmentalSustainability

focuses on energy-efficient improvements for buildings usage – a step towards meeting climate goals.

Montgomery County encompasses more than 5,000 commercial and multifamily properties covering more than 288 million square feet of rentable building area. The County's commercial building stock comprises the office, multifamily, and retail buildings (by total number and rentable square footage).[2] As of 2018, commercial and residential buildings account for 50 percent of greenhouse gas (GHG) emissions in Montgomery County.[3]

In 2014, the County established in the nation, the first benchmarking law, Environmental Sustainability – Chapter 18A, for County-owned and commercial building areas 50,000 square feet and above to annually track and report building and energy performance details to the County's Department of Environmental Protection (DEP). The municipalities, including Rockville (2016) and the City of Gaithersburg (2017), opted in to comply with the County's benchmarking law. It is important to note the law provides no requirements or incentives for a building to improve energy use over time.

As of June 2020, DEP reports that the County's Benchmarking Law covers over 100 million gross square feet of commercial buildings, approximately 700 properties. However, to meet the County's Climate Action Plan goal of zero greenhouse gas emissions by 2035, community key stakeholders have recommended the County implement "beyond benchmarking" policies and modify legislation to adopt Building Energy Performance Standards (BEPS) with a phased-in approach.

In 2020, several engaged stakeholders from the impacted community, in coordination with DEP, held a series of working group sessions and analyzed that the main drivers of reducing greenhouse gas emissions among the commercial building sector are reducing energy consumption, using energy more efficiently, and using energy generated from cleaner sources. The electricity supplied to the County is getting cleaner as the grid adds more renewable sources, but it still has a long way to go. It is estimated that approximately 56% of the electricity consumed in Maryland is generated by fossil fuels, commercial buildings in the County account for 26% of greenhouse gas emissions ©93.

With a closer perspective, the working group reviewed building energy performance policy models from various jurisdictions, *e.g.,* Washington, DC; New York City; St. Louis; Colorado; and Washington State. ©89-92 The group developed policy recommendations for the County to improve its commercial and multi-family residential existing building sector by adopting energy conservation and efficiency standards that will reduce energy use, mitigate climate change, and foster a more resilient and economic activity in the County.

International Green Construction Code (IgCC)

[2] Source: CoStar Commercial Real Estate Information Company. Data accessed April 2021.
[3] Source: MWCOG County-wide Greenhouse Gas Emissions Inventory. 2018 data.

On September 28, 2021, the Council approved Executive Regulation 12-20, Adoption of the 2018 International Green Construction Code (IgCC)[4], which clarifies requirements for new commercial construction projects and major building additions, including energy efficiency improvements and health performance of building sites and structures. The regulations proposed new energy performance modeling based on the Zero Energy Performance Index (zePI), which aligns with the County's goal towards a net-zero building. Further, the 2018 IgCC will apply in the County to all new commercial construction and additions of 5,000 square feet and greater. Residential single-families, townhomes, and duplexes are exempted. The adoption of the 2018 IgCC seeks to improve the scope and requirements over the 2012 IgCC previously used in the County.

SPECIFICS OF THE BILL

Bill 16-21 will modify the County's current benchmark law to include additional County-owned, commercial, and expand to include multifamily buildings to meet long-term energy performance standards. Specifically, the bill would clarify the "covered building" definition and reduce the number of building types generally excluded. The legislation would create a 15-voting member Building Performance Improvement Board that will advise DEP on implementation of building energy performance standards, including amongst other delineated advisory functions, enforcement of benchmarking requirements, and performance standards.

Further, Bill 16-21 would establish a Building Performance Improvement Plan (BPIP) process for properties that cannot reasonably meet the interim or final performance standards. The property owner will be required to timely complete specific actions in the approved BPIP to be considered in compliance with the law. Penalties or fines may be assessed if the property owner is determined to be non-compliant. Further, annual reports are due to the County Executive and County Council on building energy performance for covered buildings.

Phased-In Approach

The bill identifies June 1, 2022, as the initial timeline where small buildings and large multifamily buildings would start benchmarking energy use and the Department will issue regulations on final performance standards for each covered building type. The phased-in approach will require County-owned buildings to meet interim performance standards by 2026. This timeline may be amended if the bill is enacted after 2021.

SUMMARY OF PUBLIC HEARING

The Council received over 30 written testimony from individuals, private organizations, the nonprofit sector, and municipalities at the public hearing held on July 15.

[4] Executive Regulation 12-20, Adoption of the 2018 International Green Construction Code (IgCC), Staff Report dated September 23, 2021. https://www.montgomerycountymd.gov/council/Resources/Files/agenda/col/2021/20210928/20210928_3B.pdf.

Adam Ortiz, on behalf of the County Executive, testified in support of the bill. Mr. Ortiz provided examples of the County Executive's effort to address climate change on a comprehensive scale. ©108.

Several organizations advocated for BEPS legislation, including Sierra Club, UL, U.S. Green Building Council, Montgomery County's Climate, Energy, Air Quality, and Advisory Committee that its implementation would produce many co-benefits: reduced utility and operating costs for building owners and tenants; improved, more resilient, and higher-value building stock in the County; improved human health from better indoor air quality and reduced air pollution; and increased local economic activity and green jobs related to building design, construction, energy efficiency, and other trades related to the building upgrade market.

American Council for an Energy-Efficient Economy (ACEEE) supports the new aggressive approach to implement BEPS. ACEEE testimony stated Montgomery County is positioning itself for a more "prosperous economy" similar to New York where the Urban Green Council estimates that the building performance standards will create a $20 billion retrofit market and lead to the creation of more than 140,000 jobs by 2030. See testimony at ©141.

Although this Bill is well supported, some organizations had concerns, comments, or amendments, to include:

- Several organizations advocated that adequate resources should be allocated and provided to multifamily buildings that may face challenges with complying with BEPS; further, racial equity and social justice impact may be exacerbated by excluding single-family homes.
- Archdiocese of Washington raised concerns over BEPS requirements, compliance fees, and inclusion for a house of worship on the advisory board.
- AOBA's testimony highlighted a few areas for consideration, including the burden on building owners who are still facing COVID-19 ramifications, and recommended the County delay BEPS implementation.
- Climate Mobilization (Montgomery Chapter) would like the Committee to (1) request from the County Executive a climate impact analysis to determine how this bill will meet climate goals; (2) shorten the timeframe for buildings to comply with BEPS to meet the slated timeline for GHG zero-emission goals by 2035.
- The International Center for Appropriate and Sustainable Technology (ICAST), a nonprofit organization that designs and promotes clean energy programs that meaningfully impact disadvantaged communities, recommended for affordable housing communities to require a performance cycle every 15 years rather than 5 years to elevate the financial hardship.
- Washington Gas did not take a position; however, it did provide two specific points for consideration:
    - The County should take a mixed approach on energy intensity grading, like the city of Boston rather than "site energy" as proposed in the bill.
    - The state of "normalcy" related to building usage is not in full operation; therefore, the County should delay BEPS for the current year until building usage has increased to a normal rate.

SUMMARY OF FIRST WORKSESSION – OCTOBER 28

A presentation by Lindsey Shaw of DEP covered discussion on several main topics, including the County's Climate Action plan, the type of buildings covered and excluded by BEPS, proposed compliance timeline for building owners, and a forthcoming report that will provide a cost-benefit analysis of BEPS implementation.[5]

The worksession discussion provided clarification on the following:

- Bill 16-21 is enabling legislation that provides legislative authority for the County Executive to establish a framework for regulations.
- The regulations will formulate the standards that building owners must meet to satisfy performance standards.
- BEPS, on its own, does not eliminate greenhouse gases emissions, rather, the legislation seeks to make buildings more energy-efficient through incremental energy improvements to reduce GHG.
- Electrification coupled with building energy efficiency strengthens the impact to reduce greenhouse gas emissions.
- An older or aged building is not an automatic indicator or factor used to assess whether the building will be a low-performing building and whether it would be unable to meet performance metrics.
- The Bill does not provide for metrics for single-family homes because the performance standards and/or metrics are different compared to metrics used for assessing energy usage for a multifamily dwelling unit or commercial building.
- An annual report by DEP states the compliance rate for existing benchmarked commercial buildings owner that reports energy use is approximately 90%.[6]

Below are a few of the questions and content covered during the presentation:

Building Coverage

1. **What is the scope of Bill 16-21, specifically, what is a "covered building"?**

"Covered Building" under the bill seeks to include County-owned buildings and different building types. As written, the bill amends Section 18A of the County Code, and states the following:

Lines 61-69:

[5] DEP's Presentation Slide for October 28 T&E Committee Worksession. https://www.montgomerycountymd.gov/green/Resources/Files/energy/MontgomeryCountyBEPS_TECmteWorkSession_10-28-21.pdf.

[6] https://www.montgomerycountymd.gov/green/energy/benchmarking.html

Covered building means **[**any**]** a County-owned **[**building**]**, Group 1 **[**covered building**]**, **[**or**]** Group 2, Group 3, Group 4, or Group 5 covered building.**[**Covered building does not include any building with more than 10% of total building square footage which is used for:

(1) public assembly in a building without walls;

(2) warehousing;

(3) self-storage; or

(4) a use classified as manufacturing and industrial or transportation, communication, and utilities.**]**

Building Types

Group 1: commercial buildings with a gross floor area that *equals or exceeds 250,000 square feet*.

Group 2: commercial buildings with a gross floor area that *exceeds 50,000 and less than 250,000 square feet*.

Group 3: commercial buildings with a gross floor area that *equals or exceeds 25,000 and is less than 50,000 square feet.*

Group 4: multi-family residential or mixed-use covered building whose gross floor area *equals or exceeds 250,000 square feet*.

Group 5: multi-family residential or mixed-use building whose gross floor area *equals or exceeds 25,000 square feet but is less than 250,000 square feet*.

Group 1 and Group 2 currently under the law is required to report benchmarking standards, Bill 16-21, as written, will expand the law to include other types of buildings, including small businesses, nonprofits, affordable housing, houses of worship, and condominiums that are classified under Group 3 through 5. Thereafter, with a phased-in approach, *all* groups will be required to comply with benchmarking reporting requirements with certain performance standards. *See, Figure 4: Proposed BEPS Timeline,* ©51. The expanded "covered building" will now approximately increase from 40% to 85% of buildings in the County.

C*ondominiums*

Council staff raises whether condominiums that are largely governed by covenants and bylaws are subjected to BEPS requirements when energy usage may vary from one building owner to another, including some condominiums that have an individual meter for each unit or common areas, rather than a mastered unit. The bill provides for the owners or Board representatives to use the benchmarking tool, ENERGY STAR, to assess a condominium's total building energy usage and provide the data to the County. There may be some challenges with satisfying interim or final energy performance standards, for which, a Building Performance Improvement Plan (BPIP), may

be needed as provided in the legislation. It is also important to identify that the County has similar regulatory and legal requirements for condo property owners, including common ownership community requirements, maintenance of stormwater management facilities, and collection of residential recycling.

Houses of Worship

Council received testimony from the Archdiocese of Washington (ADW) (©205) who raised the concern that a house of worship usage is significantly different than a commercial building, simply because congregation members or visitors typically use the church building less than a typically 5-day work week as an office building would use, or in addition, the usage is less than a retail store with an open 7 business days. ADW cites in its testimony, "…only storage facilities emit fewer greenhouse gases than churches, explaining that "these spaces are not occupied most of the time, so don't have the same energy needs as other buildings." NYC's data demonstrates that houses of worship contribute less than 1% of the share of greenhouse gas emissions, as compared to the 84% share produced by the residential, business, hospital, institutional and hotel buildings." Therefore, ADW recommends the Council exempt houses of worship from BEPS legislation and instead require a more prescriptive approach to improve energy efficiency.

Discussion Point: What types of buildings create the most greenhouse gases (GHG)? ©243

2. **Bill 16-21 will expand the number of buildings covered by reducing the gross floor area from 50, 000 square feet to 25, 000 square feet. How was 25, 000 square feet determined as the appropriate baseline?**

DEP reviewed other jurisdictions, including Washington D.C. that established a BEPS program with gross floor area as low as 10,000 square feet – the overall assessment indicated the cost-benefit analysis for the County to apply to same minimum square feet did not yield a greater energy performance, while 25,000 square feet did illustrate an improved impact. ©253

3. **What building types are excluded from this legislation?**

This bill does not include commercial buildings that cover a gross floor area of less than 25,000 square feet nor does it include single-family homes. © 237-239.

Other jurisdictions like New York City and St. Louis exclude houses of worship and affordable housing from benchmarking performance standards and the State of Washington excludes multifamily dwelling units. Specifically, New York City conducted data analysis to assess the energy usage emitting from places of worship was the least among other building types.[7]

Discussion Point: Is there data analysis to illustrate the cost savings/cost-benefit analysis, essentially, what is the return on investment to include multi-family dwelling units and require owners to meet BEPS metrics? See BEPS Technical Report for Montgomery County

[7] Climate Mobilization Act: NYC Buildings and Climate Change. https://council.nyc.gov/data/green/.

4. How does BEPS legislation compare to other jurisdictions?

A few jurisdictions have adopted a BEPS with a phased-in model approach. Table 1 below illustrates the varied approaches[8]:

Table 1: Summary of Building Performance Standards in Other Jurisdictions

	Washington, DC	New York City	Washington State	St. Louis, MO
Minimum Threshold Performance	TBD, at least median ENERGY STAR score (or equivalent) by building group	CO2e emissions limits on a sq. ft. basis by building type	TBD, based on site EUI	Standards set no lower than 65th percentile site EUI by property type
Covered Buildings	Commercial and multifamily > 10K sq. ft.	Commercial and multifamily > 25K sq. ft.	Commercial > 50K sq. ft.	Commercial and multifamily > 50K sq. ft.
Compliance Cycle	Every 5 years	Must meet limits annually, limits get stricter every ~5 years	Every 5 years	Every 4 years
Equity	Adds $3 million per year to assist affordable and rent controlled housing comply	Houses of worship and affordable and rent-regulated housing have alternative option of lighter prescriptive improvements	$70 million in funding for utilities to assist building owners who comply early	Houses of worship and affordable and housing on a six-year compliance cycle
Adjustments	Agency may grant extensions up to three years and approve alternative compliance plans	Agency may make adjustments and approve alternative compliance plans under defined circumstances	TBD through rulemaking	Agency with advice of advisory board may approve alternative compliance plans
Advisory Board	Yes, specific requirements for representation	Yes, specific requirements for representation	No	Yes, specific requirements for representation

In addition to the jurisdictions listed above, Boston, MA; Cambridge, MA; and Los Angeles, CA are considering Building Performance Standard policies. Legislation and/or policy proposals are not readily available for these localities.

SUMMARY OF SECOND WORKSESSION – DECEMBER 9

The T&E Committee discussed Bill 16-21 and received a presentation by Lindsey Shaw of DEP on several topics, including proposed BEPS compliance timeline, site metrics to measure a building's energy usage, establishing authority to create a BEPS advisory board,

and updates on the Executive's legislative request to change state law regarding increasing fines for violation of BEPS law.[9]

Councilmember Hucker requested for DEP to provide a copy of the Steven Winters Report for the Committee to review potential technical feasibility for building owners to meet performance standards, the percentage of energy savings, and the cost-benefit analysis of the legislation. DEP agreed to provide the Committee with a copy of the BEPS Technical Analysis Report once finalized and ready for publication on its webpage.

Recommendation from the Committee to adopt by a **3-0 vote** Councilmember Riemer's proposed amendment to remove "onsite solar generation" and replace it with "renewable energy generation." The County Executive also supports this amendment.

Amend line 239, as follows:

18A-42. Establishment of building energy performance standards.

(a) *Requirement.* The Department must develop and implement building energy performance standards for covered buildings. The standards must:

* * *

(3) account for **[[**onsite solar generation**]]** renewable energy generation in the performance metric;

DISCUSSION

As a part of the Committee's discussion, below are a few questions continued from the first worksession (October 28) and content covered during DEP's presentation at the second worksession (December 9):

5. What is the purpose of the BEPS Advisory Board and how does it compare to other jurisdictions?

Bill 16-21 establishes a 15-voting member advisory board, subject to the approval of the Council, with a three-year term limit. The bill delineates certain representatives that should be included on the Board.

See lines 337-335, as follows:

[9] DEP's Presentation Slide for October 28 T&E Committee Worksession.

(b) *Membership*. Each voting member of the Board must be a resident of the County or a member of the governing body or staff of an entity doing business in the County. The Board should include:

(1) representatives of local electricity or natural gas utilities;

(2) providers of energy efficiency, building resilience and/or renewable energy services or consulting;

(3) owners or managers of affordable housing;

(4) owners or managers of multi-family residential buildings containing market-rate units;

(5) nonresidential building owners or managers;

(6) technical building design or operations professionals;

(7) providers of facilities, mechanical, or similar engineering services;

(8) commercial or multi-family residential construction finance or investment professionals;

(9) representatives of nonprofit organizations dedicated to climate action, resiliency, public health, green building, economic development, or building decarbonization; and

(10) representatives of nonprofit organizations dedicated to racial equity or environmental justice.

Further, the Bill provides the specific duties and responsibilities for the Board.

See lines 368-382, as follows:

Building Performance Improvement Board

(e) *Duties and responsibilities*. The Board must generally advise the Department on the implementation of building energy performance standards. This includes providing recommendations to the Director on:

(1) building type groupings;

(2) interim and final performance standards for each building type;

(3) managing situations where ownership of a building is transferred, or a building's type changes;

(4) building performance improvement plan technical review and approval processes;

(5) complimentary programs or policies, with particular attention to assistance or accommodations for challenged or under-resourced sectors, such as affordable housing, non-profit organizations, and small businesses; and

(6) enforcement of benchmarking requirements and performance standards.

Council staff reviewed other jurisdictions, including Boston, St. Louis, New York, and Washington D.C. where BEPS policies have been implemented. Each jurisdiction established an advisory board that provides recommendations regarding Bill implementation and strategic advice to assist the private sector – the board does not have decision making and it is an unpaid position. St. Louis and Boston advisory boards are authorized with decision-making authority. Bill 16-21 BEPS advisory board function and responsibility is aligned with other jurisdictions with BEPS policies. ©249

6. Establishing a Metric Standard: Site Energy v. Source Energy

After a building is benchmarked, a performance metric is selected to assess its energy usage intensity (EUI). There are several metrics to measure energy efficiency, the two widely used within the industry are site and source energy. Site energy is generally defined as Site EUI measures actual, annual energy use at the site (in kBtu) per gross square foot of building area. Site EUI enables comparisons between different-sized buildings. See Stakeholder Report © 66. According to ENERGY STAR, source energy represents the total amount of raw fuel that is required to operate the building. It incorporates all transmission, delivery, and production losses. By taking *all* energy use into account, the score provides a complete assessment of energy efficiency in a building.[10]

The Environmental Protection Agency (EPA) has determined that source energy is the most equitable unit of evaluation for comparing different buildings amongst each other. Washington Gas suggested, "[i]f the County wants to implement sound policy to address emissions reductions, they should take the lead of Boston and use a mixed approach on energy intensity grading." See ©214.

How does Bill 16-21 establish BEPS metrics for "covered buildings"? BEPS will use a Site EUI as a metric, the Bill defines the following, *see lines* 127-129 and 149-158, as follows:

> *Normalized net site energy* means the site energy use by the covered building normalized for weather and other characteristics within the limits of the capabilities of the benchmarking tool and normalized for other factors as determined by the Department minus energy generated from onsite solar sources.

[10] https://www.energystar.gov/buildings/benchmark/understand_metrics/source_site_difference

Normalized net site EUI means the total normalized net site energy use consumed by a covered building in one year divided by the total gross floor area of the building expressed in kBtu/GSF.

Site energy use means all energy used onsite by a covered building to meet the energy loads of a building, including electricity delivered to the building through the electric grid and generated onsite with renewable sources; natural gas; district steam; district hot and chilled water; diesel; propane; fuel oil; wood; coal; and other fuels used on site. Site energy use does not include electricity used to charge vehicles.

Site energy use intensity or *site EUI* means a numeric value calculated by the benchmarking tool that represents the energy consumed by a covered building relative to its size in terms of energy used per square foot of gross floor area per year.

DEP stated that based on stakeholder feedback and recommendations, Site EUI was the preferred metric. Further, DEP highlighted that the benefit is it provides simple calculation directly from utility bills and floor area, its available for all building types, measures actual energy use directly controlled by the building owner and tenants, easily understood by users, and incentivizes efficient use of electricity and encourages electrification. ©251 & 253.

7. Does Bill 16-21 establish performance standards for building owners?

Bill 16-21 is enabling legislation that provides DEP with the authority to establish setting the interim and final standard. As stated in Section 18A-42, DEP is required to develop and implement certain standards.

18A-42. Establishment of building energy performance standards.

(a) *Requirement.* The Department must develop and implement building energy performance standards for covered buildings. The standards must:

(1) increase the energy efficiency of existing covered buildings and expedite the reduction of greenhouse gas emissions from the building sector;

(2) use normalized net site EUI as a performance metric wherever feasible or net site EUI if the Director determines that normalization is not practical as performance metric;

(3) account for onsite solar generation in the performance metric;

(4) use the benchmarking tool to report building energy performance to the County; and

(5) utilize available data sources and best practices to establish interim and final performance standards.

8. What are the final building performance standards?

The final performance standards would ultimately be set within executive regulations under Method 2 – Council will have the option to approve or deny the regulations. DEP has contracted Steven Winter Associates, Inc. to identify suggested final performance standards for different building types; undertake comprehensive data analysis on the magnitude of energy savings and greenhouse gas emission reductions achievable through BEPS; as well a cost-benefit analysis of BEPS implementation. The BEPS Technical Analysis Report was released in February 2022 and published on DEP's website.[11]

9. What are the proposed target settings as identified by the BEPS Technical Report?

As cited in the BEPS Technical Report Executive Summary[12], the impact analysis was evaluated based on three potential targets, see below. These targets were developed by applying the following methodology to each building type. The result is that all buildings in the same occupancy type grouping have the same EUI targets (e.g., all office buildings have the same site EUI targets, all multifamily buildings have the same site EUI targets, all hospitals have the same site EUI targets).

- Energy Efficiency (EE) Target: Sets a target such that all energy end uses were deeply optimized and tuned without impacting occupant use patterns. This target-setting method assumed that typical buildings could maintain the use of fossil-fuel burning systems for typical end uses such as space and water heating but would minimize inefficiencies of those systems.

- Mid-point between EE and ZNC Targets: This target type exemplifies how the site EUI targets can be chosen anywhere along this spectrum between the EE and ZNC targets. A mid-point target was calculated to identify the impact of splitting the difference between the two targets. This target could be achieved using a combination of energy efficiency measures and partial electrification, or electrification of some, but not all, fossil-fuel-driven systems. In framing this report, a site EUI target higher than the EE target was deemed unsuitable as it would not drive enough countywide savings. At the other end of the spectrum, a site EUI target lower than the ZNC target may not be technically achievable for most buildings.

- Zero Net Carbon-compatible (ZNC) Target: Sets the target to a level simulating the electrification of fossil-fuel end uses using market-ready technology in an energy-efficient

[11] BEPS Technical Report 2022 by Steven Winter Associates.
https://www.montgomerycountymd.gov/green/energy/beps.html#bepsreport
[12] BEPS Technical Report Executive Summary. Page 4.
https://www.montgomerycountymd.gov/green/Resources/Files/energy/Executive%20Summary%20-%20Building%20Energy%20Performance%20Standards%20Report.pdf

building. Electrification is one of the deepest forms of energy efficiency since electric equipment operates at a much higher efficiency than fuel-fired equipment This target was intended to be most compatible with Zero Net Carbon goals because it implicitly required the elimination of most on-site fuel burning.

The report identifies ZNC target that includes electrification and cleaning the grid as the most efficient target to achieve the County's Climate Action goal to aggressively reduce greenhouse gas emissions by 2035.

10. Are there challenges with BEPS compliance for building owners? If so, what are the available resources for building owners?

Alternative Compliance Approach: Building Performance Improvement Plan (BPIPs)

Under this Bill, if a building owner is unable to meet interim or final performance standards, the law provides for an alternative compliance approach, called Building Performance Improvement Plan (BPIP), as stated in the Bill:

See lines 51 -53, as follows:

A building performance improvement plan means a document in a format approved by the Director submitted by a covered building owner and approved by the Director as described in this Article.

See lines 384 – 391, as follows:

18A-42B. Building performance improvement plans.

(a) If a covered building owner cannot reasonably meet one or more of the applicable interim or final performance standards due to economic infeasibility or other circumstances beyond the owner's control, based on guidelines established by regulation, the owner may submit a proposed building performance improvement plan to the Department for review and approval by the Director in consultation with the Building Performance Improvement Board.

Discussion Point: Whether the Bill should define "economic infeasibility" under Section 18A-42B for building owners to have a better understanding and clarity related to their financial ability to meet certain performance standards? DEP has noted in its presentation that "economic infeasibility" is best defined within regulations rather than the Code to provide more flexibility to accommodate.

Under-resourced sector – Impact on Affordable Housing

Bill 16-21 seeks to provide for owners of affordable housing, nonprofits, and other applicable buildings an extension to allow more time to meet compliance standards or make necessary adjustments to facilitate meeting target performance. DEP reviewed the distinctions between BEPS applied to affordable housing and other jurisdictions that decided to exclude affordable housing from regulations and found the best approach is to treat *all* market-rate buildings and affordable housing as the same and provide additional tools and resources, as needed, to assist with compliance. Providing a separate category or metric for affordable housing did not.

The City of Gaithersburg cites the substantial impact the new policies would have on multi-family affordable rental housing ©139; citing that many owners may have already extended their ability to borrow or leverage funds to invest and this measure would be an even greater challenge. The City of Gaithersburg recommends delaying legislation until regulations have been established to better assess and understand the cost at hand.

Resources to Alleviate Financial Infeasibility

There are several financial resources, both existing and newly passed legislation, that expands resources from the state and local appropriations to fund energy efficiency projects for commercial and residential properties.

Tax Credit for Energy Efficiency Buildings: Council Bill 10-20 (sponsored by Lead Sponsors Councilmembers Friedson and Riemer and Co-Sponsor then-Council President Katz). Bill 10-20 established: (1) a two-tiered property tax credit for new commercial and multifamily construction, based upon energy reduction metrics and industry certifications; and (2) a separate two-tiered property tax credit for existing commercial and multifamily buildings, based upon energy reduction metrics and industry certifications.

Montgomery County Green Bank: a lending institution for County residents who need additional funding or resources to undertake the implementation of BEPS for energy efficiency buildings. Montgomery County Bank provided written testimony in support of Bill ©155.

Bill 44-21, Montgomery County Green Bank – Funding – Fuel Tax Revenue, was introduced by then Council President Hucker and unanimously passed by the Council on February 1, 2022, would mandate the Council appropriate 10% of the fuel-energy tax revenue to the County Green Bank each year in the annual operating budget.

Utility Incentives: Building owners and tenants who directly pay an energy invoice can take advantage of the EmPOWER Maryland utility incentives, which are ratepayer-funded, utility-provided energy efficiency programs. See Stakeholder Report ©74.

In addition, the Maryland Energy Administration (MEA) is a program that provides qualifying owners of covered buildings access to financial assistance for energy efficiency improvements.

11. What changes, if any, are needed to state law to increase statutory penalties?

According to the County's Stakeholder Recommendation Report, it suggests the County will seek to amend Md. Code Ann. Local Gov't. § 10-202(b)) to authorize the County to penalize building owners who fail to comply with BEPS at a larger amount. Senate Bill 81/House Bill 61, Charter Counties - Enforcement of Local Building Performance Laws (Building Energy Performance Standards Act of 2022)[13], was introduced during the 2022 Maryland General Assembly session. SB 81 was passed favorably out of the Environment and Transportation Committee; however, House Bill 61 has not received a Committee vote yet, the public hearing was on January 19.

Currently, the County has the authority to assess a fine of $1,000. SB 81/HB 61 would amend the authority for the County to increase fines above the statutory capped amount up to $10 per square foot of gross floor area to enforce local building energy performance laws.

FISCAL AND RACIAL EQUITY & SOCIAL JUSTICE IMPACT

The Fiscal Impact Statement (FIS) concluded that Bill 16-21 would have an impact on expenditures. FIS reported that Operating expenses total $780,000 per year when the phase-in is complete. Combined with the personnel costs, total program costs are almost $1.2 million per year. ©78.

The Office of Legislative Oversight (OLO) concluded the Bill would have negative economic impacts for owners and tenants, in the short term. However, the bill would positively impact local businesses that provide services related to energy conservation and efficiency. ©52

The OLO expects Bill 16-21 to favorably impact racial equity and social justice impact in the County ©74.

AMENDMENTS FOR THE COMMITTEE'S CONSIDERATION

1. BEPS Proposed Compliance Timeline – Extends Reporting and Performance Cycle by One Year

The following amendments were recommended by the Department of Environmental Protection (DEP):

As introduced, Bill 16-21 sets a long-term performance standard with a 4-year interim performance target to make sure buildings can confidently meet final standards. However, to align with an extended timeline and to accommodate establishing the advisory board, DEP recommends an extension from 4 to 5 years.

Amend Lines 108 – 110, as follows:

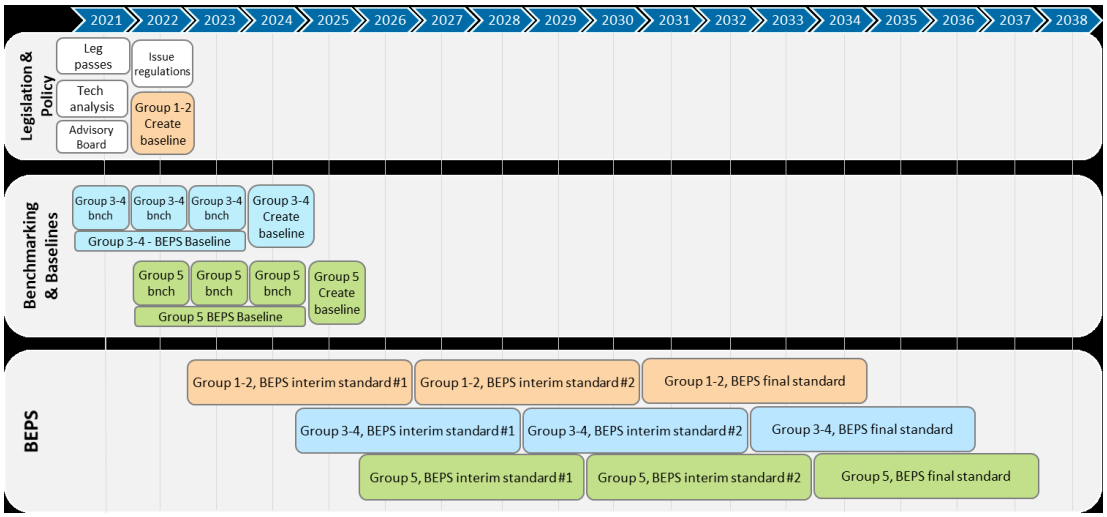
> *Interim performance standard* means the numeric value of site EUI which covered buildings must achieve or exceed by a fixed date every **[[**four (4)**]]** five (5) years from a covered building's performance baseline.

[13] SB81/HB61, https://mgaleg.maryland.gov/mgawebsite/Legislation/Details/SB0081

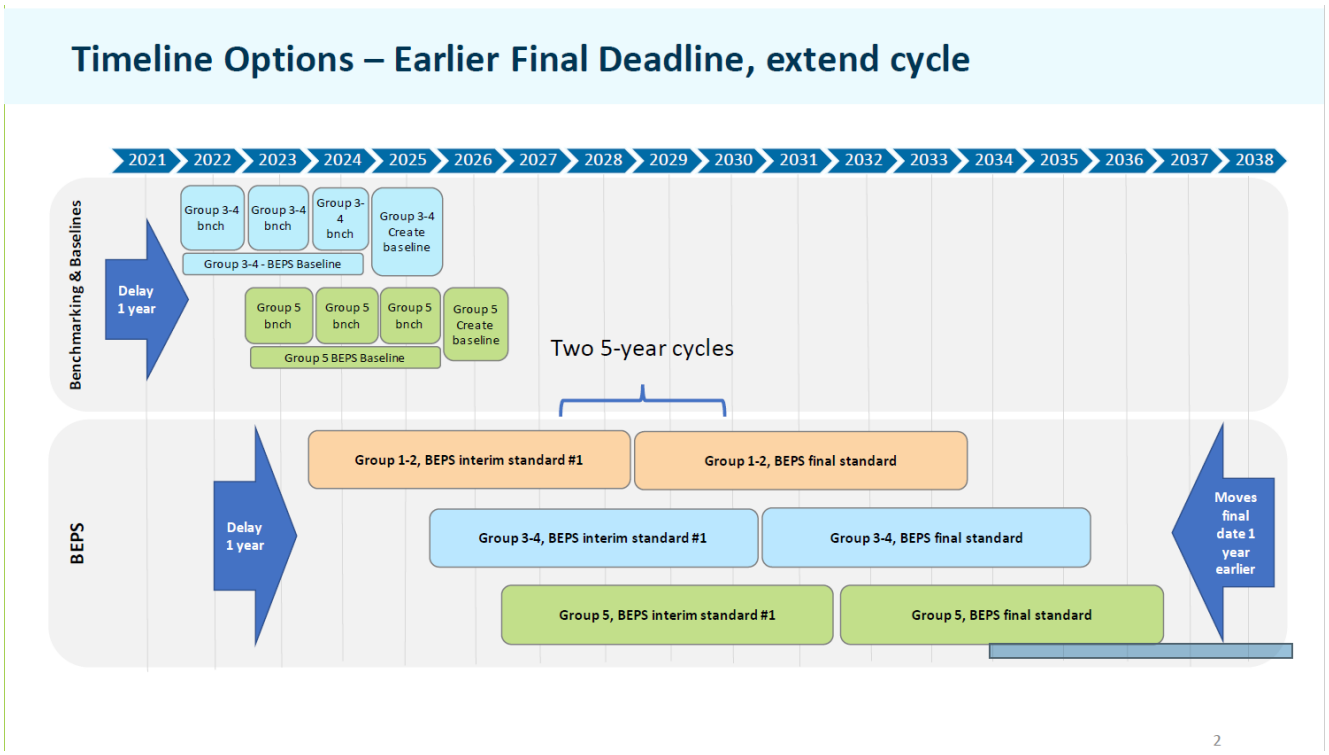
Decision Point: Whether to extend the interim performance standard from 4 to 5 years?

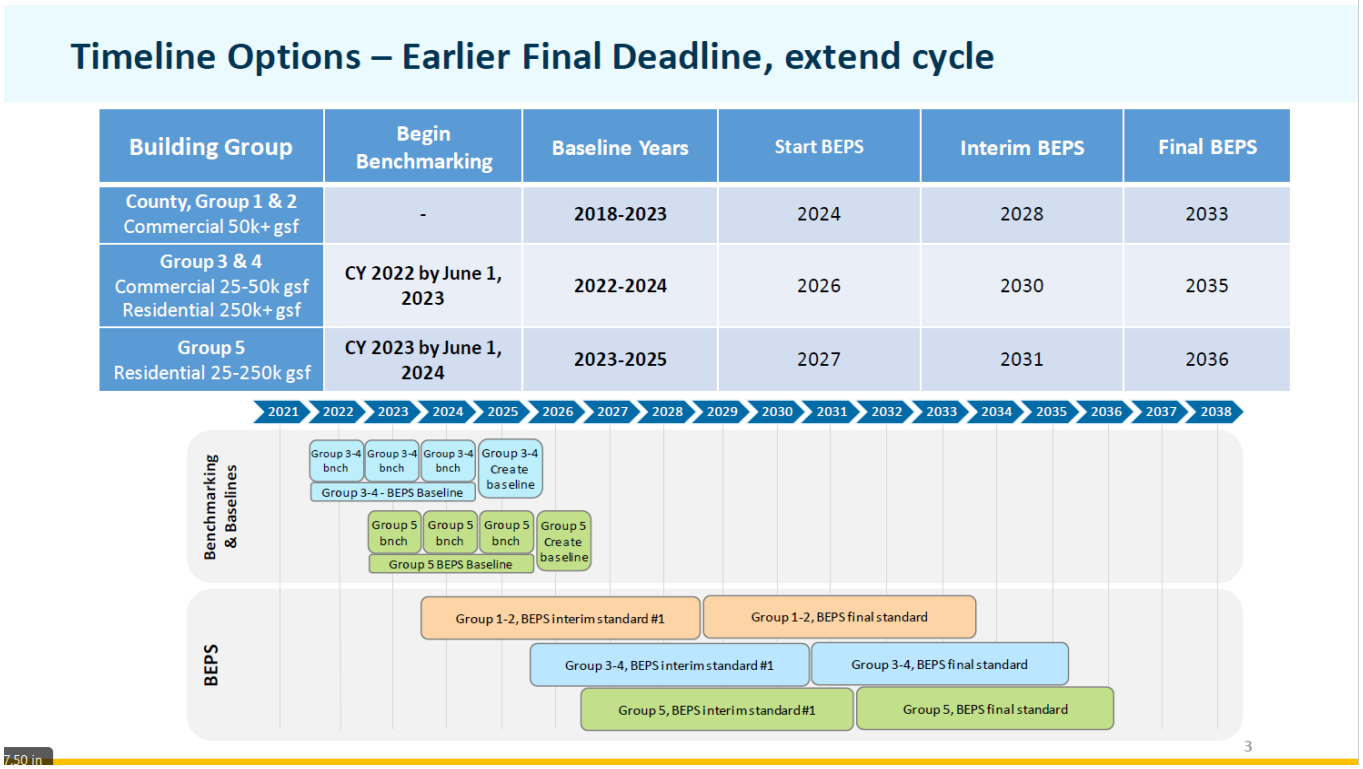
Amendments to Benchmarking Timeline

Group 4 and 5, multifamily dwelling units, who are new to benchmarking would initially have at least 7 years before benchmarking performance is required. The trajectory approach enables long-term planning for major energy upgrades and flexibility for owners to make the investment over time to address interim performance standards over two separate cycles and then a final performance standard. ©246.



However, moving forward, DEP staff has recommended amendments that would require buildings to have *one* interim standard and a final performance standard. This shortens the timeframe and provides a more assertive approach to addressing climate action goals without any further delay on BEPS implementation. ©247-248





Lines 187-200, as follows:

(2) No later than June 1, **[[**2022**]]** 2023, and every June 1 thereafter, the County must benchmark any County-owned covered building whose gross floor area

equals or exceeds 25,000 square feet but is less than 50,000 square feet for the previous calendar year and report the benchmarking information to the Department.

* * *

Group 3 and Group 4 covered buildings. No later than June 1, **[[**2022**]]** 2023, and every June 1 thereafter, the owner of any Group 3 or Group 4 covered building must benchmark the building for the previous calendar year and report the benchmarking information to the Department.

Group 5 covered buildings. No later than June 1, **[[**2023**]]** 2024, and every June 1 thereafter, the owner of any Group 5 covered building must benchmark the building for the previous calendar year and report the benchmarking information to the Department.

Further, amend the timeline to reflect two full complete years that provide sufficient data points and accurate reporting.

Amend lines 255 – 318, as follows:

(c) *Performance baseline.* The performance baseline for each covered building must be calculated as follows:

(1) County-owned covered buildings whose gross floor area equals or exceeds 50,000 square feet, Group 1 covered buildings, and Group 2 covered buildings: Average of the 2 complete years with the highest normalized net site EUI between calendar year 2018 and calendar year **[[**2021**]]** 2022.

(2) County-owned covered buildings whose gross floor area is at least 25,000 square feet but not greater than 50,000 square feet, Group 3, and Group 4 covered buildings: Average of the 2 years with the highest normalized net site EUI between calendar year **[[**2021**]]** 2022 and calendar year **[[**2023**]]** 2024.

(3) Group 5 covered buildings: Average of the 2 complete years with the highest normalized net site EUI between calendar year **[[**2022**]]** 2023 and calendar year **[[**2024**]]** 2025.

(4) Newly constructed covered buildings: Average of the 2 complete years with the highest normalized net site EUI over the first 3 years of benchmarking reporting.

(d) *Interim and final performance standards*.

(1) No later than **[[**June 1, 2022**]]** December 31, 2023, the County Executive must issue Method (2) regulations establishing final performance standards for each building type using the normalized site EUI performance metric wherever feasible or site EUI if the Director determines that normalization is not practical.

(2) The Department must calculate **[[**each**]]** interim performance **[[**standard**]]** standards for each covered building with the starting point set at the covered building's performance baseline and continuing to the final performance standard.

(3) Each covered building must demonstrate progress towards the final performance standard by complying with interim performance standards every **[[**4**]]** 5 years after the performance baseline year as follows:

(A) County-owned covered buildings whose gross floor area equals or exceeds 50,000 square feet, Group 1, and Group 2 covered buildings:

(i) Interim performance **[[**standards**]]** standards: December 31, **[[**2026**]]** 2028, and evaluated with June 1, **[[**2027**]]** 2029.**[[**, benchmarking, and December 31, 2030, and evaluated with June 1, 2031, benchmarking.**]]**

(ii) Final performance standard: December 31, **[[**2034**]]** 2033, and evaluated with June 1, **[[**2035**]]** 2034, benchmarking.

(B) County-owned covered buildings whose gross floor area is at least 25,000 square feet but not greater than 50,000 square feet, Group 3, and Group 4 covered buildings:

(i) Interim performance **[[**standards**]]** standard: December 31, **[[**2028**]]** 2030, evaluated with June 1, **[[**2029**]]** 2031.**[[**, benchmarking, and December 31, 2032, evaluated with June 1, 2033, benchmarking.**]]**

(ii) Final performance standard: December 31, **[[**2036**]]** 2035, evaluated with June 1, **[[**2037**]]** 2036, benchmarking.

(C) Group 5 covered buildings:

(i) Interim performance **[[**standards**]]** standard: December 31, **[[**2029**]]** 2031, evaluated with June 1, **[[**2030**]]** 2032.**[[**, benchmarking, and December 31, 2033, evaluated with June 1, 2034, benchmarking.**]]**

(ii) Final performance standard: December 31, **[[**2037**]]** 2036, evaluated with June 1, **[[**2038**]]** 2037, benchmarking.

(D) Newly constructed buildings will be added to a coverage group (Group 1, Group 2, Group 3, Group 4, or Group 5) based on gross floor area and building type:

(i) Interim performance **[[**standards**]]** standard: Evaluated with the **[[**first**]]** interim standard of the building's coverage group following creation of the performance baseline.

Decision Point: Whether to amend the BEPS proposed timeline for baseline performance, interim and final standards by extending the timeline by one year?

Amend lines 245, as follows:

(b) Building types.

(1) No later than **[[**June 1, 2022**]]** December 31, 2023, the County Executive must issue Method (2) regulations establishing building types for every covered building.

Decision Point: Whether to amend the timeline requirement for DEP to develop and provide the Council executive regulations for review? The proposed date, December 31, 2023, would be four years prior to the first interim standard for covered buildings.

2. Councilmember Riemer's Amendment

During the December 9 worksession, the Committee adopted Councilmember Riemer's amendment to strike "onsite solar generation" and replace it with "renewable energy." For consistency throughout Bill 16-21, the Council staff recommends, and DEP supports to amend the definitions for *Net site EUI* and *Normalized net site energy*:

Amend lines 118 and 125, as follows:

Net site EUI means site energy use minus energy generated from **[[**onsite solar**]]** renewable energy sources divided by the total gross floor area of the building expressed in kBtu/GSF.

Normalized net site energy means the site energy use by the covered building normalized for weather and other characteristics within the limits of the capabilities of the benchmarking tool and normalized for other factors as determined by the Department minus energy generated from **[[**onsite solar**]]** renewable energy sources.

Decision Point: Whether to support amending the definitions to remove onsite solar and replace with renewable energy?

3. Final Performance Standard Definition

DEP informed Council staff that its policy advisors advised striking "or exceed" from the definition of final performance standard because based on experience in St. Louis, "exceeding" could reasonably be interpreted as a higher EUI (i.e., not coming in under the performance standard but instead coming in above the standard).

Amend lines 75, as follows:

Final performance standard means the numeric value of site EUI that each covered building must ultimately achieve **[[**or exceed**]]**.

Decision Point: Whether to adopt the amendment to remove "or exceed" from the definition of final performance standard?

4. The National Housing Trust (NHT) had a myriad of amendments for the Committee to consider, see testimony ©196. Below are some of the recommended legislation improvements:

(a) Amend the definition of affordable housing to reflect the affordability status of a building.

Amend lines 25-28, as follows:

Affordable housing means a **[[**dwelling unit**]]** multi-family building that includes 50% of dwelling units whose sale or rental price **[[**does**]]** do not exceed that of a moderately priced dwelling unit under Chapter 25A. **[[**or group senior assisted housing.**]]**

Given the improved definition from NHT's testimony, DEP believes affordable senior housing would be included within this more general affordable housing definition without reference to this term, and therefore striking "group senior assisted housing" would not alter the intended

meaning. The County Executive supports the amendment. Council staff recommends support for the amendment.

Decision Point: Whether the Committee supports the amendment for the definition of affordable housing?

(b) Add a representative from the Montgomery County Department of Housing and Community Affairs (DHCA) to the Building Performance Improvement Board.

Amend 332-336, as follows:

18A-42A. Building Performance Improvement Board.

(a) *Established*. The County Executive must appoint, subject to confirmation by the Council, a Building Performance Improvement Board comprised of 15 voting members. Designees of the Department of Environmental Protection, Department of General Services, Department of Housing and Community Development, and Department of Permitting Services are ex officio nonvoting members of the Board.

Decision Point: Whether the Committee supports the amendment for the include DHCA as ex officio non-voting member?

(c) Amend "18A-42C. Extensions and adjustments" to allow for the consideration of other compliance challenges that may warrant flexibility.

(b) The Director, in consultation with the Building Performance Improvement Board, may grant an extension or adjustment to an interim or final performance standard for a covered building whose owner submits a request along with documentation at least 90 days before the deadline for submitting documentation of compliance with an interim or final performance standard if any of the following conditions apply:

(1) A demolition permit has been issued or a demolition of the building is planned before the deadline to comply with the next interim performance standard;

(2) The building is in financial distress under Section 18A-39 (g)(1);

(3) The building is exempt from real property taxes and the owner is able to certify by the statement of a certified public accountant or by sworn affidavit that the owner's revenue less expenses for the previous 2 years was negative; or

(4) The Director determines that strict compliance with those standards would be economically infeasible, as defined by regulation, due to circumstances beyond the owner's control.

(5) Other acceptable conditions as determined by the Director by regulation.

Decision Point: Whether the Committee should consider the amendment from NHT to expand the Director's authority for granting an extension for performance standards?

5. Amendment Requested by Archdiocese of Washington (ADW).

ADW requested to include "house of worships" as a representative on the Building Energy Performance Board. See testimony at 184. Council staff supports this amendment. County Executive also supports this amendment and recommends expanding the scope to "nonprofit building owners or managers."

Amend lines 346-355, as follows:

(b) *Membership*. Each voting member of the Board must be a resident of the County or a member of the governing body or staff of an entity doing business in the County. The Board should include:

(1) Representatives of local electricity or natural gas utilities;

(2) Providers of energy efficiency, building resilience and/or renewable energy services or consulting;

(3) Owners or managers of affordable housing;

(4) Owners or managers of multi-family residential buildings containing market-rate units;

(5) Nonresidential building owners or managers;

(6) Nonprofit building owners or managers;

[[(6)]] (7) Technical building design or operations professionals;

[[(7)]] (8) Providers of facilities, mechanical, or similar engineering services;

[[(8)]] (9) Commercial or multi-family residential construction finance or investment professionals,

[[(9)]] (10) Representatives of nonprofit organizations dedicated to climate action, resiliency, public health, green building, economic development, or building decarbonization; and

(11) Representatives of nonprofit organizations dedicated to racial equity or environmental justice.

Decision Point: Whether the Committee should consider amendments to include on the BPIP Board non-profit owners or managers?

6. Amendment Requested by the Montgomery County Agricultural Advisory Committee (AAC).

Several advocacy groups, including The Montgomery County Agricultural Advisory Committee (AAC), requested an amendment to exclude all existing and new agricultural buildings in the County that exceed 25,000 square feet in size from benchmarking and performance standards because most of the agricultural buildings only use electricity for lighting and these buildings do not have mechanical heating and air conditioning systems. The County Executive opposes this amendment.

Add lines 179-180, as follows:

18A-38B. Applicability.

This Article does not apply to a covered building for which more than 50% of the total gross floor area is used for:

* * *

(c) transportation, communications, or utility infrastructure [[.]]; or

(d) existing and new agricultural buildings used for farming, production, and storage.

Decision Point: Whether to amend the Bill to exclude agricultural buildings?

NEXT STEPS: Roll call vote on whether to enact Bill 16-21 with amendments, as recommended by the T&E Committee.

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Bill No. 16-21
Concerning: Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards – Amendments
Revised: 7/14/2021 Draft No. 2
Introduced: May 4, 2021
Expires: November 4, 2022
Enacted:
Executive:
Effective:
Sunset Date: None
Ch. _____, Laws of Mont. Co. _____

COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND

Lead Sponsor: Council President at the request of the County Executive

AN ACT to:

(1) expand the number of buildings covered by benchmarking requirements;
(2) amend certain definitions;
(3) establish energy performance standards for covered buildings with certain gross floor area;
(4) create a Building Performance Improvement Board; and
(5) generally revise County law regarding environmental sustainability.

By amending
Montgomery County Code
Chapter 18A, Environmental Sustainability
Sections 18A-38A, 18A-38B, 18A-39, 18A-42, and 18A-43

By adding
Montgomery County Code
Chapter 18A, Environmental Sustainability
Sections 18A-38, 18A-42A, 18A-42B, 18A-42C, 18A-43A, 18A-43B and 40-10B

Boldface	*Heading or defined term.*
Underlining	*Added to existing law by original bill.*
[Single boldface brackets**]**	*Deleted from existing law by original bill.*
Double underlining	*Added by amendment.*
[[Double boldface brackets**]]**	*Deleted from existing law or the bill by amendment.*
* * *	*Existing law unaffected by bill.*

The County Council for Montgomery County, Maryland approves the following Act:

Sec. 1. Sections 18A-38A, 18A-38B, 18A-39, 18A-42, and 18A-43 are amended and Sections 18A-38, 18A-42A, 18A-42B, 18A-42C, 18A-43A, 18A-43B and 40-10B are added as follows:

Article 6. Building Energy Use Benchmarking and Performance Standards.

18A-38[A]. Intent.

The intent of this Article is to:

* * *

(b) engage the commercial and multi-family residential building sector with building energy information crucial to adopting energy conservation and efficiency opportunities;

* * *

(d) strengthen the local economy by encouraging more efficient business operations and providing new opportunities for local businesses that provide energy conservation and efficiency services; **[**and**]**

(e) recognize building owners that have made investments to improve their building energy performance and expand in-house capacity for energy management**[**.**]**; and

(f) improve the energy performance of covered buildings through established building energy performance standards, therefore, reducing greenhouse gas emissions from the built environment and helping the County achieve its climate action goal of zero greenhouse gas emissions by 2035.

18A-38[B]A. Definitions.

In this Article, the following words have the meanings indicated:

Affordable housing means a dwelling unit whose sale or rental price does not exceed that of a moderately priced dwelling unit under Chapter 25A or group senior assisted housing.

Benchmark means to track and input a building's energy consumption data and other relevant building information for 12 consecutive months, as required by the benchmarking tool, to quantify the building's energy use.

Benchmarking tool means the website-based software, commonly known as ENERGY STAR Portfolio Manager, or any successor system, **[**developed and maintained**]** approved by the United States Environmental Protection Agency to track and assess the relative energy use of buildings nationwide.

Building means:

(1) any single structure utilized or intended for supporting or sheltering any occupancy, except if a single structure contains two or more individually metered units operating independently that have stand-alone heating, cooling, hot water, and other mechanical systems, and no shared interior common areas, or;

(2) two or more structures utilized or intended for supporting or sheltering any occupancy, that:

(A) are serviced by a common energy meter;

(B) have a common heating or cooling system;

(C) share interior common areas; or

(D) whose configuration otherwise prevents an accurate determination of the energy consumption attributable to each individual structure.

Building energy performance standard means a policy that sets a minimum required level of energy performance for covered buildings.

Building performance improvement plan means a document in a format approved by the Director submitted by a covered building owner and approved by the Director as described in this Article.

Building type means a category of covered buildings subject to the same final performance standards.

* * *

County-owned covered building means **[**any**]** a building owned by the County**[**, or any group of buildings owned by the County that have the same property identification number, that**]** whose gross floor area equals or exceeds **[**50,000**]** 25,000 **[**in total building**]** square **[**footage**]** feet.

Covered building means **[**any**]** a County-owned **[**building**]**, Group 1 **[**covered building**]**, **[**or**]** Group 2, Group 3, Group 4, or Group 5 covered building.**[**Covered building does not include any building with more than 10% of total building square footage which is used for

(1) public assembly in a building without walls;

(2) warehousing;

(3) self storage; or

(4) a use classified as manufacturing and industrial or transportation, communication, and utilities.**]**

* * *

[*Energy use intensity* or *EUI* means a numeric value calculated by the benchmarking tool that represents the energy consumed by a building relative to its size.**]**

Final performance standard means the numeric value of site EUI that each covered building must ultimately achieve or exceed.

Gross floor area means the total building square footage measured between the principal exterior surfaces of the enclosing fixed walls of a building. *Gross floor area* consists of all areas inside the building, including lobbies, tenant areas, common areas, meeting rooms, break rooms, the base level of atriums, restrooms, elevator shafts, stairwells, mechanical equipment areas, basements,

and storage rooms. *Gross floor area* does not include exterior spaces, balconies, patios, exterior loading docks, driveways, covered walkways, outdoor play courts (e.g., tennis, basketball), parking, the interstitial space between floors (which house pipes and ventilation), and crawl spaces. *Gross floor area* is not the same as rentable space, but rather includes all areas inside the building(s).

Group 1 covered building means **[**any**]** a privately owned nonresidential covered building**[**, or any group of nonresidential buildings that have the same property identification number, not owned by the County that**]** whose gross floor area equals or exceeds 250,000 **[**in total building**]** square **[**footage**]** feet.

Group 2 covered building means **[**any**]** a privately owned nonresidential covered building**[**, or any group of nonresidential buildings that have the same property identification number, not owned by the County that**]** whose gross floor area equals or exceeds 50,000 square feet **[**gross floor area**]** but is less than 250,000 **[**in total building**]** square **[**footage**]** feet.

Group 3 covered building means:

(1) a privately owned nonresidential covered building whose gross floor area equals or exceeds 25,000 square feet but is less than 50,000 square feet; or

(2) a privately owned nonresidential covered building whose gross floor area equals or exceeds 50,000 square feet and whose use type was previously exempted under this Article.

Group 4 covered building means a privately owned multi-family residential or mixed-use covered building whose gross floor area equals or exceeds 250,000 square feet.

Group 5 covered building means a privately owned multi-family residential or mixed-use building whose gross floor area equals or exceeds 25,000 square feet but is less than 250,000 square feet.

Interim performance standard means the numeric value of site EUI which covered buildings must achieve or exceed by a fixed date every four (4) years from a covered building's performance baseline.

Interior common area means shared space within a building such as hallways, lobbies, stairwells, and other shared amenities (e.g., gyms, laundry rooms, party rooms).

Mixed-use building means a building that contains both residential units and commercial space.

Net site EUI means site energy use minus energy generated from onsite solar sources divided by the total gross floor area of the building expressed in kBtu/GSF.

Newly constructed covered building means a covered building whose owner has completed construction, received a use and occupancy permit, and is able to begin benchmarking the building's energy use and other characteristics.

Normalized net site energy means the site energy use by the covered building normalized for weather and other characteristics within the limits of the capabilities of the benchmarking tool and normalized for other factors as determined by the Department minus energy generated from onsite solar sources.

Normalized net site EUI means the total normalized net site energy use consumed by a covered building in one year divided by the total gross floor area of the building expressed in kBtu/GSF.

Owner means an individual or legal entity in whose name a building is titled, or in the case of a community association, the governing body of either a condominium or a cooperative housing corporation.

Performance baseline means the normalized net site EUI for a covered building averaged over two calendar years.

Performance metric means an objectively verifiable numeric measure of normalized site EUI to determine building performance.

Process load means energy consumed for bona fide purposes other than heating, cooling, ventilation, domestic hot water, lighting, appliances, office equipment, data centers, or other plug loads.

* * *

Reported benchmarking information means the descriptive information about a building, its operating characteristics, and information generated by the benchmarking tool regarding the building's energy consumption, **[**and**]** efficiency, and performance. *Reported benchmarking information* includes the building identification number, address, gross floor area, energy performance score, site energy use intensity, and annual greenhouse gas emissions.

[*Residential occupancy* means the occupancy of dwelling units in any building that includes one or more dwellings.**]**

Site energy use means all energy used onsite by a covered building to meet the energy loads of a building, including electricity delivered to the building through the electric grid and generated onsite with renewable sources; natural gas; district steam; district hot and chilled water; diesel; propane; fuel oil; wood; coal; and other fuels used onsite. Site energy use does not include electricity used to charge vehicles.

Site energy use intensity or *site EUI* means a numeric value calculated by the benchmarking tool that represents the energy consumed by a covered building relative to its size in terms of energy used per square foot of gross floor area per year.

Tenant means a person or legal entity occupying or holding possession of a building, part of a building, or premises under a rental agreement.

[*Total building square footage* means the sum of the gross horizontal area of the several floors of a building or structure measured from the exterior faces of the exterior walls or from the center line of party walls. In a covered but unenclosed area, such as a set of gasoline pumps or a drive-through area, total building square footage means the covered area. Total building square footage does not include any:

(1) basement or attic area with a headroom less than 7 feet 6 inches;

(2) area devoted to unenclosed mechanical, heating, air conditioning, or ventilating equipment;

(3) parking structure; or

(4) accessory structure to a residential building.**]**

18A-38B. Applicability.

This Article does not apply to a covered building for which more than 50% of the total gross floor area is used for:

(a) public assembly in a building without walls;

(b) industrial uses where the majority of energy is consumed for manufacturing, the generation of electric power or district thermal energy to be consumed offsite, or for other process loads; or

(c) transportation, communications, or utility infrastructure.

18A-39. Energy use benchmarking.

(a) *County-owned covered buildings*.

(1) No later than June 1, 2015, and every June 1 thereafter, the County must benchmark any County-owned covered building**[**s**]** whose gross floor area equals or exceeds 50,000 square feet for the previous calendar year and report the benchmarking information to the Department.

(2) No later than June 1, 2022, and every June 1 thereafter, the County must benchmark any County-owned covered building whose gross floor area equals or exceeds 25,000 square feet but is less than 50,000 square feet for the previous calendar year and report the benchmarking information to the Department.

* * *

(d) *Group 3 and Group 4 covered buildings.* No later than June 1, 2022, and every June 1 thereafter, the owner of any Group 3 or Group 4 covered building must benchmark the building for the previous calendar year and report the benchmarking information to the Department.

(e) *Group 5 covered buildings.* No later than June 1, 2023, and every June 1 thereafter, the owner of any Group 5 covered building must benchmark the building for the previous calendar year and report the benchmarking information to the Department.

(f) *Newly constructed covered building.* Following the first full calendar year that energy data can be collected and that the building was occupied, on average, by at least one full-time-equivalent employee (40 person-hours per week) exclusive of security guards, janitors, construction workers, landscapers, and other maintenance personnel throughout the calendar year being reported, the owner of any newly constructed covered building must benchmark the building and report to the Department no later than June 1 of that following year, and every June 1 thereafter.

[(d)**]** (g) *Waiver*. **[**The Director may waive the benchmarking requirements of this Section if**]** For any time period for which the owner of a covered building documents, in a form required by regulation, **[**that the building**]** any of the conditions below, the Director may waive the benchmarking requirements of this Section**[**:**]**.

(1) **[**is in financial**]** financial distress, defined as a building that:

(A) is the subject of a tax lien sale or public auction due to property tax arrearages;

(B) is controlled by a court appointed receiver; or

(C) was recently acquired by a deed in lieu of foreclosure;

(2) **[**had average physical occupancy of less than 50% throughout the calendar year for which benchmarking is required**]** on average, less than one full-time-equivalent employee occupied the building during the calendar year being reported; **[**or**]**

(3) the covered building is **[**new**]** newly **[**construction**]** constructed and has received its certificate of use and occupancy during the calendar year for which benchmarking is required**[**.**]**; or

(4) the covered building was demolished or received its demolition permit during the calendar year for which benchmarking is required.

18A-42. Establishment of building energy performance standards.

(a) *Requirement.* The Department must develop and implement building energy performance standards for covered buildings. The standards must:

(1) increase the energy efficiency of existing covered buildings and expedite the reduction of greenhouse gas emissions from the building sector;

(2) use normalized net site EUI as a performance metric wherever feasible or net site EUI if the Director determines that normalization is not practical as performance metric;

(3) account for onsite solar generation in the performance metric;

(4) use the benchmarking tool to report building energy performance to the County; and

(5) utilize available data sources and best practices to establish interim and final performance standards.

(b) *Building types*.

(1) No later than June 1, 2022, the County Executive must issue Method (2) regulations establishing building types for every covered building.

(2) Covered buildings within each building type must have shared characteristics that facilitate the implementation and enforcement of this Article. The Department may define one or more building types to be identical to ENERGY STAR property type categories.

(3) All covered buildings within the same building type category must be subject to the same final performance standards that facilitate the implementation and enforcement of this Article.

(c) *Performance baseline*. The performance baseline for each covered building must be calculated as follows:

(1) County-owned covered buildings whose gross floor area equals or exceeds 50,000 square feet, Group 1 covered buildings, and Group 2 covered buildings: Average of the 2 years with the highest normalized net site EUI between calendar year 2018 and calendar year 2021.

(2) County-owned covered buildings whose gross floor area is at least 25,000 square feet but not greater than 50,000 square feet, Group 3, and Group 4 covered buildings: Average of the 2 years with the highest normalized net site EUI between calendar year 2021 and calendar year 2023.

(3) Group 5 covered buildings: Average of the 2 years with the highest normalized net site EUI between calendar year 2022 and calendar year 2024.

(4) Newly constructed covered buildings: Average of the 2 years with the highest normalized net site EUI over the first 3 years of benchmarking reporting.

(d) *Interim and final performance standards*.

(1) No later than June 1, 2022, the County Executive must issue Method (2) regulations establishing final performance standards for each building type using the normalized site EUI performance metric wherever feasible or site EUI if the Director determines that normalization is not practical.

(2) The Department must calculate each interim performance standard for each covered building with the starting point set at the covered building's performance baseline and continuing to the final performance standard.

(3) Each covered building must demonstrate progress towards the final performance standard by complying with interim performance standards every 4 years after the performance baseline year as follows:

(A) County-owned covered buildings whose gross floor area equals or exceeds 50,000 square feet, Group 1, and Group 2 covered buildings:

(i) Interim performance standards: December 31, 2026, and evaluated with June 1, 2027, benchmarking, and December 31, 2030, and evaluated with June 1, 2031, benchmarking.

(ii) Final performance standard: December 31, 2034, and evaluated with June 1, 2035, benchmarking.

(B) County-owned covered buildings whose gross floor area is at least 25,000 square feet but not greater than 50,000 square feet, Group 3, and Group 4 covered buildings:

(i) Interim performance standards: December 31, 2028, evaluated with June 1, 2029, benchmarking, and December 31, 2032, evaluated with June 1, 2033, benchmarking.

(ii) Final performance standard: December 31, 2036, evaluated with June 1, 2037, benchmarking.

(C) Group 5 covered buildings:

(i) Interim performance standards: December 31, 2029, evaluated with June 1, 2030, benchmarking, and December 31, 2033, evaluated with June 1, 2034, benchmarking.

(ii) Final performance standard: December 31, 2037, evaluated with June 1, 2038, benchmarking.

(D) Newly constructed buildings will be added to a coverage group (Group 1, Group 2, Group 3, Group 4, or Group 5) based on gross floor area and building type:

(i) Interim performance standards: Evaluated with the first interim standard of the building's coverage group following creation of the performance baseline.

(ii) Final performance standard: Evaluated with the final performance standard of the building's coverage

group, if the performance baseline is created before the final performance standard.

(4) Covered buildings must maintain the final performance standards established by regulation.

(5) Covered buildings must demonstrate compliance with the interim and final performance standards by reporting building energy benchmarking data to the Department using the benchmarking tool. The Department must determine compliance by comparing the performance metric against the interim or final performance standards for the applicable building type.

18A-42A. Building Performance Improvement Board.

(a) *Established*. The County Executive must appoint, subject to confirmation by the Council, a Building Performance Improvement Board comprised of 15 voting members. Designees of the Department of Environmental Protection, Department of General Services, and Department of Permitting Services are ex officio nonvoting members of the Board.

(b) *Membership*. Each voting member of the Board must be a resident of the County or a member of the governing body or staff of an entity doing business in the County. The Board should include:

(1) representatives of local electricity or natural gas utilities;

(2) providers of energy efficiency, building resilience and/or renewable energy services or consulting;

(3) owners or managers of affordable housing;

(4) owners or managers of multi-family residential buildings containing market-rate units;

(5) nonresidential building owners or managers;

(6) technical building design or operations professionals;

(7) providers of facilities, mechanical, or similar engineering services;

(8) commercial or multi-family residential construction finance or investment professionals;

(9) representatives of nonprofit organizations dedicated to climate action, resiliency, public health, green building, economic development, or building decarbonization; and

(10) representatives of nonprofit organizations dedicated to racial equity or environmental justice.

(c) *Terms*. Each voting member serves a 3-year term beginning on January 1. Of the members first appointed, one-third must be appointed for 1-year terms, one-third must be appointed for 2-year terms, and one-third must be appointed for 3-year terms. A member must not serve more than 2 consecutive full terms. A member appointed to fill a vacancy serves the rest of the unexpired term. Members continue in office until their successors are appointed and qualified. The Board must elect one of its members as Chair who must serve as such for one calendar year or until a successor is elected.

(d) *Procedures*. The Board must adopt rules to govern its procedures including meeting frequency, managing Chair elections, establishing committees, and other issues that pertain to Board governance.

(e) *Duties and responsibilities*. The Board must generally advise the Department on implementation of building energy performance standards. This includes providing recommendations to the Director on:

(1) building type groupings;

(2) interim and final performance standards for each building type;

(3) managing situations where ownership of a building is transferred or a building's type changes;

(4) building performance improvement plan technical review and approval processes;

(5) complementary programs or policies, with particular attention to assistance or accommodations for challenged or under-resourced sectors, such as affordable housing, non-profit organizations, and small businesses; and

(6) enforcement of benchmarking requirements and performance standards.

(f) *Compensation*. The members of the Board serve without compensation.

18A-42B. Building performance improvement plans.

(a) If a covered building owner cannot reasonably meet one or more of the applicable interim or final performance standards due to economic infeasibility or other circumstances beyond the owner's control, based on guidelines established by regulation, the owner may submit a proposed building performance improvement plan to the Department for review and approval by the Director in consultation with the Building Performance Improvement Board.

(b) A building performance improvement plan must include:

(1) documentation of economic infeasibility or other circumstances beyond the owner's control such that interim or final performance standards are not met;

(2) a list of potential improvement measures, including engineering calculations of energy savings and a cost-benefit analysis of each potential improvement measure;

(3) a plan and timeline for achieving energy improvements to the building's performance that will provide cost-effective energy savings based on guidelines established by regulation, including

the estimated savings to be realized by implementing all of the cost-effective measures identified in the plan; and

(4) procedures for correcting any noncompliance or deviation from the plan.

(c) The owner must submit a building performance improvement plan to the Department at least 90 days before the deadline for submitting documentation of compliance with interim or final performance standards.

(d) If, after consulting with the Building Performance Improvement Board, the Director approves the building performance improvement plan, the owner must record the building performance improvement plan as a covenant in the County land records and deliver a certified copy of the recorded plan to the Department. After the Director receives the certified copy of the recorded plan, the covered building will be deemed to be in compliance with the applicable interim or final performance standards as long as the owner fulfills the terms of the building performance improvement plan within the timeline specified in the plan.

18A-42C. Extensions and adjustments.

(a) The Department may establish additional criteria recommended by the Building Performance Improvement Board for qualified affordable housing, nonprofit buildings, and other buildings as appropriate to modify compliance with interim or final performance standards by regulation.

(b) The Director, in consultation with the Building Performance Improvement Board, may grant an extension or adjustment to an interim or final performance standard for a covered building whose owner submits a request along with documentation at least 90 days before the

deadline for submitting documentation of compliance with an interim or final performance standard if any of the following conditions apply:

(1) a demolition permit has been issued or a demolition of the building is planned before the deadline to comply with the next interim performance standard;

(2) the building is in financial distress under Section 18A-39 (g)(1);

(3) the building is exempt from real property taxes and the owner is able to certify by the statement of a certified public accountant or by sworn affidavit that the owner's revenue less expenses for the previous 2 years was negative; or

(4) the Director determines that strict compliance with those standards would be economically infeasible, as defined by regulation, due to circumstances beyond the owner's control.

18A-[42]43. Annual report; disclosure of benchmarking and energy performance information.

(a) *Annual report required*. By October 1 of each year, the Director must submit a benchmarking and building performance report to the County Executive and County Council. The report must review and evaluate energy efficiency in covered buildings, including:

(1) summary statistics on the most recent reported energy benchmarking information, including information on the completeness and level of data quality of the building energy data being reported by building type;

(2) discussion of any energy efficiency trends, cost savings, and job creation resulting from energy efficiency improvements; **[**and**]**

(3) for County-owned covered buildings:

(A) the scores of County-owned covered buildings benchmarked; and

(B) whether the Director recommends any energy efficiency improvements for specific buildings; and

(4) building energy performance summary statistics, if an interim or final performance standard occurs for a covered building type in the current reporting cycle.

(b) *Disclosure of benchmarking and building energy performance standards* **[***information***]** *data*. The Director must make reported aggregated benchmarking and building energy performance standard **[**information**]** data readily available to the public, including on the open data website created under Section 2-154, and the Director may exempt information from disclosure only to the extent that disclosure is prohibited under federal or state law.

(c) *Exceptions to disclosure*. To the extent allowable under state law, the Director must not make the following readily available to the public:

(1) any individually **[-]**attributable reported benchmarking information from the first calendar year that a covered building is required to benchmark; **[**and**]**

(2) any individually**[-]**attributable reported benchmarking or building energy performance standards information relating to a covered building if the disclosure of the covered building's energy use would be harmful to the public interest and national security **[**that contains a data center, or television studio that together exceeds 10% of the total building square footage of the individual building until the Director finds that the benchmarking tool can make adequate adjustments for these facilities. When the Director finds

that the benchmarking tool can make adequate adjustments, the Director must report this data in the annual report**]**; and

(3) building performance improvement plans and associated documentation attributable to an individual covered building.

18A- [43]43A. Regulations[; penalties].

[(a)**]** The County Executive may issue Method (2) regulations to administer this Article.

[(b) Any violation of this Article is a Class A violation.**]**

18A-43B. Penalties; enforcement.

(a) A building owner must not knowingly provide false information required under this Article to the Department. The Director may revoke or modify an extension, adjustment, building performance improvement plan, or compliance with benchmarking or the interim or final performance standards in response to any false information provided by the building owner.

(b) Any violation of this Article is a Class A violation.

40-10B. Disclosure of covered building benchmarking and performance standards information.

(a) Before a buyer signs a contract for the sale of a covered building as defined in Section 18A-38A, the seller must:

(1) disclose to the prospective buyer that the building is subject to building energy performance standards in Chapter 18A, Article 6;

(2) transfer the following records to the prospective buyer:

(A) the benchmarking property record from the benchmarking tool;

(B) documentation of data verification; and

(C) any other related records relevant to maintain compliance with Chapter 18A, Article 6; and

(3) provide to the prospective buyer the following information:

(A) performance baseline;

(B) interim and final performance standards; and

(C) building performance improvement plan.

(b) The prospective buyer must indicate, by signing an addendum to the contract or a separate section of the contract printed in boldface type, that the seller has made the disclosures and provided the information required by subsection (a).

Bill No. XX-21
Concerning: Environmental Sustainability -
Revised: [date] Draft No. [#]
Introduced: [date]
Expires: [18 mos. after intro]
Enacted: [date]
Executive: [date signed]
Effective: [date takes effect]
Sunset Date: [date expires]
Ch. [#], Laws of Mont. Co. [year]

COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND

By: [Click - Type sponsor(s)]

AN ACT to:

(1) expand the number of buildings covered by benchmarking requirements;
(2) establish energy performance standards for covered buildings;
(3) create a Building Performance Improvement Board; and
(4) generally revise County law regarding environmental sustainability.

By amending
Montgomery County Code
Chapter 18A, Environmental Sustainability
Sections 18A-38A, 18A-38B, 18A-39, 18A-42, and 18A-43

By adding
Montgomery County Code
Chapter 18A, Environmental Sustainability
Sections 18A-38, 18A-42A, 18A-42B, 18A-42C, 18A-44, 18A-45, and 40-10B

Boldface	*Heading or defined term.*
Underlining	*Added to existing law by original bill.*
[Single boldface brackets**]**	*Deleted from existing law by original bill.*
Double underlining	*Added by amendment.*
[[Double boldface brackets**]]**	*Deleted from existing law or the bill by amendment.*
* * *	*Existing law unaffected by bill.*

The County Council for Montgomery County, Maryland approves the following Act:

Sec. 1. Sections 18A-38A, 18A-38B, 18A-39, 18A-42, and 18A-43 are amended and Sections 18A-38, 18A-42A, 18A-42B, 18A-42C, 18A-44, 18A-45, and 40-10B are added as follows:

Article 6. Building Energy Use Benchmarking and Performance Standards.

18A-38[A]. Intent.

The intent of this Article is to:

(a) * * *

(b) engage the commercial and multifamily residential building sector with building energy information crucial to adopting energy conservation and efficiency opportunities;

(c) * * *

(d) strengthen the local economy by encouraging more efficient business operations and providing new opportunities for local businesses that provide energy conservation and efficiency services; **[**and**]**

(e) recognize building owners that have made investments to improve their building energy performance and expand in-house capacity for energy management**[**.**]**; and

(f) improve the energy performance of covered buildings through established building energy performance standards, thus reducing greenhouse gas emissions from the built environment and helping the County achieve its ambitious climate action goal of zero greenhouse gas emissions by 2035.

18A-38[B]A. Definitions.

In this Article, the following words have the meanings indicated:

Affordable housing means a multifamily building that includes more than 50 percent of dwelling units whose sale or rental price do not exceed that of a moderately priced dwelling unit under Chapter 25A.

Benchmark means to track and input a building's energy consumption data and other relevant building information for 12 consecutive months, as required by the benchmarking tool, to quantify the building's energy use.

Benchmarking tool means the website-based software, commonly known as ENERGY STAR Portfolio Manager, or any successor system, **[**developed and maintained**]** approved by the United States Environmental Protection Agency to track and assess the relative energy use of buildings nationwide.

Building means:

(1) any single structure utilized or intended for supporting or sheltering any occupancy, except if a single structure contains two or more individually metered units operating independently that have stand-alone heating, cooling, hot water, and other mechanical systems, and no shared interior common areas, or;

(2) two or more structures utilized or intended for supporting or sheltering any occupancy, that:

(A) are serviced by a common energy meter,

(B) have a common heating or cooling system,

(C) share interior common areas, or

(D) whose configuration otherwise prevents an accurate determination of the energy consumption attributable to each individual structure.

Building energy performance standard means a policy that sets a minimum required level of energy performance for covered buildings.

Building performance improvement plan means a document in a format approved by the Director submitted by a covered building owner and approved by the Director as described in this Article.

Building type means a category of covered buildings subject to the same final performance standards.

* * *

County-owned covered building means **[**any**]** a building owned by the County**[**, or any group of buildings owned by the County that have the same property identification number, that**]** whose gross floor area equals or exceeds **[**50,000**]** 25,000 **[**in total building**]** square **[**footage**]** feet.

Covered building means **[**any**]** a County-owned [building], Group 1 **[**covered building**]**, **[**or**]** Group 2, Group 3, Group 4, or Group 5 covered building. **[**Covered building does not include any building with more than 10% of total building square footage which is used for

(1) public assembly in a building without walls;

(2) warehousing;

(3) self storage; or

(4) a use classified as manufacturing and industrial or transportation, communication, and utilities.**]**

* * *

[*Energy use intensity* or *EUI* means a numeric value calculated by the benchmarking tool that represents the energy consumed by a building relative to its size.**]**

Final performance standard means the numeric value of site EUI that each covered building must ultimately achieve.

Gross floor area means the total building square footage measured between the principal exterior surfaces of the enclosing fixed walls of a building. *Gross floor area* consists of all areas inside the building, including lobbies, tenant areas, common areas, meeting rooms, break rooms, the base level of atriums, restrooms, elevator shafts, stairwells, mechanical equipment areas, basements,

and storage rooms. *Gross floor area* does not include exterior spaces, balconies, patios, exterior loading docks, driveways, covered walkways, outdoor play courts (e.g., tennis, basketball), parking, the interstitial space between floors (which house pipes and ventilation), and crawl spaces. *Gross floor area* is not the same as rentable space, but rather includes all area inside the building(s).

Group 1 covered building means **[**any**]** a privately owned nonresidential covered building**[**, or any group of nonresidential buildings that have the same property identification number, not owned by the County that**]** whose gross floor area equals or exceeds 250,000 **[**in total building**]** square **[**footage**]** feet.

Group 2 covered building means **[**any**]** a privately owned nonresidential covered building**[**, or any group of nonresidential buildings that have the same property identification number, not owned by the County that**]** whose gross floor area equals or exceeds 50,000 square feet **[**gross floor area**]** but is less than 250,000 **[**in total building**]** square **[**footage**]** feet.

Group 3 covered building means:

(1) a privately owned nonresidential covered building whose gross floor area equals or exceeds 25,000 square feet but is less than 50,000 square feet, or

(2) a privately owned nonresidential covered building whose gross floor area equals or exceeds 50,000 square feet and whose use type was previously exempted under this Article.

Group 4 covered building means a privately owned multifamily residential or mixed-use covered building whose gross floor area equals or exceeds 250,000 square feet.

Group 5 covered building means a privately owned multifamily residential or mixed-use building whose gross floor area equals or exceeds 25,000 square feet but is less than 250,000 square feet.

Interim performance standard means the numeric value of site EUI which covered buildings must achieve or exceed by a fixed date every five (5) years from a covered building's performance baseline.

Interior common areas means shared space within a building such as hallways, lobbies, stairwells, and other shared amenities (e.g., gyms, laundry rooms, party rooms).

Mixed-use building means a building that contains both residential units and commercial space.

Net site EUI means site energy use minus energy generated from **[]**onsite solar**[]** renewable energy sources divided by the total gross floor area of the building expressed in kBtu/GSF.

Newly constructed covered building means a covered building whose owner has completed construction, received a use and occupancy permit, and is able to begin benchmarking the building's energy use and other characteristics.

Normalized net site energy means the site energy use by the covered building normalized for weather and other characteristics within the limits of the capabilities of the benchmarking tool and normalized for other factors as determined by the Department minus energy generated from **[]**onsite solar **[]** renewable energy sources.

Normalized net site EUI means the total normalized net site energy use consumed by a covered building in one year divided by the total gross floor area of the building expressed in kBtu/GSF.

Owner means an individual or legal entity in whose name a building is titled, or in the case of a community association, the governing body of either a condominium or a cooperative housing corporation.

Performance baseline means the normalized net site EUI for a covered building averaged over two calendar years.

Performance metric means an objectively verifiable numeric measure of normalized site EUI to determine building performance.

Process load means energy consumed for bona fide purposes other than heating, cooling, ventilation, domestic hot water, lighting, appliances, office equipment, data centers, or other plug loads.

* * *

Reported benchmarking information means the descriptive information about a building, its operating characteristics, and information generated by the benchmarking tool regarding the building's energy consumption, **[**and**]** efficiency, and performance. *Reported benchmarking information* includes the building identification number, address, gross floor area, energy performance score, site energy use intensity, and annual greenhouse gas emissions.

[*Residential occupancy* means the occupancy of dwelling units in any building that includes one or more dwellings.**]**

Site energy use means all energy used onsite by a covered building to meet the energy loads of a building, including electricity delivered to the building through the electric grid and generated onsite with renewable sources; natural gas; district steam; district hot and chilled water; diesel; propane; fuel oil; wood; coal; and other fuels used onsite. Site energy use does not include electricity used to charge vehicles.

Site energy use intensity or *site EUI* means a numeric value calculated by the benchmarking tool that represents the energy consumed by a covered building

relative to its size in terms of energy used per square foot of gross floor area per year.

Tenant means a person or legal entity occupying or holding possession of a building, part of a building, or premises under a rental agreement.

[*Total building square footage* means the sum of the gross horizontal area of the several floors of a building or structure measured from the exterior faces of the exterior walls or from the center line of party walls. In a covered but unenclosed area, such as a set of gasoline pumps or a drive-through area, total building square footage means the covered area. Total building square footage does not include any:

(1) basement or attic area with a headroom less than 7 feet 6 inches;

(2) area devoted to unenclosed mechanical, heating, air conditioning, or ventilating equipment;

(3) parking structure; or

(4) accessory structure to a residential building.**]**

18A-38B. Applicability.

This Article does not apply to a covered building for which more than 50% of the total gross floor area is used for:

(a) public assembly in a building without walls;

(b) industrial uses where the majority of energy is consumed for manufacturing, the generation of electric power or district thermal energy to be consumed offsite, or for other process loads; or

(c) transportation, communications, or utility infrastructure.

18A-39. Energy use benchmarking.

(a) *County-owned covered buildings*.

(1) No later than June 1, 2015, and every June 1 thereafter, the County must benchmark any County-owned covered building**[**s**]**

whose gross floor area equals or exceeds 50,000 square feet for the previous calendar year and report the benchmarking information to the Department.

(2) No later than June 1, 2023, and every June 1 thereafter, the County must benchmark any County-owned covered building whose gross floor area equals or exceeds 25,000 square feet but is less than 50,000 square feet for the previous calendar year and report the benchmarking information to the Department.

(b) * * *

(c) * * *

(d) *Group 3 and Group 4 covered buildings.* No later than June 1, 2023, and every June 1 thereafter, the owner of any Group 3 or Group 4 covered building must benchmark the building for the previous calendar year and report the benchmarking information to the Department.

(e) *Group 5 covered buildings.* No later than June 1, 2024, and every June 1 thereafter, the owner of any Group 5 covered building must benchmark the building for the previous calendar year and report the benchmarking information to the Department.

(f) *Newly constructed covered building.* Following the first full calendar year that energy data can be collected and that the building was occupied, on average, by at least one full-time-equivalent employee (40 person-hours per week) exclusive of security guards, janitors, construction workers, landscapers, and other maintenance personnel throughout the calendar year being reported, the owner of any newly constructed covered building must benchmark the building and report to the Department no later than June 1 of that following year, and every June 1 thereafter.

[(d)**]** (g) *Waiver*. **[**The Director may waive the benchmarking requirements of this Section if**]** For any time period for which the owner of a covered building documents, in a form required by regulation, **[**that the building**]** any of the conditions below, the Director may waive the benchmarking requirements of this Section**[**:**]**.

(1) **[**is in financial**]** Financial distress, defined as a building that:

(A) is the subject of a tax lien sale or public auction due to property tax arrearages;

(B) is controlled by a court appointed receiver; or

(C) was recently acquired by a deed in lieu of foreclosure;

(2) **[**had average physical occupancy of less than 50% throughout the calendar year for which benchmarking is required**]** On average, less than one full-time-equivalent employee occupied the building during the calendar year being reported; **[**or**]**

(3) The covered building is **[**new**]** newly **[**construction**]** constructed and has received its certificate of use and occupancy during the calendar year for which benchmarking is required**[**.**]**; or

(4) The covered building was demolished or received its demolition permit during the calendar year for which benchmarking is required.

18A-42. Establishment of building energy performance standards.

(a) *Requirement.* The Department must develop and implement building energy performance standards for covered buildings. The standards must:

(1) increase the energy efficiency of existing covered buildings and expedite the reduction of greenhouse gas emissions from the building sector;

(2) use normalized net site EUI as a performance metric wherever feasible or net site EUI if the Director determines that normalization is not practical as performance metric;

(3) account for **[[**onsite solar generation**]]** renewable energy in the performance metric;

(4) use the benchmarking tool to report building energy performance to the County; and

(5) utilize available data sources and best practices to establish interim and final performance standards.

(b) *Building types*.

(1) No later than December 31, 2023, the County Executive must issue Method (2) regulations establishing building types for every covered building.

(2) Covered buildings within each building type must have shared characteristics that facilitate the implementation and enforcement of this Article. The Department may define one or more building types to be identical to ENERGY STAR property type categories.

(3) All covered buildings within the same building type category must be subject to the same final performance standards that facilitate the implementation and enforcement of this Article.

(c) *Performance baseline*. The performance baseline for each covered building must be calculated as follows:

(1) County-owned covered buildings whose gross floor area equals or exceeds 50,000 square feet, Group 1 covered buildings, and Group 2 covered buildings: Average of the 2 complete years with the highest normalized net site EUI between calendar year 2018 and calendar year 2022.

(2) County-owned covered buildings whose gross floor area is at least 25,000 square feet but not greater than 50,000 square feet, Group 3, and Group 4 covered buildings: Average of the 2 complete years with the highest normalized net site EUI between calendar year 2022 and calendar year 2024.

(3) Group 5 covered buildings: Average of the 2 complete years with the highest normalized net site EUI between calendar year 2023 and calendar year 2025.

(4) Newly constructed covered buildings: Average of the 2 complete years with the highest normalized net site EUI over the first 3 years of benchmarking reporting.

(d) *Interim and final performance standards*.

(1) No later than December 31, 2023, the County Executive must issue Method (2) regulations establishing final performance standards for each building type using the normalized site EUI performance metric wherever feasible or site EUI if the Director determines that normalization is not practical.

(2) The Department must calculate interim performance standards for each covered building with the starting point set at the covered building's performance baseline and continuing to the final performance standard.

(3) Each covered building must demonstrate progress towards the final performance standard by complying with interim performance standards every 5 years after the performance baseline year as follows:

(A) County-owned covered buildings whose gross floor area equals or exceeds 50,000 square feet, Group 1, and Group 2 covered buildings:

(i) Interim performance standard: December 31, 2028, and evaluated with June 1, 2029, benchmarking.

(ii) Final performance standard: December 31, 2033, and evaluated with June 1, 2034, benchmarking.

(B) County-owned covered buildings whose gross floor area is at least 25,000 square feet but not greater than 50,000 square feet, Group 3, and Group 4 covered buildings:

(i) Interim performance standard: December 31, 2030, evaluated with June 1, 2031.

(ii) Final performance standard: December 31, 2035, evaluated with June 1, 2036.

(C) Group 5 covered buildings:

(i) Interim performance standard: December 31, 2031, evaluated with June 1, 2032, benchmarking.

(ii) Final performance standard: December 31, 2036, evaluated with June 1, 2037.

(D) Newly constructed buildings will be added to a coverage group (Group 1, Group 2, Group 3, Group 4, or Group 5) based on gross floor area and building type:

(i) Interim performance standard: Evaluated with the interim standard of the building's coverage group following creation of the performance baseline.

(ii) Final performance standard: Evaluated with the final performance standard of the building's coverage

group, if the performance baseline is created before the final performance standard.

(4) Covered buildings must maintain the final performance standards established by regulation.

(5) Covered buildings must demonstrate compliance with the interim and final performance standards by reporting building energy benchmarking data to the Department using the benchmarking tool. The Department must determine compliance by comparing the performance metric against the interim or final performance standards for the applicable building type.

18A-42A. Building Performance Improvement Board.

(a) *Established*. The County Executive must appoint, subject to confirmation by the Council, a Building Performance Improvement Board comprised of 15 voting members. Designees of the Department of Environmental Protection, Department of General Services, Department of Housing and Community Affairs, and Department of Permitting Services are ex officio nonvoting members of the Board.

(b) *Membership*. Each voting member of the Board must be a resident of the County or a member of the governing body or staff of an entity doing business in the County. The Board should include:

(1) Representatives of local electricity or natural gas utilities;

(2) Providers of energy efficiency, building resilience and/or renewable energy services or consulting;

(3) Owners or managers of affordable housing;

(4) Owners or managers of multi-family residential buildings containing market-rate units;

(5) Nonresidential building owners or managers;

(6) Nonprofit building owners or managers;

(7) Technical building design or operations professionals;

(8) Providers of facilities, mechanical, or similar engineering services;

(9) Commercial or multi-family residential construction finance or investment professionals,

(10) Representatives of nonprofit organizations dedicated to climate action, resiliency, public health, green building, economic development, or building decarbonization; and

(11) Representatives of nonprofit organizations dedicated to racial equity or environmental justice.

(c) *Terms*. Each voting member serves a 3-year term beginning on January 1. Of the members first appointed, one-third must be appointed for 1-year terms, one-third must be appointed for 2-year terms, and one-third must be appointed for 3-year terms. A member must not serve more than 2 consecutive full terms. A member appointed to fill a vacancy serves the rest of the unexpired term. Members continue in office until their successors are appointed and qualified. The Board must elect one of its members as Chair to be who must serve as such for one calendar year or until a successor is elected.

(d) *Procedures*. The Board must adopt rules to govern its procedures including meeting frequency, managing Chair elections, establishing committees, and other issues that pertain to Board governance.

(e) *Duties and responsibilities*. The Board must generally advise the Department on implementation of building energy performance standards. This includes providing recommendations to the Director on:

(1) Building type groupings;

(2) Interim and final performance standards for each building type;

(3) Managing situations where ownership of a building is transferred or a building's type changes;

(4) Building performance improvement plan technical review and approval processes;

(5) Complementary programs or policies, with particular attention to assistance or accommodations for challenged or under-resourced sectors, such as affordable housing, non-profit organizations, and small businesses; and

(6) Enforcement of benchmarking requirements and performance standards.

(f) *Compensation*. The members of the Board serve without compensation.

18A-42B. Building performance improvement plans.

(a) If a covered building owner cannot reasonably meet one or more of the applicable interim or final performance standards due to economic infeasibility or other circumstances beyond the owner's control, based on guidelines established by regulation, the owner may submit a proposed building performance improvement plan to the Department for review and approval by the Director in consultation with the Building Performance Improvement Board.

(b) A building performance improvement plan must include:

(1) documentation of economic infeasibility or other circumstances beyond the owner's control such that interim or final performance standards are not met;

(2) a list of potential improvement measures, including engineering calculations of energy savings and a cost-benefit analysis of each potential improvement measure;

(3) a plan and timeline for achieving energy improvements to the building's performance that will provide cost-effective energy savings based on guidelines established by regulation, including the estimated savings to be realized by implementing all of the cost-effective measures identified in the plan; and

(4) procedures for correcting any noncompliance or deviation from the plan.

(c) The owner must submit a building performance improvement plan to the Department at least 90 days before the deadline for submitting documentation of compliance with interim or final performance standards.

(d) If, after consulting with the Building Performance Improvement Board, the Director approves the building performance improvement plan, the owner must record the building performance improvement plan as a covenant in the County land records and deliver a certified copy of the recorded plan to the Department. After the Director receives the certified copy of the recorded plan, the covered building will be deemed to be in compliance with the applicable interim or final performance standards as long as the owner fulfills the terms of the building performance improvement plan within the timeline specified in the plan.

18A-42C. Extensions and adjustments.

(a) The Department may establish additional criteria recommended by the Building Performance Improvement Board for qualified affordable housing, non-profit buildings, and other buildings as appropriate to modify compliance with interim or final performance standards by regulation.

(b) The Director, in consultation with the Building Performance Improvement Board, may grant an extension or adjustment to an interim or final performance standard for a covered building whose owner submits a request along with documentation at least 90 days before the deadline for submitting documentation of compliance with an interim or final performance standard if any of the following conditions apply:

(1) A demolition permit has been issued or a demolition of the building is planned before the deadline to comply with the next interim performance standard;

(2) The building is in financial distress under Section 18A-39 (g)(1);

(3) The building is exempt from real property taxes and the owner is able to certify by the statement of a certified public accountant or by sworn affidavit that the owner's revenue less expenses for the previous 2 years was negative; or

(4) The Director determines that strict compliance with those standards would be economically infeasible, as defined by regulation, due to circumstances beyond the owner's control.

(5) Other acceptable conditions as determined by the Director by regulation.

18A-[42]43. Annual report; disclosure of benchmarking and energy performance information.

(a) *Annual report required*. By October 1 of each year, the Director must submit a benchmarking and building performance report to the County Executive and County Council. The report must review and evaluate energy efficiency in covered buildings, including:

(1) summary statistics on the most recent reported energy benchmarking information, including information on the

completeness and level of data quality of the building energy data being reported by building type;

(2) discussion of any energy efficiency trends, cost savings, and job creation resulting from energy efficiency improvements; **[**and**]**

(3) for County-owned covered buildings:

(A) the scores of County-owned covered buildings benchmarked; and

(B) whether the Director recommends any energy efficiency improvements for specific buildings; and

(4) building energy performance summary statistics, if an interim or final performance standard occurs for a covered building type in the current reporting cycle.

(b) *Disclosure of benchmarking and building energy performance standards* **[***information***]** *data*. The Director must make reported aggregated benchmarking and building energy performance standard **[**information**]** data readily available to the public, including on the open data website created under Section 2-154, and the Director may exempt information from disclosure only to the extent that disclosure is prohibited under federal or state law.

(c) *Exceptions to disclosure*. To the extent allowable under state law, the Director must not make the following readily available to the public:

(1) any individually[-]attributable reported benchmarking information from the first calendar year that a covered building is required to benchmark; **[**and**]**

(2) any individually[-]attributable reported benchmarking or building energy performance standards information relating to a covered building if the disclosure of the covered building's energy use

would be harmful to the public interest and national security **[**that contains a data center, or television studio that together exceeds 10% of the total building square footage of the individual building until the Director finds that the benchmarking tool can make adequate adjustments for these facilities. When the Director finds that the benchmarking tool can make adequate adjustments, the Director must report this data in the annual report**]**; and

(3) Building performance improvement plans and associated documentation attributable to an individual covered building.

18A-[43]43A. Regulations[; penalties].

[(a)**]** The County Executive may issue Method (2) regulations to administer this Article.

[(b) Any violation of this Article is a Class A violation.**]**

18A-43B. Penalties; enforcement.

(a) A building owner must not knowingly provide false information required under this Article to the Department. The Director may revoke or modify an extension, adjustment, building performance improvement plan, or compliance with benchmarking or the interim or final performance standards in response to any false information provided by the building owner.

(b) Any violation of this Article is a Class A violation.

40-10B. Disclosure of covered building benchmarking and performance standards information.

(a) Before a buyer signs a contract for the sale of a covered building as defined in Section 18A-38A, the seller must:

(1) disclose to the prospective buyer that the building is subject to building energy performance standards in Chapter 18A, Article 6;

(2) transfer the following records to the prospective buyer:

(A) the benchmarking property record from the benchmarking tool;

(B) documentation of data verification; and

(C) any other related records relevant to maintain compliance with Chapter 18A, Article 6; and

(3) provide to the prospective buyer the following information:

(A) performance baseline;

(B) interim and final performance standards; and

(C) building performance improvement plan.

(b) The prospective buyer must indicate, by signing an addendum to the contract or a separate section of the contract printed in boldface type, that the seller has made the disclosures and provided the information required by subsection (a).

LEGISLATIVE REQUEST REPORT

Bill 16-21
Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards – Amendments

DESCRIPTION: Bill 16-21 would:

- expand the number of buildings covered by benchmarking requirements;
- amend certain definitions;
- establish energy performance standards for covered buildings with certain gross floor area;
- create a Building Performance Improvement Board; and
- generally revise County law regarding environmental sustainability.

PROBLEM: A stakeholder recommendation report issued in September 2020 complied by Montgomery County's Department of Environmental Protection (DEP) on Building Energy Performance Standards in the County set forth policy recommendations that would require the County to adopt "beyond benchmarking" type of policies. Key stakeholders, in coordination with DEP, held a series of working group sessions and analyzed that the main drivers of reducing greenhouse gas emissions among the commercial building sector are reducing energy consumption, using energy more efficiently, and using energy generated from cleaner sources. The electricity supplied to the County is getting cleaner as the grid adds more renewable sources, but still has a long way to go. Fifty-six percent of the electricity consumed in Maryland is generated by fossil fuels and commercial buildings in the County account for twenty-six percent of greenhouse gas emission. With a defined lens, the working group reviewed building performance policy models from various jurisdictions, *i.e.* Washington, DC, New York City, and St. Louis and developed policy recommendations that will assist the County to improve its commercial and multifamily residential building sector with building energy information crucial to adopting energy conservation and efficiency opportunities that will reduce energy use and mitigate climate change.

OBJECTIVE: This bill will seek to improve the energy performance of additional covered buildings over time through established building energy performance standards, and thereby, reducing greenhouse gas emissions from the building environment and helping the County achieve its ambitious climate action goal of zero greenhouse gas emissions by 2035. It will implement a Building Performance Improvement Plan Board and generally amend County law regarding building energy efficiency and environmental sustainability.

COORDINATION: Department of Environmental Protection (DEP)

FISCAL IMPACT: Office of Management and Budget.

ECONOMIC IMPACT: Office of Legislative Oversight.

RACIAL EQUITY AND SOCIAL JUSTICE IMPACT: Office of Legislative Oversight.

EVALUATION: To be requested.

EXPERIENCE ELSEWHERE: St. Louis, Missouri; Washington, D.C.; New York City; and Washington State.

SOURCES OF INFORMATION: Stan Edwards, Division Chief, Department of Environmental Protection. (240)-777-7748 or stan.edwards@montgomerycountymd.gov.

APPLICATION WITHIN MUNICIPALITIES: This bill applies to all municipalities that accept or adopt the County Environmental Sustainability Law, Chapter 18A.

PENALTIES: Class A violation.

F:\LAW\BILLS\2116 Environmental Sustainability\LRR.Docx

OFFICE OF THE COUNTY EXECUTIVE

Marc Elrich
County Executive

M E M O R A N D U M

April 1, 2021

TO: Tom Hucker, Council President

FROM: Marc Elrich, County Executive

SUBJECT: Introduction of XX-21, Environmental Sustainability – Building Energy Use Benchmarking and Performance Standards – Amendments

It is my pleasure to transmit the attached legislation (XX-21, Building Energy Use Benchmarking and Performance Standards – Amendments) to modify the County's current Building Energy Benchmarking Law. The legislation will: expand the number of buildings covered by benchmarking requirements, establish energy performance standards for existing buildings, and create a Building Performance Improvement Board.

During my March 5, 2021 "State of the County" address, I stated that if it were not for COVID-19, climate change would have been the natural disaster headline of the year, decade, and century. This was and still is an existential threat to our lives. Our 2018 greenhouse gas inventory in Figure 1 shows that commercial building energy use accounts for 26 percent of community-wide emissions.[1] As described in the County's draft Climate Action Plan released in December 2020, Building Energy Performance Standards (BEPS) are a foundational policy that will directly reduce our community-wide greenhouse gas emissions from the existing built environment and get us one step closer to eliminating greenhouse gas emissions by 2035.[2] Through BEPS requirements and accompanying tools to help them succeed, owners in the County will reduce the climate impacts of their buildings through deep energy retrofits, operational improvements, and tenant engagement.

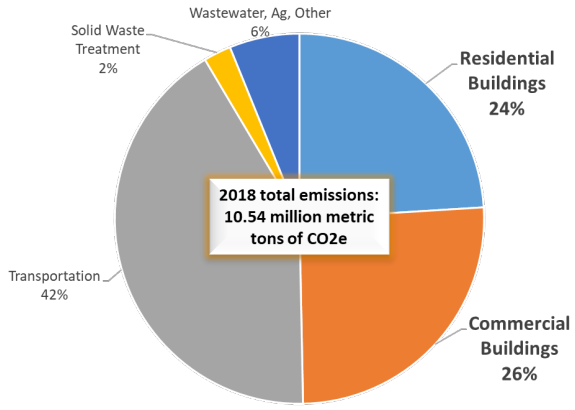


Figure 1. 2018 GHG Emissions

The attached legislation establishes a thoughtful and stakeholder-supported framework of BEPS in Montgomery County, but additional data analyses are required to set aggressive but realistic standards for buildings, which will be accomplished through accompanying regulations. This legislation is strongly

[1] Montgomery County's GHG emissions inventory, 2018. https://www.montgomerycountymd.gov/green/climate/ghg-inventory.html

[2] Institute for Market Transformation. "Building Performance Standards Are A Powerful New Tool in the Fight Against Climate Change." https://www.imt.org/resources/building-performance-standards-are-a-powerful-new-tool-in-the-fight-against-climate-change

supported by the County's Climate Change Coordinator and the Department of Environmental Protection (DEP).

We realize that the current COVID-19 pandemic has presented an unprecedented challenge to residents and businesses in Montgomery County. Our County's climate emergency is another unprecedented challenge that we must tackle—one where a BEPS policy is a key strategy for both reducing greenhouse gas emissions and helping building owners and their tenants become more resilient to economic shocks with energy-efficient buildings. The County strongly supports advancing BEPS at this time to give building owners as much time as possible to strategize for energy-focused building improvements in their long-range capital planning cycles.

Background

Montgomery County was the first county in the nation to adopt a Building Energy Benchmarking law that requires owners of certain commercial buildings to report energy use to the County each year. The County led by example by benchmarking its buildings first by June 2015. The first deadline for private buildings was June 2016.

Several jurisdictions have now implemented "beyond benchmarking" policies that compel building owners to take action to improve their buildings' energy performance in addition to reporting data. BEPS are policies that set a minimum energy performance threshold for buildings, requiring covered buildings to meet or maintain newly established efficiency standards. To date, BEPS policies have been adopted in Washington, D.C., New York City, St. Louis, and Washington state—these jurisdictions are just beginning to implement their policies. **As with energy benchmarking, Montgomery County is poised to become the first county to pass BEPS legislation and join the small group of innovative jurisdictions adopting such a strategy.**

In drafting this legislation, DEP engaged stakeholders in a BEPS workgroup in early 2020 to solicit feedback on the policy framework and elements of the proposed legislation. Stakeholders included representatives from the impacted community including the commercial and multifamily building communities and those that serve them including advocacy and industry groups, utility representatives, energy contractors, and County government staff. DEP was grateful to receive free technical assistance from the Institute for Market Transformation (IMT) to help present policy options, facilitate stakeholder meetings, and provide expert guidance on legislative questions.

Policy Overview

The current Building Energy Benchmarking law covers roughly 100 million square feet of commercial building area and requires County- and privately-owned non-residential buildings 50,000 square feet and greater to benchmark annually. Proposed amendments in this legislation would expand benchmarking to smaller commercial buildings by reducing the square footage threshold from 50,000 to 25,000 square feet, add multifamily residential buildings, and include some previously exempted building types. These modifications will add approximately 1,000 new covered buildings into the benchmarking program, eventually covering roughly 250 million square feet or 85% of commercial and multifamily floor area in the County. Figure 2 below illustrates the buildings that would be covered by the amendments:

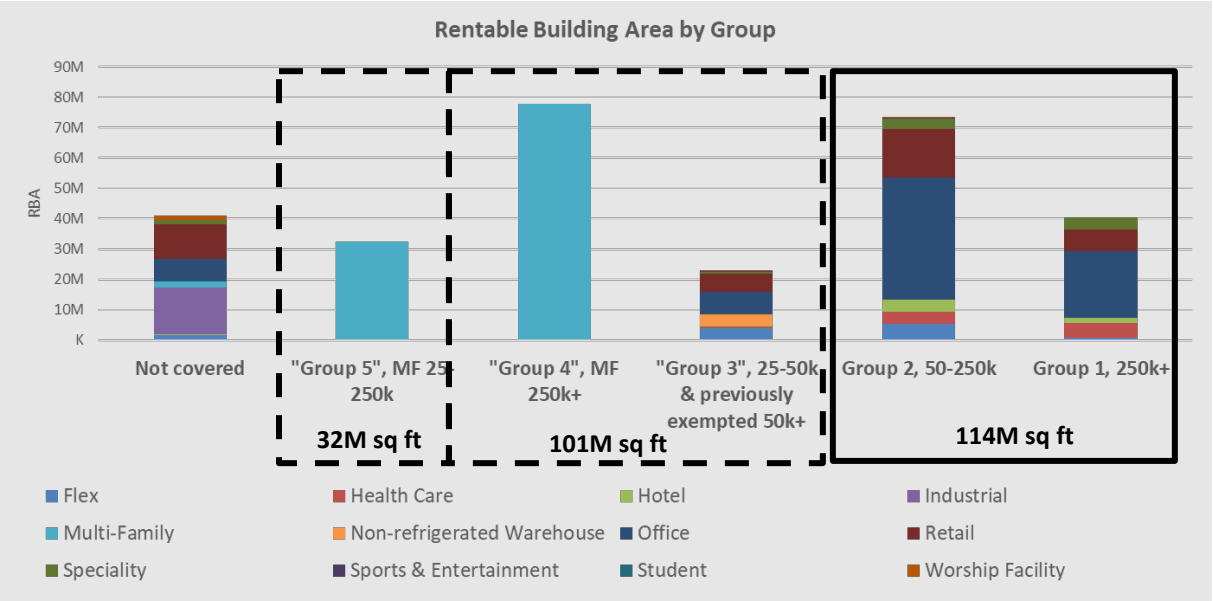


Figure 2. Buildings that would be covered by the amended Benchmarking Law.

Building groups by type and total floor area: Group 1 and 2, in the bold black box, are currently covered by the Energy Benchmarking Law. Groups 3, 4, and 5, in the dotted boxes, would be newly covered under the proposed amendments. Source of Rentable Building Area: CoStar.

Over time, all buildings covered by the Building Energy Benchmarking Law would become subject to Building Energy Performance Standards with a phased approach.

Based on stakeholder input and guidance from IMT, the proposed BEPS policy includes the following elements:

- Long-term performance standards that balance the climate emergency need for immediate action with building owners' need for flexibility in how they manage their buildings. Long-term standards will also give the County time to educate and engage the impacted community;
- Performance standards based on site energy use intensity by building type that measure improvements that are under building owners' and occupants' direct control;
- Full credit for onsite solar generation as a deduction from site energy use in calculating progress towards BEPS;
- Phasing in of newly covered buildings to first familiarize owners with energy benchmarking, reporting, then with building energy performance standards;
- A performance baseline that averages two years with the highest energy use consumption to recognize and credit variability in operations and hold owners harmless for exceptional circumstances stemming from the pandemic or other events outside the owners' control;

- A process by which covered building owners who cannot reasonably meet one or more of the applicable interim or final performance standards due to economic infeasibility or other circumstances beyond the owner's control can submit building performance improvement plans (BPIPs); and
- A building performance improvement board made up of members of the covered community, energy professionals, and advocates who will advise DEP on BEPS implementation, technical review, and complementary programs and policies.

While the proposed legislation outlines the parameters of BEPS and creates a framework, some facets will be set via regulation to be established at a later date. These include:

- Building type groupings with shared characteristics that facilitate the implementation and enforcement of BEPS;
- Numerical performance standards for each building type;
- Required format for BPIPs;
- Parameters for economic feasibility or other factors that will dictate circumstances under which BPIPs will be allowed; and
- Adjustments or assistance specific to under-resourced building sectors, such as affordable housing, small businesses, houses of worship, and non-profits.

Finally, the County is pursuing state-enabling legislation to implement "poor performance payments" beyond the current Class A violations for non-compliant buildings. DEP envisions that these non-compliance payments would be directed to a dedicated fund to support a technical assistance hub and to help under-resourced buildings with BEPS compliance.

Impact

Benchmarking leads to a better understanding of energy trends and performance among building owners and managers and has resulted in energy savings of roughly 2% per year in consistently benchmarked facilities. See the 2019 Energy Benchmarking Report (www.tinyurl.com/2019BBreport) for more information about how benchmarked buildings in the County are performing.

Buildings benchmarked in EPA's ENERGY STAR Portfolio Manager tool that earn the ENERGY STAR label also command higher rental rates, benefit from higher sales prices, and see higher occupancy rates—all of which indicate a building that is more economically resilient than non-ENERGY STAR labeled buildings—as shown in Figure 3 below:

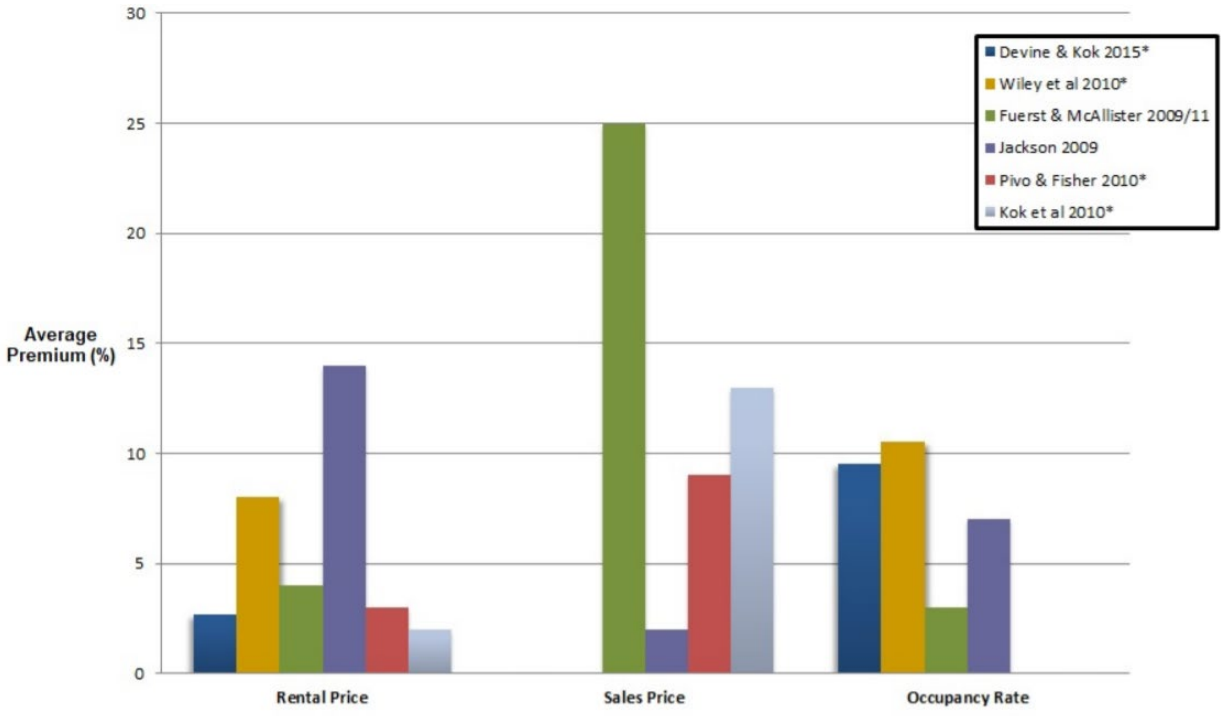


Figure 3. Added Value of ENERGY STAR-Labeled Commercial Buildings in the U.S. Market. Source: Institute for Market Transformation, 2016.

Despite these modest efficiency gains through benchmarking, existing commercial buildings account for roughly one quarter of Montgomery County community-wide greenhouse gas emissions. Existing policies fall short in their ability to drive the major efficiency improvements and GHG reductions that are needed from buildings to achieve the County's climate goals. Achieving these ambitious goals requires swift and decisive action, especially considering that between now and 2035, there may only be one opportunity to replace most equipment at the end of its useful life. While many jurisdictions like Montgomery County have enacted ambitious green building codes for new construction, similar mandates for existing buildings are needed to achieve climate targets. Requiring energy improvements to the commercial building sector will result in greenhouse gas emission reductions from the built environment.

BEPS is also expected to produce many co-benefits:[3] reduced utility and operating costs for building owners and tenants; improved, more resilient, and higher-value building stock in the County;

[3] U.S. Environmental Protection Agency. "Quantifying the Multiple Benefits of Energy Efficiency and Renewable Energy: A Guide for State and Local Governments." https://www.epa.gov/statelocalenergy/quantifying-multiple-benefits-energy-efficiency-and-renewable-energy-guide-state

improved human health from better indoor air quality and reduced air pollution; and increased local economic activity and green jobs related to building design, construction, energy efficiency, and other trades related to the building upgrade market.[4]

DEP has contracted Steven Winter Associates to undertake comprehensive data analysis on the magnitude of energy savings and greenhouse gas emission reductions achievable via BEPS, as well as a cost-benefit analysis of BEPS implementation. This analysis will be completed in summer 2021.

Resources

Along with new performance requirements, DEP plans to provide additional resources to support building owners and managers in understanding the requirements of BEPS and identifying energy improvements in their buildings. Washington, D.C. has launched a Building Innovation Hub (https://buildinginnovationhub.org) to support DC's BEPS program. The Hub aims to meet the current needs of the building industry while simultaneously helping the industry put in place the innovative solutions needed to build and operate high-performing buildings. DEP has had initial conversations to coordinate with the Hub and DC on leveraging existing resources and expanding the Hub to serve a regional audience. This expansion will be especially helpful for owners with properties in both jurisdictions.

Additionally, as BEPS will cover regulated and non-regulated affordable housing buildings, small businesses, houses of worship, and non-profits, DEP is exploring additional technical assistance and support for under-resourced building sectors.

To implement BEPS and serve the building community, the accompanying Fiscal Impact Statement estimates that the legislation would require four additional staff members to undertake outreach and education, provide technical plan review, and support program implementation. Operating expenses are also identified for technical assistance hub for building owners, support for data and engineering analyses, database development, and outreach materials.

Timing

To keep with the schedule proposed in the legislation, newly covered Group 3 & 4 buildings (commercial buildings 25k-50k square feet and multifamily buildings 250,000+ square feet) must begin benchmarking and report calendar year 2021 data by June 1, 2022. DEP plans to begin outreach to the new covered building community as soon as this legislation is enacted.

In advance of beginning BEPS on January 1, 2023, DEP will set a BEPS baseline performance for each building in Groups 1 and 2 by averaging that building's 2 years with the highest normalized net site EUI between calendar year 2018 and calendar year 2021. Groups 1 and 2 consist of buildings covered by the current Benchmarking law (County-owned and private commercial buildings 50,000 gross square feet and larger). Buildings in Groups 1 and 2 will be required to meet the first interim standard by December 31, 2026. Prior to 2023, DEP will also employ an objective formula to set two interim standards for each building. Figure 4 below visualizes the benchmarking and BEPS timing in the legislation:

[4] American Council for an Energy-Efficient Economy Fact Sheet. "How Does Energy Efficiency Create Jobs?" https://www.aceee.org/files/pdf/fact-sheet/ee-job-creation.pdf

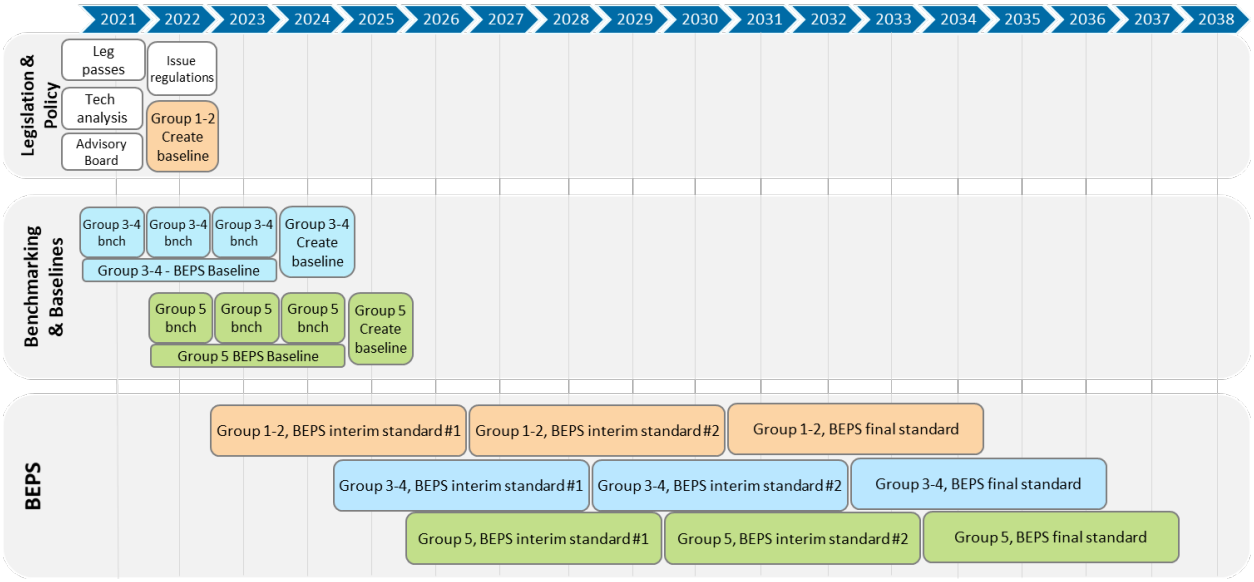


Figure 4. Proposed BEPS timeline.

Under the timeline proposed in the bill, the County Executive will issue Method (2) regulations establishing building types, final performance standards for each building type, and other details no later than June 1, 2022.

Modifications to the proposed timeline or delays in bill adoption may result in delays to phasing in building groups, creating standards, or forming the building performance improvement board, reducing the climate benefits of BEPS.

If you have any questions, please contact Stan Edwards in the Department of Environmental Protection at 240-777-7748 or stan.edwards@montgomerycountymd.gov.

Economic Impact Statement

Office of Legislative Oversight

Bill 16-21 Environmental Sustainability – Building Energy Use Benchmarking and Performance Standards – Amendments

SUMMARY

By establishing Building Energy Performance Standards (BEPS) for commercial and multifamily residential buildings, the Office of Legislative Oversight (OLO) anticipates that Bill 16-21 would have negative economic impacts for owners and tenants of these buildings in the short-term. In contrast, the bill would positively impact local businesses that provide services related to energy conservation and efficiency. Overall, OLO anticipates that the bill would have a negative impact on local economic conditions in the short-term because, in part, it would increase the cost of business and weaken the competitiveness of the County's commercial and multifamily building sector relative to surrounding jurisdictions. The long-term economic impacts, as well as more precise estimates of the short-term costs and benefits, of enacting Bill 16-21 are indeterminate because key parameters of the BEPS policy would be established in regulation and because of other uncertainties.

BACKGROUND

Bill Description

In response to the climate emergency, the County has committed to an 80% reduction in greenhouse gas (GHG) emissions by 2027 and 100% elimination by 2035.[1] One of the top three sources of local GHG emissions comes from commercial buildings, which accounted for 26% of emissions in the County in 2018.[2] Consistent with the County's ambitious climate goals, the objective of Bill 16-21 is to reduce GHG emissions from the building environment.[3] To achieve this objective, Bill 16-21 would make two changes to County law regarding environmental sustainability:

(1) expand the number of buildings covered by the County's current energy benchmarking program; and
(2) establish Building Energy Performance Standards (BEPS) for commercial and multifamily buildings with a gross floor area of 25,000 square feet and above.

[1] See Montgomery County Council, Resolution 18-974, Emergency Climate Mobilization, Adopted on December 5, 2017, https://www.montgomerycountymd.gov/green/Resources/Files/climate/Montgomery-County-Climate-Action-Resolution.pdf; and Montgomery County Climate Action Plan, Public Draft, https://www.montgomerycountymd.gov/green/Resources/Files/climate/draft-climate-action-plan.pdf.

[2] Transportation & Mobile Sources and Residential Energy were the other leading contributors. See Montgomery County Community Wide Greenhouse Gas Emissions Inventory, https://www.montgomerycountymd.gov/green/climate/ghg-inventory.html.

[3] Montgomery County Council, Bill 16-21, Environmental Sustainability – Building Energy Use Benchmarking and Performance Standards – Amendments, Introduced on May 4, 2021. See Introduction Staff Report, https://apps.montgomerycountymd.gov/ccllims/DownloadFilePage?FileName=2707_1_14390_Bill_16-2021_Introduction_20210504.pdf.

Expand Building Energy Use Benchmarking: In April 2014, the Council enacted the first energy benchmarking law in the country.[4] It requires County-owned and commercial buildings with gross floor areas 50,000 square feet and above to annually track and report building energy performance details to the County's Department of Environmental Protection (DEP).[5] Bill 16-21 would expand the building energy use benchmarking program to include County-owned, commercial, and multifamily buildings with gross floor areas of 25,000 square feet and above.[6] According to DEP, there are currently 795 buildings (114M sq. ft.) in the program. Bill 16-21 would add approximately 1,055 buildings to the program, bringing the total number of covered buildings to approximately 1,850 (247M sq. ft.).[7]

Establish BEPS: Building Energy Performance Standards refers to "a policy that sets a minimum required level of energy performance for covered buildings."[8] Bill 16-21 would require DEP to "develop and implement" BEPS for covered buildings. These standards must do the following:

- "increase the energy efficiency of existing covered buildings";
- "use normalized net site EUI[9] as a performance metric wherever feasible";
- "account for onsite solar generation in the performance metric";
- "use the benchmarking tool to report building energy performance to the County"; and
- "establish interim and final performance standards."

DEP would be required to calculate a performance baseline for each covered building that is based on average historical energy use. DEP would use interim and final performance standards to determine building compliance by comparing the performance metric (normalized net site EUI) against energy reduction targets.

The BEPS program would have a 12-year cycle. Once the cycle is initiated for a building, DEP will determine whether a building is meeting its energy reduction target every four years. Bill 16-21 would authorize DEP to "determine compliance by comparing the performance metric against the interim *or* final performance standards [emphasis added]." Thus, buildings would be required to meet total energy reduction targets every 12 years, not every four years. To illustrate, a building that falls below its interim performance standards may "catch up" with energy reductions and meet its final performance standards, thereby staying in compliance with the law.

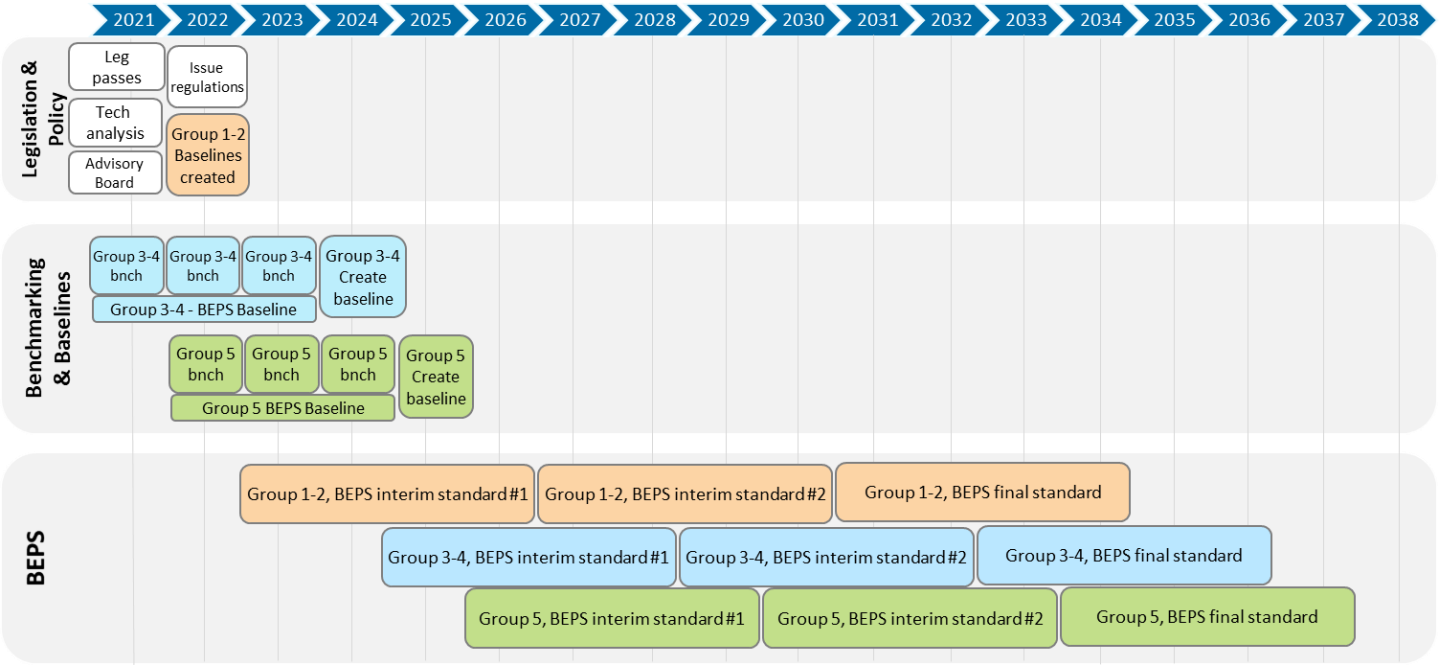
Bill 16-21 would establish five groups that determine the start of the benchmarking and BEPS periods. The bill defines each group as follows:

[4] Montgomery County Council, Bill 2-14 – Environmental Sustainability – Buildings – Benchmarking, Enacted on April 22, 2014, https://apps.montgomerycountymd.gov/ccllims/BillDetailsPage?RecordId=887&fullTextSearch=%22energy%20benchmarking%22.
[5] Montgomery County Code, Article 6. Building Energy Use Benchmarking, https://codelibrary.amlegal.com/codes/montgomerycounty/latest/montgomeryco_md/0-0-0-97835.
[6] Montgomery County Council, Bill 16-21.
[7] Department of Environmental Protection, "Building Energy Performance Standards in Montgomery County," Presentation. See also Montgomerycountymd.gov, "Building Energy Performance Standards," https://www.montgomerycountymd.gov/green/energy/beps.html.
[8] Montgomery County Council, Bill 16-21. All subsequent information in this section is drawn from the bill.
[9] The bill defines *net site EUI* as "site energy use minus energy generated from onsite solar sources divided by the total gross floor area of the building expressed in kBtu/GSF" and *normalized net site EUI* as "the total normalized net site energy use consumed by a covered building in one year divided by the total gross floor area of the building expressed in kBtu/GSF."

Group	Building Class	Gross Floor Area (sq ft)
1	Nonresidential	Greater than or equal to 250K
2	Nonresidential	Greater than or equal to 50K & less than 250K
3	Nonresidential	Greater than or equal to 25K & less than 50K
4	Multifamily or mixed-use	Greater than or equal to 250K
5	Multifamily or mixed-use	Greater than or equal to 25K & less than 250K

Figure 1 visualizes the proposed BEPS timelines for each group.

Figure 1. Proposed BEPS Timeline



Source: Department of Environmental Protection, Montgomery County.

As part of the BEPS program, Bill 16-21 would also establish a Building Performance Improvement Plan. The plan would offer a compliance option for owners of covered buildings who "cannot reasonably meet one or more of the applicable interim or final performance standards due to economic infeasibility or other circumstances beyond the owner's control." The owner would need to submit a plan to DEP that documents the following:

- why the performance standards cannot be met,
- potential improvement measures,
- a plan and timeline for achieving cost-effective energy improvements "based on guidelines established by regulation", and
- procedures for correcting noncompliance from the plan.

If approved by DEP, the owner would be required to fulfill the terms of the building performance improvement plan within the specified timeline.

Bill 16-21 would also establish a Building Improvement Performance Board. The board would consist of 15-members appointed by the County Executive. According to the bill, the board "should include" representatives of the following stakeholder groups:

- local electricity or natural gas utilities;
- providers of energy efficiency, building resilience and/or renewable energy services or consulting;
- owners or managers of nonresidential buildings, affordable housing, and/or multifamily residential buildings containing market-rate units;
- technical building design or operations professionals;
- providers of facilities, mechanical, or similar engineering services;
- commercial or multi-family residential construction finance or investment professionals; and
- representatives of nonprofit organizations dedicated to climate action, resiliency, public health, green building, economic development, building decarbonization, racial equity, or environmental justice.

Bill 16-21 would not apply to buildings in which 50% or more of the total gross floor area is used for:

a) "public assembly in a building without walls;
b) industrial uses where the majority of energy is consumed for manufacturing, the generation of electric power or district thermal energy to be consumed offsite, or for other process loads; or
c) transportation, communications, or utility infrastructure."

Nor would the bill apply to buildings in municipalities that have not accepted and adopted the County Environmental Sustainability Law.

Peer Jurisdictions: BEPS Policies

In the United States, the jurisdictions that have pursued BEPS policies are Washington DC, New York City, Washington State, and St. Louis, Missouri. Washington, DC was the first city in the country to adopt energy performance standards for existing buildings. So far, it is the only jurisdiction in the Washington, DC metropolitan area (hereinafter "metropolitan area") that has established a BEPS policy.

Washington, DC's BEPS policy was set forth in Title III of the Clean Energy DC Omnibus Act of 2018. The program distinguishes among property types based on the U.S. Environmental Protection Agency's ENERGY STAR Portfolio Manager and sets standards for building types which are no lower than the median ENERGY STAR score (or equivalent) by building type. The program currently has three periods that are broken into 5-year compliance cycles. While the program applies to city-owned buildings with greater than or equal to 10,000 square feet for all periods, privately-owned buildings are phased into the program based on their size.[10] See **Table 1**.

[10] For details on the program, see Section 8-1772.21. Establishment of a Building Energy Performance Standard Program, https://code.dccouncil.us/dc/council/code/sections/8-1772.21.html#; and Guide to the 2021 Building Energy Performance Standards, https://doee.dc.gov/node/1507996.

Table 1. Periods of DC's BEPS Program

Period	Compliance Period	Covered Private Buildings
1	2021-2026 (6 years)[11]	Buildings ≥ 50,000 sq. ft
2	2027-2031 (5 years)	Buildings ≥ 25,000 sq. ft
3	2033-2037 (5 years)	Buildings ≥ 10,000 sq. ft.

Source: Doee.dc.gov, Building Energy Performance Standards (BEPS), Department of Energy & Environment, https://doee.dc.gov/service/building-energy-performance-standards-beps

Table 2 compares Montgomery County with Fairfax County and Washington, DC in terms of their climate change goals and status of benchmarking and BEPS policies. There are two differences that are noteworthy in terms of the economic impacts of Montgomery County's BEPS policy:

- Montgomery County's BEPS policy would offer a significantly longer compliance cycle (12 years) compared to Washington, DC's policy (5 years). The longer compliance cycle would give property owners in the County more flexibility in their capital planning cycles.
- Not only do Arlington and Fairfax Counties not have benchmarking and BEPS policies, they lack the legal authority to enact these policies. These jurisdictions are required to enforce the Virginia Uniform Statewide Building Code.

[11] The figure-year compliance cycle was extended for the first period due to the COVID-19 pandemic disruptions.

Table 2. BEPS Peer Jurisdiction Comparison

	Climate Change Goals	Benchmarking Policy	BEPS Policy	Minimum Threshold Performance	Covered Buildings	Compliance Cycle
Fairfax County	Carbon neutrality by 2050 (draft Community-wide Energy and Climate Action Plan)	Lacks legal authority	Lacks legal authority	NA	NA	NA
Montgomery County	• 80% reduction in GHG emissions by 2027 • 100% elimination by 2035	• Enacted 2014 • Implemented for private buildings in 2015	Legislation introduced in 2021	To be set in Executive Regulation. Based on site EUI	Commercial and multifamily > 25K sq. ft.	12-year target with 4-year interim check ins
Washington, DC	• 50% reduction in GHG emissions by 2032 • Carbon neutrality by 2050	• Enacted 2008 • Implemented in 2013	• Enacted 2018 • Established standards on January 1, 2021 • First reporting requirement on April 1, 2023	Standards set no lower than median ENERGY STAR score (or equivalent) by building type	Commercial and multifamily > 10K sq. ft (square footage rachets down over time)	5 years

established proposed not proposed

Sources: Conversations with personnel in Washington, DC's DOEE and Fairfax County's Office of Environmental and Energy Coordination; D.C. Law 22-257, CleanEnergy DC Omnibus Amendment Act of 2018; Doee.dc.gov, Guide to the 2021 BEPS; Fairfax County Community-Wide Energy and Climate Action Plan, draft.

Peer Jurisdictions: Office, Retail, and Multifamily Real Estate Markets[12]

Office Market: The office markets in Montgomery County, Fairfax County, and Washington, DC have all been significantly harmed by the COVID-19 pandemic and economic recession. **Table 3** shows the impact of these crises on the office markets by comparing average quarterly indicators for the four quarters since the start of the pandemic (2020Q3 - 2021Q2) to the previous four quarters (2019Q3 – 2020Q2). As shown in the table, since the onset of the pandemic all jurisdictions have experienced:

- increases in vacancy rates (i.e., rates of unoccupied space),
- sharp declines in the net absorption rates (i.e., the net amount of vacant space that becomes occupied within a defined time period), and
- stagnant gross rents (i.e., total rent to the owner, including all fees).

[12] Tables A1, A2, and A3 in the Appendix present office, retail, and multifamily market data, respectively, from the first quarter of 2019 through the second quarter of 2021.

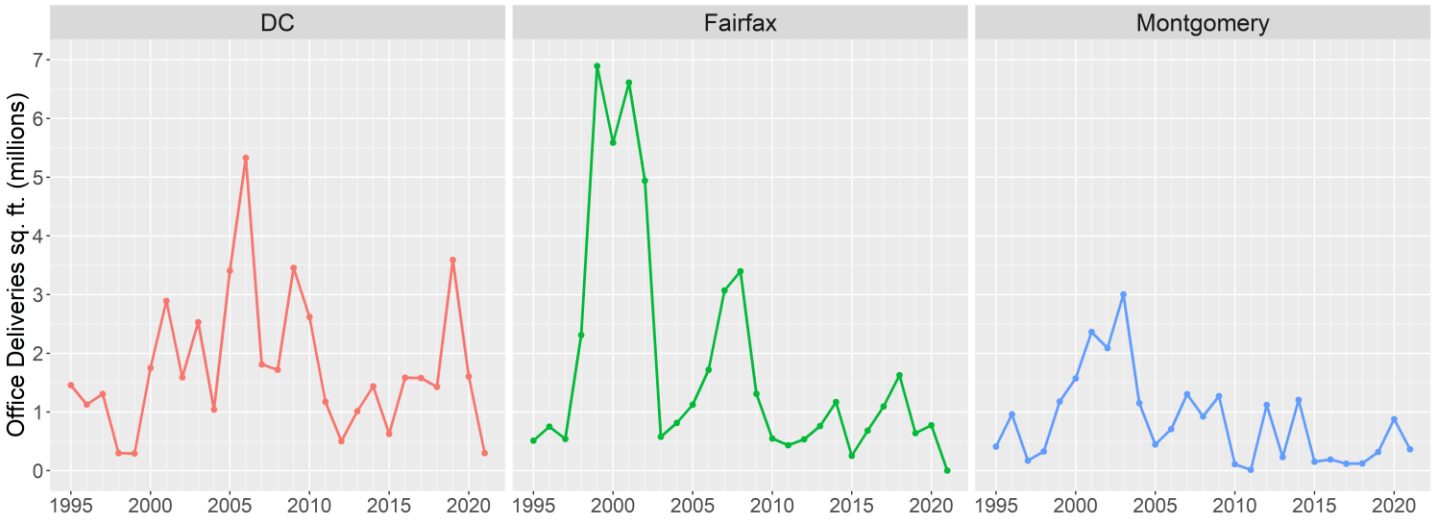
Relative to its peer jurisdictions, Montgomery County entered the crisis with a weaker office market. In the four quarters before the pandemic, Montgomery County averaged lower quarterly gross rents and deliveries, and it was the only jurisdiction to average a negative net absorption rate. While the average quarterly vacancy rate in Montgomery County (12.2%) was lower than the rate in Fairfax County (15.1%) prior to the pandemic, this difference is partly a function of Montgomery County's lower relative office space growth. **Figure 2** shows that annual deliveries of office space in the County have been consistently lower than Fairfax County, as well as Washington, DC. In fact, from 2010 to 2021Q2, almost 3,700,000 sq. ft. of more office space has been delivered in Fairfax County than Montgomery County. And almost 12,700,000 sq. ft. of more office space has been delivered in Washington, DC than Montgomery County. See **Table 4**.

Table 3. Office Market Data for Peer Jurisdictions

	2019Q3 - 2020Q2	2020Q3 - 2021Q2	Change
Average Quarterly *Net Absorption Total* (sq. ft.)			
Montgomery	(42,874)	(224,455)	(181,582)
Fairfax	192,426	(632,709)	(825,136)
DC	129,806	(858,340)	(988,145)
Average Quarterly *Deliveries* (sq. ft.)			
Montgomery	115,104	267,372	152,268
Fairfax	243,400	0	(243,400)
DC	632,591	81,115	(551,476)
Average Quarterly *Vacancy Total* (%)			
Montgomery	12.2%	14.3%	2.1%
Fairfax	15.1%	16.7%	1.6%
DC	11.3%	13.0%	1.7%
Average Quarterly *Office Gross Rent Overall* ($)			
Montgomery	$29.61	$29.86	$0.26
Fairfax	$31.00	$31.32	$0.32
DC	$51.80	$51.79	($0.01)

Data Source: Costar; Montgomery Planning; Stephen Roblin

Figure 2. Annual Deliveries of Office Space (1995 – 2021Q2)



Data Source: Costar; Montgomery Planning; Stephen Roblin

Table 4. Total Office Deliveries by Jurisdiction (2010 - 2021Q2)

	Office Deliveries Sq Ft	Difference Between Montgomery and Peer Jurisdiction
Montgomery	4,811,239	
Fairfax	8,507,648	(3,696,409)
DC	17,447,048	(12,635,809)

Data Source: Costar; Montgomery Planning; Stephen Roblin

Retail Market: Like the office markets, the retail markets in Montgomery County, Fairfax County, and Washington, DC have all been significantly harmed by the COVID-19 pandemic and economic recession. As shown in **Table 5,** since the onset of the pandemic all jurisdictions have experienced:

- slight increases in vacancy rates,
- negative net absorption rates, and
- decreased rents.

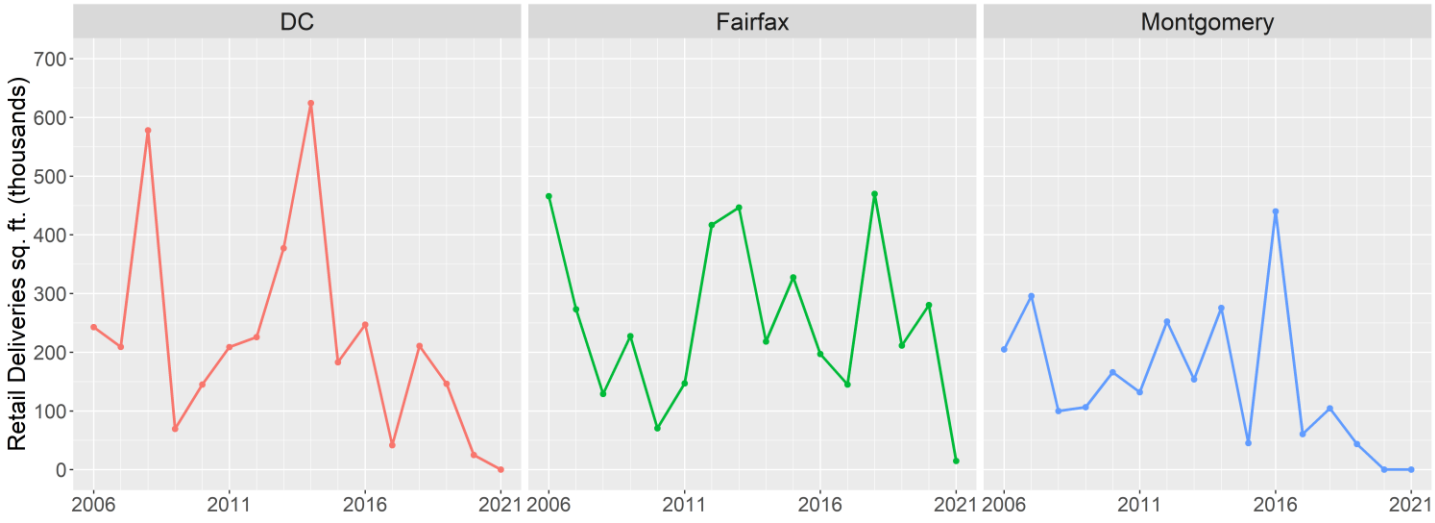
As in the case of the office market, Montgomery County entered the crisis with a weaker retail market relative to its peer jurisdictions. In the four quarters before the pandemic, Montgomery County had the lowest rents and deliveries and was outperformed by Fairfax County in net absorption and vacancy. **Figure 3** shows that annual deliveries of retail space in the County have tended to be lower than Fairfax County, as well as Washington, DC. **Table 6** indicates that from 2010 to 2021Q2, 1,271,820 sq. ft. of more retail space has been delivered in Fairfax County and 761,406 sq. ft. of more retail space has been delivered in Washington, DC than Montgomery County.

Table 5. Retail Market Data for Peer Jurisdictions

	2019Q3 - 2020Q2	2020Q3 - 2021Q2	Change
Average Quarterly *Net Absorption Total* (sq. ft.)			
Montgomery	7,744	(26,440)	(34,184)
Fairfax	50,451	(24,826)	(75,277)
DC	4,272	(31,369)	(35,641)
Average Quarterly *Deliveries* (sq. ft.)			
Montgomery	8,874	0	(8,874)
Fairfax	77,810	23,690	(54,120)
DC	37,931	1,401	(36,530)
Average Quarterly *Vacancy Total* (%)			
Montgomery	4.7%	5.3%	0.6%
Fairfax	2.8%	3.3%	0.6%
DC	5.4%	6.3%	0.9%
Average Quarterly *NNN Rent Overall* ($)			
Montgomery	$29.89	$28.19	($1.70)
Fairfax	$30.78	$29.88	($0.91)
DC	$41.93	$40.32	($1.61)

Data Source: Costar; Montgomery Planning; Stephen Roblin

Figure 3. Annual Deliveries of Retail Space (1995 – 2021Q2)



Data Source: Costar; Montgomery Planning; Stephen Roblin

Table 6. Total Retail Deliveries by Jurisdiction (2010 - 2021Q2)

	Retail Deliveries Sq Ft	Difference Between Montgomery and Peer Jurisdiction
Montgomery	1,673,572	
Fairfax	2,945,392	(1,271,820)
DC	2,434,978	(761,406)

Data Source: Costar; Montgomery Planning; Stephen Roblin

Multifamily Market: The COVID-19 pandemic and economic recession have also impacted the multifamily markets in the peer jurisdictions. As shown in **Table 7,** since the onset of the pandemic Montgomery and Fairfax Counties have experienced:

- slight increases in vacancy rates, and
- decreased effective rents.

Washington, DC, has experienced greater increases in the vacancy rate and declines in effective rents.

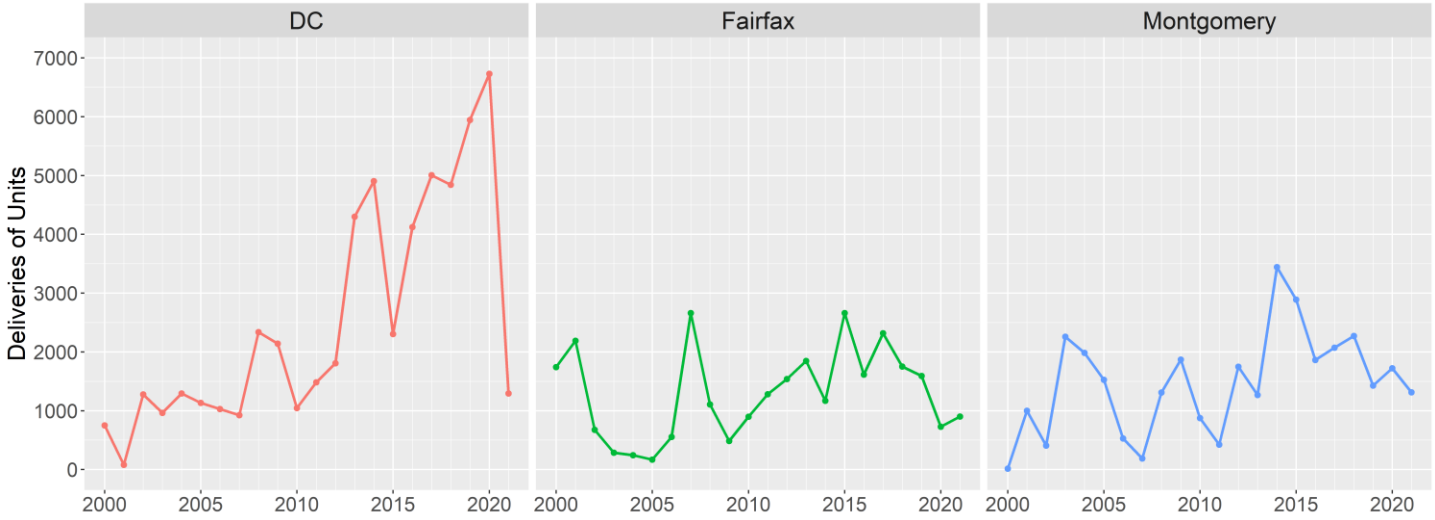
Unlike the office and retail markets, Montgomery County entered the crisis in the middle of the pack. While Washington, DC's multifamily market is significantly stronger than its peer, Montgomery County's market had outperformed Fairfax County in several key indicators. In the four quarters before the pandemic, Montgomery County had more deliveries, lower vacancy, and greater effective rents than Fairfax County (though the latter had marginally higher effective rents per sq. ft.). **Figure 4 and 5** show that annual deliveries of multifamily units and buildings in the County have tended to be higher than Fairfax County. In fact, from 2010 to 2021Q2, there were 34 more multifamily buildings and 3,019 more multifamily units delivered in Montgomery County than in Fairfax County. See **Table 8**.

Table 7. Multifamily Market Data for Peer Jurisdictions

	2019Q3 - 2020Q2	2020Q3 - 2021Q2	Change
Average Quarterly Deliveries (units)			
Montgomery	337	757	420
Fairfax	580	225	(354)
DC	1,143	1,465	322
Average Quarterly Vacancy Total (%)			
Montgomery	5.4%	6.2%	0.7%
Fairfax	6.0%	6.5%	0.5%
DC	7.5%	11.5%	4.0%
Average Quarterly Effective Rent (per sq. ft.)			
Montgomery	$1.89	$1.86	($0.03)
Fairfax	$1.92	$1.87	($0.05)
DC	$2.64	$2.48	($0.16)
Average Quarterly Effective Rent Growth/Year (%)			
Montgomery	2.0%	-1.6%	-3.6%
Fairfax	1.5%	-2.8%	-4.3%
DC	1.4%	-6.1%	-7.5%

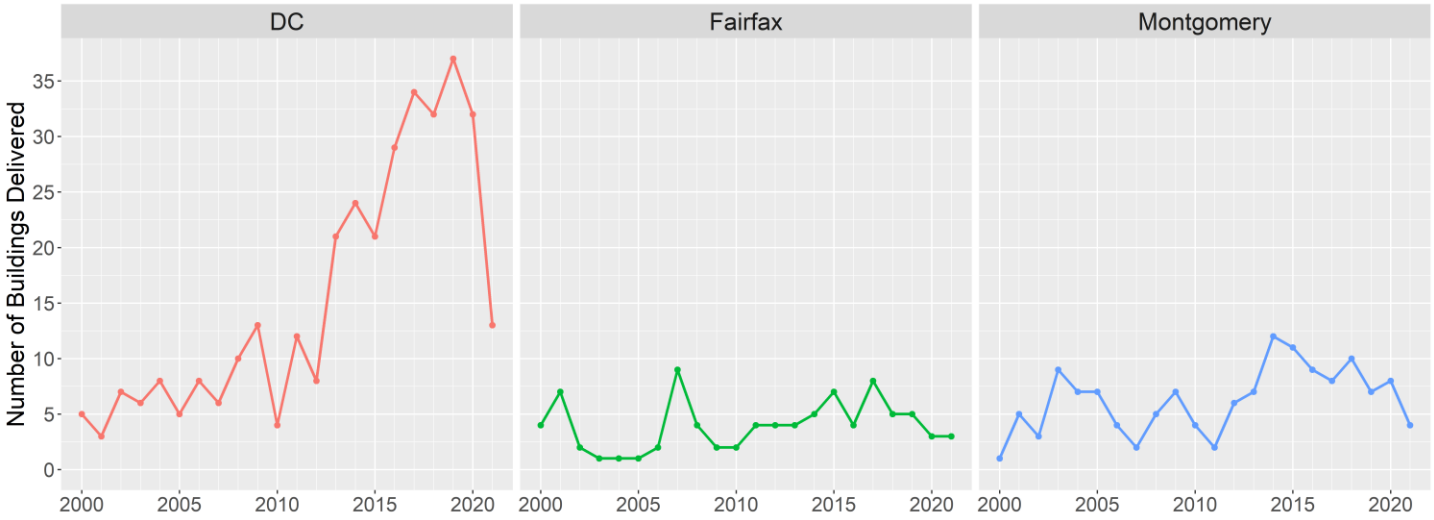
Data Source: Costar; Montgomery Planning; Stephen Roblin

Figure 4. Annual Deliveries of Multifamily *Units* (1995 – 2021Q2)



Data Source: Costar; Montgomery Planning; Stephen Roblin

Figure 5. Annual Deliveries of Multifamily *Buildings* (1995 – 2021Q2)



Data Source: Costar; Montgomery Planning; Stephen Roblin

Table 8. Total Multifamily Deliveries by Jurisdiction (2010 - 2021Q2)

	Number of Deliveries		Difference Between Montgomery and Peer Jurisdiction	
	Buildings	Units	Buildings	Units
Montgomery	88	21,310		
Fairfax	54	18,291	34	3,019
DC	267	43,780	(179)	(22,470)

Data Source: Costar; Montgomery Planning; Stephen Roblin

METHODOLOGIES, ASSUMPTIONS, AND UNCERTAINTIES

By requiring certain buildings to improve their energy performance, the economic impacts of Bill 16-21 would primarily affect owners, property managers and/or tenants of commercial and multifamily residential buildings and businesses that provide energy conservation and efficiency services (hereinafter "energy efficiency service providers"). The analysis in subsequent sections is based on two assumptions.

> Assumption 1: For buildings that would require energy performance improvements, owners would experience significant increases in capital, operating, and administrative costs in the short-term.
>
> Assumption 2: There would be an increase in short-term demand for energy efficiency service providers based in the County.

Here, "short-term" is defined within the context of building capital planning cycles. As previously stated, building owners would be subject to a 12-year compliance period under Bill 16-21. "Short-term" refers to the time in which owners make significant capital and other expenditures for building energy improvements. In contrast, "long-term" refers to the lifecycle of energy efficiency/conservation equipment and technology and beyond.

Importantly, the magnitude and distribution of these short-term economic impacts, in addition to the long-term impacts on economic conditions in the County, are indeterminate for several reasons.

First, key parameters that would undoubtedly affect the magnitude of the economic costs and benefits of the BEPS policy, as well as the distribution of these costs and benefits across different building types and other building specifications (i.e., building size and age), are not established in Bill 16-21.[13] These parameters are the following:

1. the building types for every covered building,
2. the final performance standards for each building,
3. the guidelines for approval of the Building Performance Improvement Plan, and
4. the guidelines for approval of an extension or adjustment to a performance standard.

In terms of parameters 1 and 2, all covered buildings within each type would be subject to the same performance standard. The County Executive would need to establish these parameters by June 1, 2022. Parameters 3 and 4 would also be established through regulation. The Director of DEP would have the authority to approve extensions and adjustments to performance standards, and to place buildings on the improvement plan in the case of owners who would be unable to meet the building energy performance standards. Gaining clarity on these guidelines would require definitions of "economic infeasibility" and "circumstances beyond the owner's control," which Bill 16-21 describes as necessary conditions for approval of these alternative paths.

Second, BEPS policies in Washington, DC and other jurisdictions are in the early stages of development and implementation. There are no descriptive analyses of the long-term economic impacts in these cases. In addition, both Washington, DC and Montgomery County have contracted with Steven Winter Associates, a research firm that focuses on commercial, residential, and multifamily buildings, to perform cost-benefit analyses of their respective BEPS programs.

[13] It is noteworthy that the Lawrence Berkeley National Laboratory study found a strong association between building size and energy savings, but not building age.

These studies have not yet been released.[14] The analysis on Montgomery County's BEPS policy will be completed this summer.[15]

Third, BEPS policies can improve energy efficiency and thus reduce energy costs in buildings.[16] However, it is indeterminate whether the average long-term energy savings at the building-level from the BEPS policy specified in Bill 16-21 would outweigh the cost of energy performance improvements that otherwise would not have occurred in the absence of enacting the bill. A primary challenge in modeling both the long-term energy savings and the short-term costs to building owners and managers is the absence of key parameters of the BEPS policy in Bill 16-21.

Finally, increasing building energy efficiency and reducing CO2 and other pollutants can generate long-term employment growth in the energy efficiency sector and other direct and indirect economic benefits.[17] While a full accounting of the long-term economic impacts of Bill 16-21 would account for these benefits, it is beyond the scope of this analysis to weigh them against the (indeterminate) short-term costs and benefits to private organizations and residents in the County that are the focus of this report.

VARIABLES

The primary variables that would affect the economic impacts of Bill 16-21 are:

- administrative cost to property owners;
- capital costs to property owners;
- ability of property owners to pass down costs to property managers and business and multifamily tenants;
- percentage of property owners based outside the County;
- revenues for local building energy efficiency service providers;
- long-term energy savings for building owners and tenants;
- effect of BEPS policies on commercial and multifamily building development in peer jurisdictions;
- timing of the implementation of the BEPS policy; and
- definition of key regulations (building types, performance standards, guidelines for extensions, adjustments, and Building Performance Improvement Plan).

[14] Swinter.com, "Steven Winter Associates Selected to Implement Ambitious Plan to Reduce DC Building Emissions," November 11, 2020, https://www.swinter.com/about-us/news/news-item/steven-winter-associates-selected-to-implement-ambitious-plan-to-reduce-dc-building-emissions/.
[15] Marc Elrich, County Executive to Tom Hucker, Council President, Memorandum, April 1, 2021. See memo in Introduction Staff Report for Bill 16-21.
[16] A predictive study conducted by the Lawrence Berkeley National Laboratory found that Washington, DC's BEPS policy will significantly reduce CO2 emissions. See Katie Bergfeld, et al, "Making Data-Driven Policy Decisions for the Nation's First Building Energy Performance Standards," August 2020, https://escholarship.org/content/qt05m741q3/qt05m741q3.pdf.
[17] For more on the economics of building energy efficiency, see MorganStanley.com, "Green Buildings Power Savings & Returns," Morgan Stanley, June 2017, https://www.morganstanley.com/ideas/green-buildings-energy-efficiency-real-estate-growth; and Bianca Majumder and Luke Bassett, "Energy-Efficient Buildings Are Central to Modernizing U.S. Infrastructure," Center for American Progress, January 29, 2019, https://www.americanprogress.org/issues/green/news/2019/01/29/465520/energy-efficient-buildings-central-modernizing-u-s-infrastructure/.

IMPACTS

WORKFORCE ▪ TAXATION POLICY ▪ PROPERTY VALUES ▪ INCOMES ▪ OPERATING COSTS ▪ PRIVATE SECTOR CAPITAL INVESTMENT ▪ ECONOMIC DEVELOPMENT ▪ COMPETITIVENESS[18]

Businesses, Non-Profits, Other Private Organization

OLO anticipates that Bill 16-21 would have a net negative economic impact on private organizations in the short-term. The economic impacts of the bill would primarily affect owners and tenants of commercial and multifamily residential buildings and providers of building energy efficiency services.

Property Owners: Enacting Bill 16-21 would require certain property owners to make capital investments in their properties to achieve sufficient reductions in energy use. Complying with the BEPS requirements would also increase administrative and operating costs for certain owners. For example, property owners/managers would need to allocate building workforce hours related to the installation and maintenance of new equipment and technologies and to meet reporting requirements that otherwise would not be necessary in the absence of enacting the bill. Owners would likely recoup a portion of these costs through energy savings and higher rents.

However, it is worth noting that it could be difficult for certain owners to increase rents to recoup costs they incur as a result of the BEPS policy. As indicated in **Figures 2-5** and **Tables 3-8** above, the pandemic has significantly harmed the real estate markets in retail and office space in the County, with increased vacancy rates and declining rents. The outlook for the office market over the next several years is particularly concerning. Analysts anticipate that overall demand for office space to be depressed due to widespread telework for office workers and the potential for out-migration of these workers to smaller, lesser expensive metropolitan areas. These and other factors may prevent vacancy rates from lowering to pre-pandemic levels, particularly for buildings and submarkets that have substandard amenities. If the poor conditions in the office and retail markets linger, owners may face pressure to maintain lower rents to attract and retain tenants, thereby making it difficult to recoup costs by passing them onto tenants.[19]

For these reasons, OLO anticipates that certain building owners would experience net income losses in the short-term.

[18] For the Council's priority indicators, see Montgomery County Code, Sec. 2-81B. Economic Impact Statements, https://codelibrary.amlegal.com/codes/montgomerycounty/latest/montgomeryco_md/0-0-0-80894.

[19] For recent analyses on Montgomery County's office market, see Jacob Sesker, "Office Vacancies: Not Just the Owner's Problem," Harpwell Strategies, May 4, 2021, https://harpswellstrategies.com/office-vacancies-not-just-the-owners-problem/; Todd Fawley-King and Atul Sharma, "Future of the office market, Part 1: What will the post-pandemic office market mean to growth and redevelopment of Montgomery County?" The Third Place, November 23, 2020, https://montgomeryplanning.org/blog-design/2020/11/future-of-the-office-market-part-1-what-will-the-post-pandemic-office-market-mean-to-the-growth-and-redevelopment-of-montgomery-county/#_ednref1; Todd Fawley-King, "Future of the office market, Part 2: Which of Montgomery County's office districts are best positioned to win the region's post-COVID office space race?" The Third Place, December 21, 2020, https://montgomeryplanning.org/blog-design/2020/12/future-of-the-office-market-part-2-which-of-montgomery-countys-office-districts-are-best-positioned-to-win-the-regions-post-covid-office-space-race/; and Todd Fawley-King, "The future of the office market, Part 3: Attracting office users post-COVID," The Third Place, January 13, 2021, https://montgomeryplanning.org/blog-design/2021/01/the-future-of-the-montgomery-county-office-market-part-3-attracting-office-users-post-covid/.

Building Tenants: Bill 16-21 would have indirect economic impacts on tenants of commercial and multifamily residential buildings. The BEPS policy would likely affect tenants through owners passing down the costs to tenants, in the form of higher rents, incurred from building energy improvements that otherwise would not have occurred. Doing so would increase operating costs for business tenants, thereby reducing net income (holding all else equal). However, as previously discussed, it may be difficult for building owners, particularly in the office market, to increase rents, in which case tenants would be somewhat buffered from the negative, indirect effects of the bill. Moreover, energy savings may offset the costs passed down from property owners to certain tenants. However, these savings would likely accrue to tenants whose utility bills are not included their rents.

Building Energy Efficiency Service Providers: The short-term, positive economic impacts of Bill 16-21 would primarily benefit building energy efficiency service providers in the County. By requiring certain building owners to make energy efficiency improvements to their properties, the bill would likely increase demand for local businesses that specialize in this area. Increased demand would result in income gains for these businesses.

Overall Short-Term Impact: OLO anticipates that the overall short-term impact of Bill 16-21 to private organizations in the County would be negative for several reasons.

OLO expects that the total transfer from owners to energy efficiency service providers would result in a net outflow from the County for several reasons. The first concerns imported goods and services.[20] A significant portion of the costs that owners incur would be from imported equipment and technology (e.g., HVAC systems, water heaters). Owners and property managers may also rely on some providers based outside the County. The second concerns building owners who are based outside the County. They would likely pass down a portion of the costs to business and multifamily tenants in the form of higher rents. (However, if high vacancy rates persist, owners may face market pressure to keep rents low to attract tenants.) In addition, if most leases include energy utilities, then these owners would likely accrue benefits from long-term energy savings.

In addition, OLO expects that enacting Bill 16-21 may reduce the County's competitiveness in the office, retail, and/or multifamily markets vis-à-vis peer jurisdictions, particularly Fairfax County. As shown in **Table 2**, Montgomery County would join Washington, DC as the only peer jurisdiction in the metropolitan area to have established BEPS policies. Fairfax and other northern Virginia jurisdictions currently lack the legal authority to establish their own. Holding all else equal, establishing a BEPS policy in Montgomery County would increase average capital, administrative, and operating costs for buildings vis-à-vis those in surrounding jurisdictions. In addition to increasing the cost of doing business in the short-term, establishing a BEPS policy may also undermine perceptions of the business-friendliness of the County among investors, developers, and other economic actors. These effects could, in turn, reduce investment in the office, retail and/or multifamily building markets, as Fairfax and other nearby jurisdictions appear relatively more attractive. Given the weakness of the office market in the County relative to Fairfax and Washington, DC, it is possible that this market would be impacted the most. If enacting Bill 16-21 would result in decreased investment in the office, retail, or multifamily markets, Montgomery County would experience economic development losses (i.e., foregone jobs from building infrastructure projects).

[20] Goods and service imports constitute "leakages," i.e., "[m]oney that no longer circulates in an economy because of savings, taxes, or imports." U.S. Bureau of Economic Analysis, *RIMS II: An Essential Tool for Regional Developers and Planners*, December 2013, https://www.bea.gov/sites/default/files/methodologies/RIMSII_User_Guide.pdf.

Residents

The residents who would be primarily impacted by Bill 16-21 are the owners and workforces of commercial and multifamily residential buildings, business tenants, and local energy efficiency service providers, as well as residential tenants of multifamily buildings. As previously discussed, residents who own commercial and multifamily units would experience income losses due to increased capital and operating costs in the short-term. Residents who own and work for energy efficiency service providers would experience income gains. Non-salaried building staff may also benefit from increased work hours. In addition, it is possible that expenditures related to building energy improvements that otherwise would not have occurred in the absence of enacting Bill 16-21 may create new jobs in the building management and support sectors and the energy efficiency sector. Any additional employment may benefit residents.

The long-term economic impacts of Bill 16-21 on residents are beyond the scope of this analysis.

DISCUSSION ITEMS

Based on conversations with representatives of the commercial and multifamily residential building sector, OLO believes that Councilmembers may want to consider the following discussion items:

The first item concerns the timing in which the benchmarking and BEPS requirements would be implemented. (See **Figure 1** for the timeline.) As previously discussed, the COVID-19 pandemic has significantly harmed the office, retail, and multifamily building markets. Owners have lost revenues due to loss of rent and incurred new costs associated with meeting public health standards for buildings. As the economy continues to open, owners of commercial buildings will incur more costs to make buildings safe for occupancy. Importantly, it is likely that the goals of meeting public health standards and reducing energy would come into conflict. For example, many building managers have been implementing new standards for ventilation and air-filtration, in addition to meeting other guidelines.[21] Councilmembers may want to consider whether the timeline of the benchmarking and/or BEPS policy could be adjusted to accommodate the cost and market conditions due to the pandemic, without undermining the environmental goals of the policy and the County's GGE reduction goals.

The second item concerns building owners' and managers' responsibility for tenants' energy-use. Some tenants may face challenges in reducing energy (i.e., due to the nature of their business operations) or be unwilling to change their poor energy management behaviors. The latter is of particular concern when utilities are included in rents. Councilmembers may want to consider how to modify the bill to directly incentivize tenant energy-use behavior.

The final item concerns establishing energy-use baselines for the BEPS. Due to the closure and reopening of the economy, building energy-use has been atypical since the start of the pandemic. Councilmembers may want to consider the

[21] Reportedly, new electricity demands due to public health standards, in addition to lease structures and poor energy management practices, explain why electricity-use for offices are returning to pre-pandemic levels. See Nate Berg, "Empty office buildings are still devouring energy. Why?" Fast Company, January 20, 2021, https://www.fastcompany.com/90595577/empty-office-buildings-are-still-devouring-energy-why. See also Ashrae.org, "Coronavirus (COVID-19) Response Resources from ASHRAE and others," https://www.ashrae.org/technical-resources/resources.

economic implications of using 2020-2022 data to establish baselines for certain buildings and evaluating buildings' future energy-use based on this atypical period.

Should the Council desire better data points about actual costs or how this ball may impact Montgomery County's competitiveness against neighboring jurisdictions, a more detailed analysis should be requested.

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Swinter.com. "Steven Winter Associates Selected to Implement Ambitious Plan to Reduce DC Building Emissions." November 11, 2020.

CAVEATS

Two caveats to the economic analysis performed here should be noted. First, predicting the economic impacts of legislation is a challenging analytical endeavor due to data limitations, the multitude of causes of economic outcomes, economic shocks, uncertainty, and other factors. Second, the analysis performed here is intended to *inform* the legislative process, not determine whether the Council should enact legislation. Thus, any conclusion made in this statement does not represent OLO's endorsement of, or objection to, the bill under consideration.

CONTRIBUTIONS

Stephen Roblin (OLO) prepared this report.

APPENDIX

Table A1. Office Market Data for Peer Jurisdictions (2019Q1 – 2021Q2)

Period	Vacant Percent % Total	Total Available Percent % Total	Net Absorption SF Total	Deliveries SF	Office Gross Rent Overall
Montgomery County Office Market					
2021 Q2 QTD	15.1%	18.1%	(373,980)	0	$29.87
2021 Q1	14.6%	17.7%	(185,175)	362,643	$30.02
2020 Q4	13.9%	17.5%	(297,438)	84,264	$29.73
2020 Q3	13.4%	16.6%	(41,228)	622,579	$29.83
2020 Q2	12.6%	15.9%	(99,996)	169,000	$30.01
2020 Q1	12.3%	15.4%	(225,306)	0	$30.02
2019 Q4	12.0%	15.8%	(14,222)	0	$29.18
2019 Q3	11.9%	15.6%	168,030	291,414	$29.21
2019 Q2	11.8%	15.8%	(321,701)	0	$29.36
2019 Q1	11.4%	15.7%	(188,433)	27,600	$29.04
Fairfax County Office of Market					
2021 Q2 QTD	17.5%	22.1%	(477,081)	0	$31.57
2021 Q1	17.1%	21.6%	(1,057,873)	0	$31.17
2020 Q4	16.2%	20.9%	(464,673)	0	$31.12
2020 Q3	15.8%	20.3%	(531,210)	0	$31.42
2020 Q2	15.4%	19.8%	394,653	372,957	$31.16
2020 Q1	15.5%	19.5%	(534,369)	401,000	$31.25
2019 Q4	14.7%	19.0%	170,802	88,000	$30.95
2019 Q3	14.8%	18.9%	738,619	111,642	$30.64
2019 Q2	15.3%	19.4%	177,002	0	$30.27
2019 Q1	15.5%	19.3%	522,596	438,169	$30.19
Washington, DC Office Market					
2021 Q2 QTD	13.9%	18.8%	(772,055)	38,191	$51.96
2021 Q1	13.4%	18.2%	(1,151,885)	258,620	$51.86
2020 Q4	12.5%	17.9%	(855,865)	0	$51.63
2020 Q3	12.0%	16.8%	(653,554)	27,650	$51.71
2020 Q2	11.6%	16.3%	419,075	557,129	$51.87
2020 Q1	11.5%	15.8%	165,715	1,019,922	$51.97
2019 Q4	11.1%	15.5%	91,622	271,433	$51.70
2019 Q3	11.0%	15.8%	(157,190)	681,881	$51.66
2019 Q2	10.5%	15.7%	1,297,460	1,280,550	$51.91
2019 Q1	10.6%	15.1%	(152,161)	1,355,473	$51.37

Data Source: Costar; Montgomery County Planning

Table A2. Retail Market Data for Peer Jurisdictions (2019Q1 – 2021Q2)

Period	Vacant Percent % Total	Total Available Percent % Total	Net Absorption SF Total	Deliveries SF	NNN Rent Overall
Montgomery County Retail Market					
2021 Q2 QTD	5.3%	7.1%	326	0	$28.07
2021 Q1	5.3%	8.0%	(25,485)	0	$27.89
2020 Q4	5.2%	7.9%	10,511	0	$28.21
2020 Q3	5.3%	7.7%	(91,113)	0	$28.59
2020 Q2	4.9%	7.2%	(83,408)	0	$29.96
2020 Q1	4.6%	6.8%	1,300	0	$29.47
2019 Q4	4.6%	6.8%	17,765	0	$30.36
2019 Q3	4.7%	7.3%	95,317	35,496	$29.75
2019 Q2	4.9%	7.6%	(35,443)	0	$30.33
2019 Q1	4.8%	7.2%	29,789	7,999	$30.16
Fairfax County Retail Market					
2021 Q2 QTD	3.5%	5.0%	(6,124)	0	$29.16
2021 Q1	3.5%	5.1%	(118,704)	14,759	$29.07
2020 Q4	3.2%	4.9%	64,006	80,000	$30.65
2020 Q3	3.1%	4.6%	(38,482)	0	$30.62
2020 Q2	3.1%	4.0%	(201,193)	0	$30.52
2020 Q1	2.6%	3.5%	174,565	200,448	$31.03
2019 Q4	2.6%	3.8%	152,841	100,677	$30.68
2019 Q3	2.7%	3.8%	75,590	10,115	$30.90
2019 Q2	2.8%	4.0%	(123,300)	80,885	$31.07
2019 Q1	2.4%	3.9%	6,275	19,567	$31.19
Washington, DC Retail Market					
2021 Q2 QTD	6.3%	7.3%	17,471	0	$41.06
2021 Q1	6.4%	7.4%	(6,900)	0	$40.26
2020 Q4	6.3%	7.6%	(9,398)	5,605	$40.01
2020 Q3	6.3%	7.4%	(126,650)	0	$39.96
2020 Q2	5.7%	6.9%	(126,557)	12,500	$41.28
2020 Q1	5.1%	6.3%	70,047	6,886	$41.43
2019 Q4	5.4%	6.0%	87,071	96,687	$41.81
2019 Q3	5.4%	6.3%	(13,473)	35,650	$43.19
2019 Q2	5.2%	6.7%	(48,492)	13,984	$43.04
2019 Q1	4.9%	6.5%	66,260	0	$42.36

Data Source: Costar; Montgomery County Planning

Table A3. Multifamily Market Data for Peer Jurisdictions (2019Q1 – 2021Q2)

Period	Vacancy Percent	Deliveries Units	Effective Rent Per SF	Effective Rent % Growth/Yr
Montgomery County Multifamily Market				
2021 Q2 QTD	6.5%	576	$1.90	1.1%
2021 Q1	6.5%	736	$1.86	(2.0%)
2020 Q4	6.3%	1,453	$1.83	(2.9%)
2020 Q3	5.3%	263	$1.86	(2.4%)
2020 Q2	5.4%	4	$1.87	(1.0%)
2020 Q1	5.5%	0	$1.90	2.5%
2019 Q4	5.8%	944	$1.89	3.0%
2019 Q3	4.9%	399	$1.90	3.5%
2019 Q2	4.9%	84	$1.89	2.7%
2019 Q1	5.6%	0	$1.85	2.4%
Fairfax County Multifamily Market				
2021 Q2 QTD	6.7%	407	$1.94	1.8%
2021 Q1	6.6%	494	$1.89	(2.6%)
2020 Q4	6.5%	0	$1.83	(4.8%)
2020 Q3	6.3%	0	$1.83	(5.7%)
2020 Q2	6.4%	468	$1.88	(3.4%)
2020 Q1	5.6%	260	$1.94	1.8%
2019 Q4	5.8%	6	$1.92	3.5%
2019 Q3	6.3%	1,584	$1.94	4.1%
2019 Q2	4.7%	0	$1.94	3.3%
2019 Q1	5.4%	0	$1.91	2.8%
Washington, DC Multifamily Market				
2021 Q2 QTD	11.4%	302	$2.53	(3.3%)
2021 Q1	11.8%	991	$2.47	(6.8%)
2020 Q4	12.0%	2,594	$2.43	(8.1%)
2020 Q3	10.7%	1,971	$2.48	(6.2%)
2020 Q2	8.7%	1,290	$2.59	(1.6%)
2020 Q1	7.4%	874	$2.65	2.0%
2019 Q4	6.9%	958	$2.65	2.9%
2019 Q3	6.8%	1,450	$2.65	2.4%
2019 Q2	7.1%	2,376	$2.63	2.3%
2019 Q1	6.9%	1,162	$2.60	2.8%

Data Source: Costar; Montgomery County Planning

Racial Equity and Social Justice (RESJ) Impact Statement

Office of Legislative Oversight

BILL 16-21: Environmental Sustainability-Building Energy use Benchmarking and Performance Standards-Amendments

SUMMARY

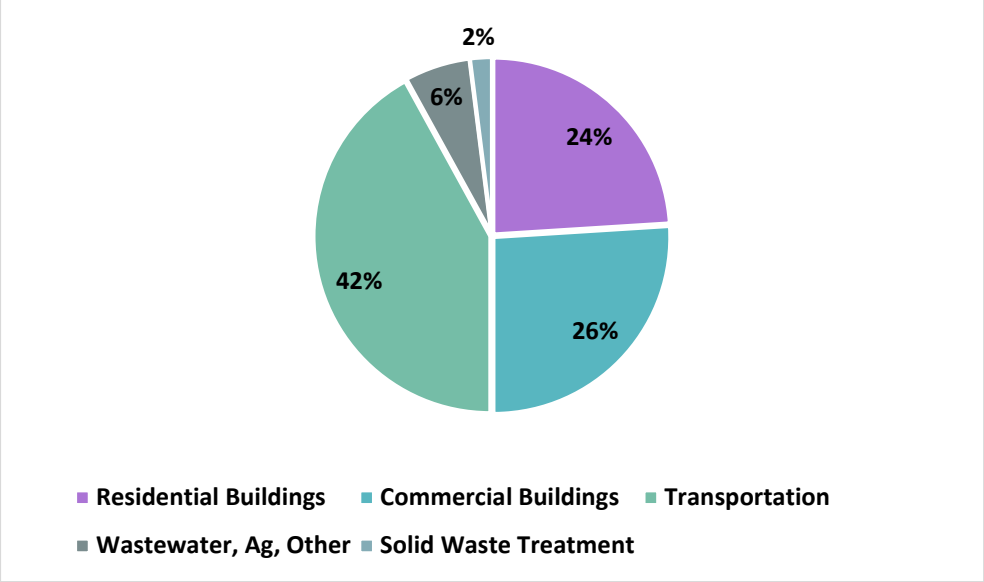
The Office of Legislative Oversight (OLO) expects Bill 16-21 to favorably impact racial equity and social justice in Montgomery County.

BACKGROUND

On May 4, 2021, the Council introduced Bill 16-21 to reduce greenhouse gas emissions in the County. Bill 16-21 would make Montgomery County the first U.S. county jurisdiction to implement Building Energy Performance Standards (BEPS) to combat climate change.[1] If enacted, Bill 16-21 will require building owners to (a) benchmark their current energy use intensity (EUI)[2] and (b) demonstrate progress by reducing their EUIs every four years.[3] Bill 16-21 would also establish a performance improvement board to assist building owners who face difficulties with meeting BEP standards.[4]

Bill 16-21's focus on improving buildings' energy efficiency is significant since as noted in Chart 1, residential and commercial buildings contributed to about half of greenhouse gas emissions locally in 2018. Under current law, owners of commercial buildings that are 50,000 gross square feet and larger must benchmark and report energy use data annually.[5] Bill 16-21 would amend the County's Environmental Sustainability Law by expanding the EUI benchmarking requirements to include all buildings that are 25,000 gross square feet or larger, including residential buildings.[6]

Chart 1: Greenhouse Gas Emissions in Montgomery County, 2018



Source: Bill 16-21 County Council Packet

Of note, Bill 16-21 aligns the County's Climate Action Plan to decrease greenhouse emissions in the County to 80% by 2027 and 100% by 2035.[7] Towards this end, Bill 16-21 would make the following modifications to County law:

- Expand the number of buildings covered by benchmarking requirements;
- Amend certain definitions;
- Establish energy performance standards for covered buildings with certain gross floor area;
- Create a Building Performance Improvement Board; and
- Generally revise County law regarding environmental sustainability.[8]

Climate Change, Racial Equity, and Social Justice

According to the Environmental Protection Agency (EPA), greenhouse gas emissions is the most significant driver of climate change.[9] According to the U.S. Global Change Research Program, climate change is causing and expected to cause a range of health impacts that vary by group.[10] They note that the vulnerability of any group is a function of their sensitivity to climate change related health risks, exposure to climate change, and their capacity to cope with climate change.[11] The most vulnerable groups of people to climate change include some communities of color, immigrant groups, indigenous people and low-income residents as well as persons with preexisting and chronic medical conditions.

The U.S. Global Change Research Program further notes that population groups most at risk of experiencing diminished health outcomes due to climate change are often most vulnerable to the health impacts of climate change.[12] They are at higher risk of exposure due to their higher likelihood of living in risk-prone areas, areas with poorly maintained infrastructure or areas with an increased burden of air pollution.[13] These population groups also experience greater incidence of chronic medical conditions such as cardiovascular and kidney disease, asthma, and COPD.[14]

Socio-economic and educational factors, limited transportation and access to health care and education "collectively impede their ability to prepare for, respond to, and cope with climate-related health risks."[15] Further, for undocumented immigrants, high poverty rates, language and cultural barriers, and limited access to and use of health care and other social services make these groups hesitant to seek out help to mitigate climate-related health risks because doing so may compromise their immigration status.[16]

Analysis of Demographic Data

According to American Community Survey data compiled by Montgomery Planning, Latinx, Black, Asian, and Other Race persons accounted for 55.5 percent of the County's population in 2016 compared to Non-Hispanic White residents who accounted for 44.5 percent of all residents.[17] Thus, a majority of the County's residents are at heightened risk for the negative health impacts of greenhouse gas emissions on climate change.

Further, the share of Montgomery County residents with heightened vulnerabilities to climate-related health risks will continue to grow. Montgomery Planning projects that People of Color will comprise 63 percent of the County's population in 2025 and will comprise 73 percent of the County's population by 2045.[18]

Anticipated RESJ Impacts

While reducing greenhouse gas emissions would benefit all residents, OLO anticipates that Bill 16-21 will especially benefit communities of color and low-income residents because they are disproportionately vulnerable to the negative health effects of climate change. As such, OLO finds that Bill 16-21 will favorably impact racial equity and social justice in Montgomery County if it reduces greenhouse gas emissions among commercial and residential buildings as intended.

Methodologies, Assumptions, and Uncertainties

This RESJ impact statement and OLO's analysis rely on several information sources to understand the anticipated impact of Bill 16-21 on racial equity and social justice locally. These include:

- Our Communities, Our Power: Advancing Resistance and Resilience in Climate Change Adaptation, Action Toolkit, National Association for the Advancement of Colored People
- Healthy Montgomery Core Measures Data Summary
- Montgomery County Trends: A Look at People, Housing and Jobs Since 1990, Montgomery Planning
- Bill 16-21 County Council Packet
- Montgomery County Climate Action Plan: Building a Healthy, Equitable, Resilient Community, Public Draft

OLO staff also spoke with representatives from the Department of Environmental Protection.[19]

Recommended Amendments

The County's Racial Equity and Social Justice Act requires OLO to consider whether recommended amendments to bills aimed at narrowing racial and social inequities are warranted in developing RESJ impact statements.[20] OLO has determined that the key provisions included in Bill 16-21 adequately address RESJ in the County. Consequently, this RESJ impact statement does not offer recommendations.

Caveats

Two caveats to this RESJ impact statement should be noted. First, predicting the impact of legislation on racial equity and social justice is a challenging, analytical endeavor due to data limitations, uncertainty, and other factors. Second, this RESJ impact statement is intended to inform the legislative process rather than determine whether the Council should enact legislation. Thus, any conclusion made in this statement does not represent OLO's endorsement of, or objection to, the bill under consideration.

Contributions

Dr. Theo Holt, RESJ Performance Management and Data Analyst, and Dr. Elaine Bonner-Tompkins, Senior Legislative Analyst, drafted this RESJ statement.

[1] Montgomery County Council, Bill 16-21, Environmental Sustainability-Building Energy use Benchmarking and Performance Standards-Amendments, May 2021, Montgomery County, Maryland. https://apps.montgomerycountymd.gov/ccllims/DownloadFilePage?FileName=2707_1_14390_Bill_16-2021_Introduction_20210504.pdf
[2] Energy Use Intensity (EUI) means a numeric value calculated by the benchmarking tool that represents the energy consumed by a building relative to its size.
[3] Montgomery County Council, Bill 16-21.
[4] Ibid
[5] Ibid
[6] Ibid
[7] Ibid
[8] Ibid
[9] Ibid
[10] The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment, U.S. Global Change Research Program, 2016, https://health2016.globalchange.gov/
[11] Ibid
[12] Ibid
[13] Ibid
[14] Ibid
[15] Ibid
[16] Ibid
[17] Montgomery Planning, Montgomery County Trends: A Look at People, Housing and Jobs Since 1990, January 2019 https://montgomeryplanning.org/wp-content/uploads/2019/01/MP_TrendsReport_final.pdf
[18] Ibid
[19] Dr. Theo Holt spoke with Lindsey Shaw, Emily Curley and Stan Edwards on May 12, 2021.
[20] Montgomery County Council, Bill 27-19, Administration – Human Rights - Office of Racial Equity and Social Justice – Racial Equity and Social Justice Advisory Committee - Established

Fiscal Impact Statement

Bill XX-21 – Environmental Sustainability – Building Energy Use Benchmarking and Performance Standards

1. **Legislative Summary.**

   Bill XX-21 amends the Environmental Sustainability Chapter of County Code to expand the buildings required to report under the benchmarking law and creates a new Building Energy Performance Standards (BEPS) program. Specifically, the bill:

   a. expands the number of buildings covered by energy benchmarking requirements,
   b. establishes BEPS for existing buildings,
   c. provides for enforcement of BEPS by listing a violation as a Class A violation,
   d. provides for use of Building Performance Improvement Plans to assist building owners who are not able to meet the requirements of Bill XX-21, and
   e. creates a Building Performance Improvement Board to advice on the implementation of the program.

2. **An estimate of changes in County revenues and expenditures regardless of whether the revenues or expenditures are assumed in the recommended or approved budget. Includes source of information, assumptions, and methodologies used.**

   Bill XX-21 is not expected to have an impact on County revenues.

   The legislation will have an impact on expenditures to create and implement a new initiative, BEPS. These estimates were developed after discussions with Washington, DC, and St. Louis, who both have benchmarking programs and are implementing BEPS. The fiscal impact statements for BEPS policies in both jurisdictions are included as attachments.

   It is estimated that up to seven total positions would be needed to run the program, three of which are in the existing complement (one vacant). Only one new position would be needed upon enactment (assumed to be in FY22), two new positions would be needed in FY23, and one would be needed in either FY23 or FY24:

   - **Manager III**: Currently oversees commercial and residential energy programs for the Department of Environmental Protection, BEPS would be added to its purview.
   - **Program Manager I** (Grade 23): Currently manages and enforces the existing Benchmarking Law; the number of buildings that will have to report will more than double under Bill XX-21, from about 800 to 1,800 buildings.
   - **Program Manager II** (Grade 25) (vacant, to be filled in FY22): Oversee the program, its implementation, craft BEPS regulations, advise on policy and data analysis, and manage program staff.
   - **New – Program Manager I** (Grade 23, $100,445) (FY22): Work with multifamily and affordable housing building owners and managers to meet the benchmarking and BEPS requirements and be a resource for the sectors.
   - **New – Program Manager I** (Grade 23, $100,445) (FY23): Engage with stakeholders (from building/business owners to industry groups to advocacy groups) on BEPS through trainings, meetings, developing materials, and maintaining partnerships.

- **New – Program Specialist II** (Grade 21, $92,728) (FY23): Provide administrative support to the BEPS and benchmarking programs by responding to inquiries from the building owners and industry groups, staffing the helpdesk, logging correspondence, and assisting with citation processing.
- **New – Senior Engineer** (Grade 27, $118,299) (FY23 or FY24): Provide expert guidance to building owners on upgrade projects, technical expertise, and for technical review of Building Performance Improvement Plans.

The total annual personnel cost of the new positions outlined above is estimated to be $411,917 when the phase-in is complete. In addition to staffing needs, the legislation would require operating expenses as well:

- **Database Development, Support, and Maintenance**, $80,000 (FY22): The program will require a database to track benchmark data, performance metrics, contact information, and a portal for building owners to engage with the benchmarks/BEPS requirements (off the shelf product is available specifically developed for benchmarking).
- **General Outreach**, $100,000 (FY22): materials and mailings, general program support, supplies, and website.
- **Technical Assistance Hub**, $500,000 ($250,000 in FY23, $250,000 in FY24): Provide a technical assistance resource for property owners in complying with BEPS, likely contracting with an entity that currently performs this activity in Washington, DC.
- **Support for Data and Engineering Analysis**, $100,000 (FY24): The level of engineering analysis needed to implement BEPS and evaluate Improvement Plans will likely require additional outside expertise.

Operating expenses total $780,000 per-year when the phase-in is complete. Combined with the personnel costs, total program costs are $1,191,917 per year.

3. Revenue and expenditure estimates covering at least the next 6 fiscal years.

The table below shows the fiscal impact of Bill XX-21 from FY21 through FY26 following the implementation schedule outlined in Question 2. The FY21 costs are estimated at $0 for the length of time it would take to pass Bill XX-21 and then create, recruit, and fill the new positions. When fully implemented in FY24, the cost of the legislation is expected to be $1.2 million annually.

	FY21	FY22	FY23	FY24	FY25	FY26
Personnel Costs	$0	$75,643	$334,627	$411,917	$411,917	$411,917
Operating Expenses	$0	$180,000	$430,000	$780,000	$780,000	$780,000
Total	$0	$255,643	$764,627	$1,191,917	$1,191,917	$1,191,917

4. An actuarial analysis through the entire amortization period for each bill that would affect retiree pension or group insurance costs.

Not applicable.

5. An estimate of expenditures related to County's information technology (IT) systems, including Enterprise Resource Planning (ERP) systems.

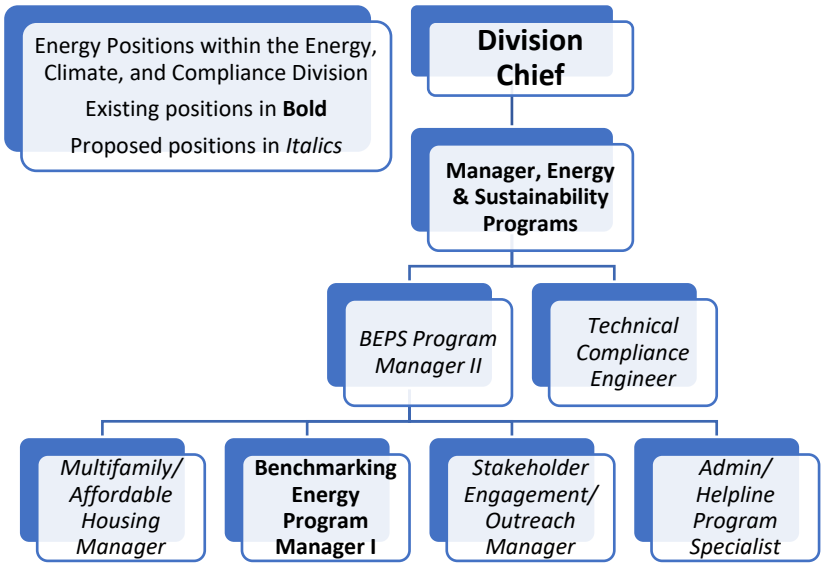
Not applicable.

6. **Later actions that may affect future revenue and expenditures if the bill authorizes future spending.**

   None.

7. **An estimate of the staff time needed to implement the bill.**

   The responsibilities under Bill XX-21 constitute a new program and cannot be absorbed within the existing complement. Multiple full-time positions would be needed to fully implement Bill XX-21, as outlined in Question 2. Below is an organizational chart showing how the program would be set up:



8. **An explanation of how the addition of new staff responsibilities would affect other duties.**

   Bill XX-21 expands the number of buildings that must report under the Benchmarking law and creates the BEPS program under the Department of Environmental Protection, and the workload would necessitate new positions if enacted. There are three existing positions that offset the need for staff, but the workload cannot otherwise be absorbed within the existing complement.

9. **An estimate of costs when an additional appropriation is needed.**

   New appropriation would be needed in FY22, FY23, and FY24 to fund the additional staffing and operating costs outlined in this Fiscal Impact Statement.

10. **A description of any variable that could affect revenue and cost estimates.**

    The revenue or cost estimates of this bill may be impacted by the following variables:

    - The number of buildings covered by this bill – if the number of buildings covered by BEPS changes, staff and expenditures would also change.
    - Energy performance improvements in buildings may negatively impact the fuel energy tax revenues.
    - Improved building stock may increase building assessed value, rents, and increase property tax revenues.

11. Ranges of revenue or expenditures that are uncertain or difficult to project.

The variables outlined in Question 10 are difficult to translate into a range of estimates – it is unknown how many more buildings would be needed to be covered under the law before a new position is required, for example. It is similarly difficult to project how fuel energy tax revenue may be impacted by improved energy efficiency.

12. If a bill is likely to have no fiscal impact, why that is the case.

Not applicable.

13. Other fiscal impacts or comments.

None.

14. The following contributed to and concurred with this analysis:

Stan Edwards, Department of Environmental Protection
Lindsey Shaw, Department of Environmental Protection
Emily Curley, Department of Environmental Protection
Richard H. Harris, Office of Management and Budget

Joshua Watters for JRB 3/26/21

Jennifer Bryant, Director Date
Office of Management and Budget

Marc Elrich
County Executive

Marc P. Hansen
County Attorney

OFFICE OF THE COUNTY ATTORNEY

MEMORANDUM

October 26, 2021

To: Adam Ortiz, Director
Department of Environmental Protection

From: Walter Wilson Walter Wilson
Associate County Attorney

Via: Edward Lattner, Chief Edward B. Lattner
Division of Government Operations
Office of the County Attorney

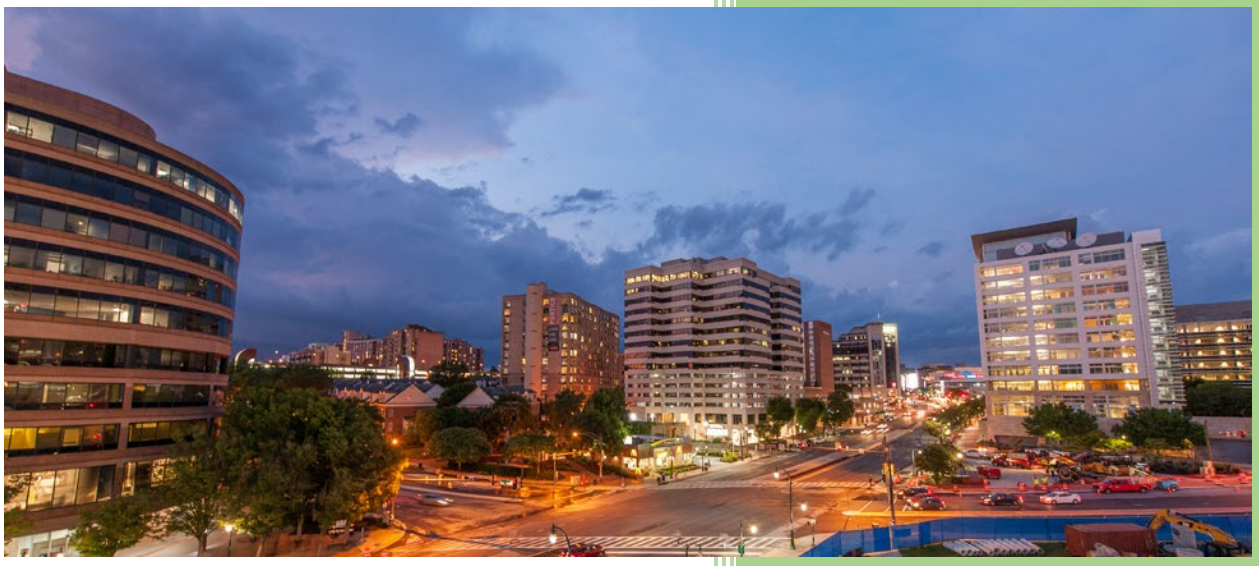
Re: Bill 16-21 (Environmental Sustainability – Building Energy Use Benchmarking and Performance Standards)

The County Executive's Office has requested that this office forward you our comments concerning the above proposed legislation. Bill No. 16-21 would expand the scope of the County's energy use benchmarking law to cover additional County-owned, commercial, and multifamily residential buildings with the goal of reducing greenhouse gas emissions through mandatory long-term building energy performance standards. The proposed legislation would create a 15-member Building Performance Improvement Board (the "Board") to advise the Department of Environmental Protection ("DEP") on implementing building energy performance standards. It would also require the owner of any covered building that cannot fully comply with the applicable performance standards within the required timeframe for reasons beyond the owner's control to submit a proposed building performance improvement plan for review and approval by the DEP Director in consultation with the Board. Finally, the DEP Director would be required to annually submit a benchmarking and building performance report to the County Executive and County Council that reviews and evaluates energy efficiency in covered buildings. I have concluded after reviewing this legislation that Bill No. 16-21, as introduced, does not raise any apparent constitutional, preemption, or liability exposure concerns for the County.

If you have any questions or concerns regarding this memorandum, please call me at (240) 777-6759.

cc: Ludeen McCartney-Green, Legislative Attorney
Marc P. Hansen, County Attorney
Dale Tibbitts, Special Assistant to the County Executive
Tammy J. Seymour, OCA

Stakeholder Recommendation Report



Building Energy Performance Standards in Montgomery County, MD

Compiled by Montgomery County's Department of Environmental Protection

September 2020

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Executive Summary

This report details recommendations developed by key stakeholders - including the commercial and multifamily building communities and those that serve them including advocacy groups, utilities, energy contractors, and County government representatives - for building energy performance standards, or BEPS, in Montgomery County. BEPS is a policy that sets minimum energy performance thresholds for existing buildings. BEPS goes beyond the County's existing Benchmarking Law and requires building owners to actively improve the energy performance of their buildings over time.

During the stakeholder work session meetings, attendees reviewed building performance policy models adopted by other jurisdictions, including Washington, DC, New York City, and St. Louis, and developed recommendations on a BEPS policy that balances the challenges of a climate emergency with the realities of the County's varied building stock. As this report details, the stakeholders believe this recommended approach will both reduce the climate impact from the built environment and help Montgomery County become the first county in the nation with a BEPS policy.

When this series of work session meetings launched, no one envisioned a global health pandemic occurring, but even as the commercial and multifamily building sectors experienced pandemic-related challenges, the stakeholders continued to meet virtually to prepare recommendations. These recommendations detail how the built environment can improve economic and climate resiliency for private building owners, their tenants, and the County.

As a result of the continued economic fallout from COVID-19, residents, businesses, and housing providers are facing an extended period of economic pain and uncertainty. COVID-19 will inevitably prompt changes to buildings, how they are used, and how they are operated. Those changes could make buildings less or more climate-friendly and result in higher or lower operating costs. Investments in building efficiency will lower utility and other operating costs, keeping money in the county, increasing the value of buildings, and creating much needed jobs. While we are in the midst of unprecedented disruption today, the BEPS policy model outlined below would create a long-term standard with the first interim target more than five years from now. Implementing a long-term BEPS policy now with a long-term and transparent roadmap towards implementation offers a level of certainty during a generally uncertain time and will drive job- and value-creating private investments in private buildings to accelerate the county's economic recovery.

Not only will a BEPS policy in Montgomery County offer long-range expectations for building owners to improve their buildings with guidance and assistance from local government, but it will provide maximum flexibility for owners to choose when and how to improve their buildings, create a tool for the actors in the built environment to collaborate and innovate, encourage financial stability through lower energy bills, and create energy-efficiency jobs at every skill level. The stakeholders look forward to continued conversations with the Montgomery County Government and Council on this important issue.

Background

Montgomery County, Maryland is home to more than 5,000 commercial and multifamily properties covering more than 288 million square feet of rentable building area. The county's commercial building stock is primarily made up of office, multifamily, and retail buildings (by total number and rentable square footage).[1] Commercial buildings also account for 26 percent of greenhouse gas (GHG) emissions in Montgomery County.[2]

In May 2014, Montgomery County became the first county in the nation to establish a building benchmarking and transparency program. This requires certain County-owned and private non-residential buildings that are 50,000 square feet and greater to annually track and report building and energy performance details to Montgomery County's Department of Environmental Protection (DEP). As of June 2020, the County's Benchmarking Law covers over 100 million gross square feet of commercial building area across about 700 properties.

For benchmarked buildings, monitoring energy data and disclosing data publicly can reduce energy use in buildings through behavioral and low-effort operational changes. An October 2012 analysis by the U.S. EPA of 35,000 benchmarked buildings found an average annual energy savings of 2.4 percent, and buildings that benchmarked for three straight years saved an average of 7 percent over the course of that time.[3] County benchmarking data supports these findings. Buildings that had reported consistently between 2016 and 2019 showed an average decrease of 2% a year, or 6% total reduction in weather-normalized site energy use intensity between 2016 and 2019.[4]

Benchmarking improves our understanding of energy consumption patterns; helps identify energy saving opportunities within a portfolio of buildings; and helps a business manage its bottom line through consistent data collection and tracking. Benchmarking programs also provide foundational information for local government to develop and offer improved energy policies and programs.

However, to meet Montgomery County's ambitious climate emergency goals, the built environment will need to improve performance beyond the nominal energy savings realized through benchmarking and transparency policies. Jurisdictions that implement successful benchmarking programs look to leverage that success into "beyond benchmarking"-type policies, which typically include prescriptive requirements (e.g., energy audits, retro-commissioning) or performance requirements (e.g., meeting an improved energy performance over time).

Building Energy Performance Standards

Building Energy Performance Standards establish performance levels for buildings and drive all buildings that BEPS covers to achieve these levels in the long-term with required progress at regular intervals in

[1] Source: CoStar Commercial Real Estate Information Company. Data accessed Jan 2020.
[2] Source: MWCOG County-wide Greenhouse Gas Emissions Inventory. 2018 data.
[3] Source: U.S. Environmental Protection Agency. DataTrends: Benchmarking and Energy Savings. October 2012. https://www.energystar.gov/buildings/tools-and-resources/datatrends-benchmarking-and-energy-savings
[4] Includes 309 public, private, and special not-covered (MCPS and Montgomery College) properties that reported benchmarking data consistently each year from 2016 to 2019.

the interim. When developing a BEPS, the Institute for Market Transformation (IMT) recommends that the policy is developed with key guiding principles in mind, including:

- Aligning with goals for climate, social and racial equity
- Providing regulatory fairness
- Creating Jobs and economic growth
- Maximizing certainty, transparency, and clarity
- Balancing flexibility and immediate action

From a building owner perspective, a long-term BEPS provides flexibility: owners can use whatever technologies and operational strategies they decide are most effective and economical to meet the standards. The combination of short- and long-term milestones assures that building performance improves consistently over time, and also sends appropriate market signals to discourage investments in long-lived, inefficient, and environmentally damaging technologies. In parallel, the County will collect data and work with the private sector, utilities, and others to create incentives, programs, and technical assistance.

Given that BEPS are relatively new to policy makers and the market, building performance policies may need to adapt and change over time. The goal for BEPS should be to give the market certainty so it can operate efficiently, minimize burden, and balance complexity of implementation.

Work Session Meetings

In January 2020, DEP held a kick-off meeting for key stakeholders interested in developing recommendations for a BEPS policy for public and private buildings in Montgomery County. Participants included individuals who were previously involved in DEP-led stakeholder work groups related to the County's benchmarking law and development of a County-level Green Bank, as well as key stakeholders and advocates in other sectors such as affordable multifamily housing. Organizations that agreed to be recognized for their participation in the work group process are acknowledged in Appendix A.

The stakeholders developed recommendations through a series of five meetings over the course of five months. Meeting times and information, agendas, notes, webinar recordings[5], and working drafts of this stakeholder report were distributed by DEP. The work session members met via webinar in mid May 2020 to review the recommendations report; comments from this process have been incorporated into this final draft. Please note that participation in the process does not imply full stakeholder endorsement of any particular recommendation.

Montgomery County Government staff are incredibly grateful for the time, energy, and expertise the stakeholder work group provided during this process. Stakeholders not only brought their knowledge of the commercial and multifamily building sector but kept the goals of reducing GHG emissions and involving other building owners in the energy conversation at the forefront of each discussion. The work group members have contributed to an innovative proposal that meets the spirit of the County's declared climate emergency.

[5] See Appendix B for links to agendas, notes, and webinar recordings.

City Energy Project Support

In pursuing building energy performance standards, Montgomery County was one of four jurisdictions selected for the 2020 cohort of the City Energy Project, a national initiative from IMT and Natural Resources Defense Council that supports innovative, practical solutions that cut energy waste, boost local economies, and reduce harmful pollution. Over the past six years, the pioneering cities and counties in the City Energy Project have leveraged the technical and strategic support of the project and its network to design and implement locally tailored building performance solutions to maximize local returns and benefits. The City Energy Project is funded by a partnership of Bloomberg Philanthropies, the Doris Duke Charitable Foundation, and The Kresge Foundation.

In Montgomery County, the City Energy Project technical support team is assisting in the development and implementation of the first-ever BEPS policy at the county level. Staff from IMT directly supported the stakeholder work session meetings through in-depth technical knowledge of BEPS programs, policy considerations and development, and meeting logistics planning. Throughout the work sessions, the stakeholders felt that the technical support received from IMT and the City Energy Project were invaluable, keeping the meeting topics focused and covering an extensive amount of materials in an efficient manner.

Building Performance Standards in Other Jurisdictions

While Building Performance Standard policies are relatively new, a handful of jurisdictions across the country have adopted local performance standards for existing buildings. During the work session discussions, the stakeholders reviewed the elements of other jurisdictions' policies to inform a BEPS policy for Montgomery County, including various metrics, minimum performance of buildings, buildings to be covered under the policy, compliance cycles, reporting processes, and equity considerations.

These policies include:

- **Maryland State Building Energy Performance Standards and Greenhouse Gas Emissions Reduction Targets** *(HB 1490, Environment)*
  During the 2020 Maryland General Assembly, Bill 1490 was introduced in the House, but did not advance by the conclusion of the pandemic-shortened session. If passed as introduced, this Bill would have required buildings 25,000 square feet and greater to report GHG emissions data annually and eventually meet to-be-developed 5-year GHG emission reduction targets such that all covered buildings would achieve a 40% reduction in GHG emissions by 2030, and 80% by 2050. The Bill proposed using current average median GHG emissions as a baseline metric for different building categories (e.g., commercial, multifamily, industrial). The Bill allowed for certain exemption criteria, but compliance with the performance standards could not have been waived for a period of more than three years. Some allowances for green power/renewable energy certificate (REC) purchases to help building owners meet their targets were also provided. The Bill would have established a four-year-limited Building Energy Performance Task Force that would make recommendations on regulations, program development to reduce building GHGs, and guidance for historic buildings. Qualifying owners of covered buildings would have been able to access an incentive/financial assistance program to be developed by the

Maryland Energy Administration. While the stakeholders and County staff believe this Bill would have been be a good step towards achieving the state's climate mitigation goals, the County's BEPS policy recommendations propose different metrics, more detailed property types, and a long-range trajectory for building owners to comply with the target.

- **Washington, DC Clean Energy DC Omnibus Act of 2018**
  Unanimously approved by the DC Council in December 2018 and signed into law by Mayor Bowser in January 2019, the Act includes the first ever building energy performance standards. The District will group buildings into building types and set a separate minimum energy efficiency standard no lower than the median performance level for each building type. Standards will be set by January 2021 and will expressed as ENERGY STAR scores for building types eligible for ENERGY STAR scores. Under BEPS, all existing buildings over 50,000 square feet will be required to reach minimum levels of energy efficiency or deliver savings by 2026 with the compliance cycle repeating every six years and with progressively smaller buildings phasing into compliance over the following years. The Mayor has appointed members to a "Building Energy Performance Task Force" which guides rulemaking and implementation and proposes complimentary programs and policies. The Act increased surcharges on building energy consumption and set aside $3 million per year for the proceeds to assist affordable and rent controlled housing in complying with BEPS.

- **New York City Carbon Mobilization Act (Local Law 97 of 2019)**
  Adopted in April 2019, the Law defined building types and created greenhouse gas intensity caps for each type. It requires buildings over 25,000 square feet to cut their greenhouse gas emissions by 40 percent by 2030 and 80 percent by 2050. It phases in caps on greenhouse gas emissions starting in 2024 when the buildings with the highest emissions (roughly 20 percent of buildings) will need to make improvements to comply. Starting in 2030, intensity limits will fall and about 75 percent of buildings will have to make improvements. Emissions caps will fall again in 2035, 2040 and by 2050. A critical question to be answered going forward will be how much building owners will be allowed to purchase renewable electricity produced in the city or directly connected to it to substitute for efficiency improvements to their buildings. Instead of complying with the caps, certain building types may opt for lower-cost prescribed energy-saving measures, such as insulating pipes and installing thermostats to control radiators. These buildings include houses of worship and multifamily buildings with rent-regulated units and other types of affordable housing. The city will evaluate in the next couple years 1) whether to permit owners of buildings that do not use all of their emission caps to sell unused emissions permits to buildings that exceed their caps ("carbon trading") and 2) whether to permit building owners to opt to use time of use electricity-to-emissions conversion factors as a way to encourage that electricity usage be shifted from peak to off-peak times. Buildings that exceed their caps will be subject to annual fines of $268 per ton of carbon dioxide equivalent in excess of the cap. The Mayor's Office of Sustainability estimates that the bill will create 23,700 new green jobs by 2030.

- **State of Washington Clean Buildings Act (House Bill 1257)**
  Signed by Governor Jay Inslee on May 7, 2019, the Clean Buildings Act requires Washington's Commerce Department to adopt rules that "seek to maximize reductions of greenhouse gas emissions from the building sector." The Department will use a consensus technical standard as a starting point for rulemaking. Rules will be issued starting in 2020 and will include the following:
    a) Set a state energy performance standard target for each building type by 2020. The targets will be measured in site energy consumed per square foot of the building (otherwise known as site energy use intensity or EUI). Purchases of offsite renewables will not impact buildings' EUIs. The EUI targets must be updated in 2029 and every five years thereafter.
    b) Develop "conditional compliance methods" including for building owners to 1) adopt an implementation plan to meet each building's EUI target or 2) commission an energy audit and implement all energy-saving measures predicted to save more money than they will cost. Covered buildings will be required to achieve their EUI targets or to comply with the Act conditionally. Buildings over 220,000 square feet of commercial space will have to do so by 2026; buildings over 50,000 square feet of commercial space will have until 2028.

  Residential buildings that do not contain commercial space will not be subject to the law. To prime the pump on compliance, the Act rewards building owners who improve the energy efficiency of their buildings early. Starting July 1, 2021 through a year before their buildings are subject to their BEPS, building owners may apply for a utility rebate of $0.85 per square foot of conditioned floor area to comply early with the Energy Standard. The Act authorizes a total of $75 million for these rebates.

- **St. Louis, MO Building Energy Performance Standard (Ordinance 71132)**
  In April 2020, the St. Louis Board of Aldermen voted unanimously to adopt the Midwest's first Building Energy Performance Standard bill and the fourth such law in the nation. The ordinance covers municipal, commercial, institutional and residential buildings 50,000 square feet and larger. The City will set a standard for each property type based on three years of local benchmarking data, 2017-2019. The standards will be set so that at least 65% of the buildings of a property type will need to improve performance. Building owners will have the flexibility to decide what combination of physical or operational improvements can best achieve the standard and will have until 2025 to reduce their energy use to comply (a four-year compliance period). To ensure that reductions in building energy use grow over time, the City will set new standards by 2026 and will repeat the process every five years. To accommodate additional challenges including access to capital, affordable housing and houses of worship will be subject to a six-year compliance period. To encourage future building electrification, St. Louis' standards will be expressed in site Energy Use Intensity (site EUI). Offsite renewable electricity will not influence compliance with the standards. The Mayor will appoint a "Building Energy Improvement Board" of private experts and stakeholders which will have a key role in implementing the BPS, based on the success of a similar board the Division operates for building code implementation. Rather than relying on lists of prescriptive measures, the Board enables

the city to approve custom compliance paths that take into consideration the unique conditions of each building.

Table 1: Summary of Building Performance Standards in Other Jurisdictions

	Washington, DC	New York City	Washington State	St. Louis, MO
Minimum Threshold Performance	TBD, at least median ENERGY STAR score (or equivalent) by building group	CO2e emissions limits on a sq. ft. basis by building type	TBD, based on site EUI	Standards set no lower than 65th percentile site EUI by property type
Covered Buildings	Commercial and multifamily > 10K sq. ft.	Commercial and multifamily > 25K sq. ft.	Commercial > 50K sq. ft.	Commercial and multifamily > 50K sq. ft.
Compliance Cycle	Every 5 years	Must meet limits annually, limits get stricter every ~5 years	Every 5 years	Every 4 years
Equity	Adds $3 million per year to assist affordable and rent controlled housing comply	Houses of worship and affordable and rent-regulated housing have alternative option of lighter prescriptive improvements	$70 million in funding for utilities to assist building owners who comply early	Houses of worship and affordable and housing on a six-year compliance cycle
Adjustments	Agency may grant extensions up to three years and approve alternative compliance plans	Agency may make adjustments and approve alternative compliance plans under defined circumstances	TBD through rulemaking	Agency with advice of advisory board may approve alternative compliance plans
Advisory Board	Yes, specific requirements for representation	Yes, specific requirements for representation	No	Yes, specific requirements for representation

In addition to the jurisdictions listed above, Boston, MA; Cambridge, MA; and Los Angeles, CA are considering Building Performance Standard policies. Legislation and/or policy proposals are not readily available for these localities.

Recommendations on BEPS in Montgomery County

In fall 2019, the County expressed interest in pursuing BEPS for Montgomery County buildings as part of its ambitious climate goals of 80% reduction in GHG emissions by 2027 and zero GHG emissions by 2035 from a 2005 baseline. Below are the elements of a County BEPS policy discussed by the stakeholders:

Recommended Policy Model

The main drivers of reducing greenhouse gas emissions among the commercial building sector are reducing energy consumption, using energy more efficiently, and using energy generated from cleaner sources. The electricity supplied to the County is getting cleaner as the grid adds more renewable sources, but still has a long way to go. Fifty-six percent of the electricity consumed in Maryland is generated by fossil fuels.[6] Therefore, reducing energy use through efficiency is critical to mitigating climate change now.

At the same time, the commercial building sector needs market certainty so that business decisions can be made with the best information available in order to leverage investments and minimize the burden to businesses. As they manage the complexity of implementation, building owners and managers will need the flexibility to select the strategies and investments that make the best business sense while moving towards long-term and lasting efficiency. Achieving carbon neutrality will require large investments in the performance of buildings over 20+ years.

Given these realities, stakeholders favored a BEPS policy model that sets a long-term performance standard with five-year interim performance targets to make sure buildings are on track to meet the final standard. This "trajectory approach" would:

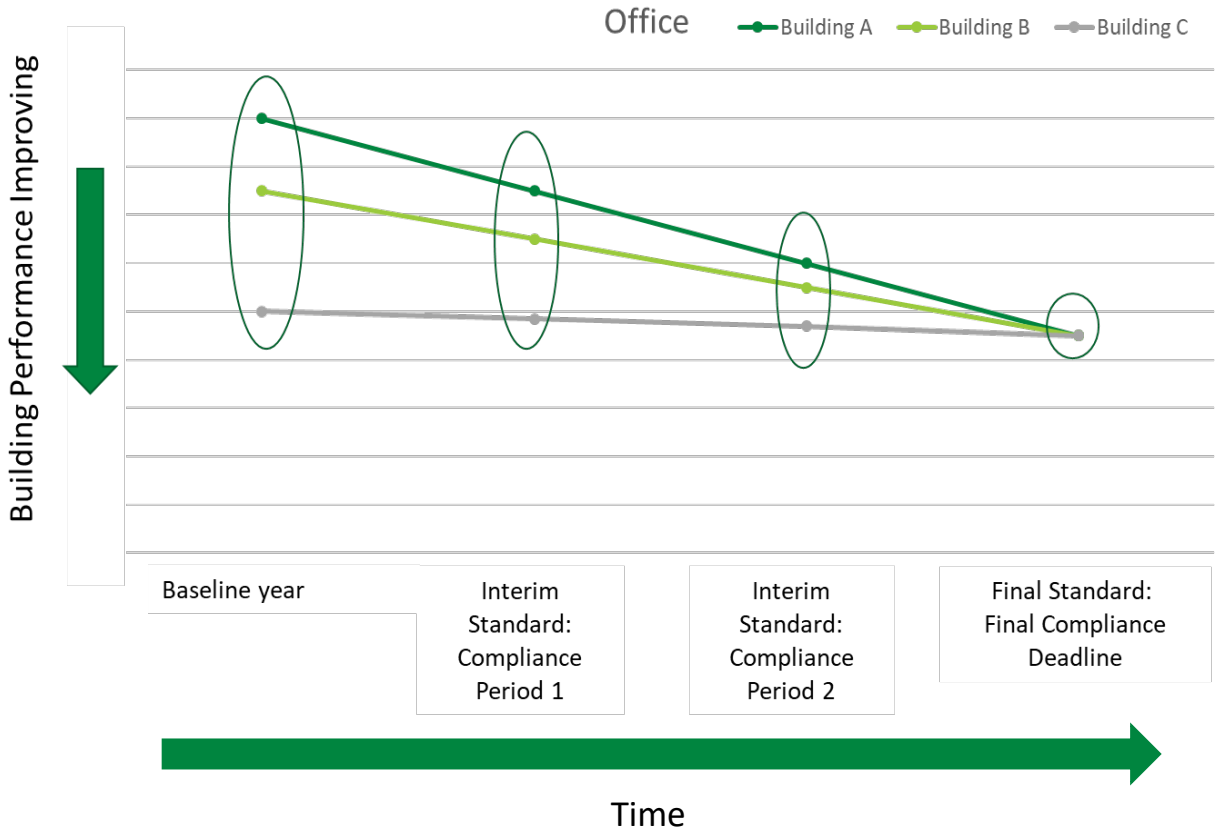
- Be closely tied to County's climate commitment
- Enable long-term planning for major upgrades
- Encourage early action to meet interim targets and prevent owners from delaying action
- Allow for flexibility related to the interim targets on the way to the long-term standard
- Require the best-performing buildings to maintain performance over time

This model recognizes that improvements sooner rather than later produce greater climate benefits, but large investments make the most sense in certain situations (e.g., at time of major equipment replacement, tenant turnover, refinancing). Long-term standards provide more certainty so owners can plan for the long term and make building improvements at the most favorable times accounting for the building life cycle, financing cycles, and leasing cycles.

Meanwhile, the interim performance target of five years is based on a typical capital planning cycle. Similarly, BEPS policies in other jurisdictions are generally carried out on a five-year cycle to match capital planning cycles. Most county stakeholders agreed that they too use a five-year capital planning cycle. Interim targets allow for concrete planning, budgeting, implementation, and demonstrated progress toward performance standards.

[6] Source: U.S. Environmental Protection Agency. Power Profiler, RFCE Emission Rates. https://www.epa.gov/energy/power-profiler#/RFCE

Chart 1: BEPS Trajectory Model



"Trajectory model": County draws a straight line from each building's initial performance in a base year to its required terminal standards and sets interim targets for all buildings at intervals of 5 years.

Recommended Efficiency Metric

Several metrics are available to measure efficiency and could be used as the measurement for improved building performance. Stakeholders most favored a site energy use intensity (site EUI). Site EUI measures actual, annual energy use at the site (in kBtu) per gross square foot of building area. Site EUI enables comparisons between different sized buildings.

The stakeholder group favored site EUI because it measures energy consumption directly controlled by the building owner, as opposed to metrics such as greenhouse gas emissions that include factors outside building owners' control. Building owners held to a performance requirement would be responsible for in-building systems, regardless of how the energy is delivered to the building systems. Site EUI is easily understood by building owners and managers, as it is calculated directly from utility bills and floor area. However, site EUI does not directly link to carbon goals and different fuel mixes significantly affect the carbon intensity of a building with a given site EUI.

Other metrics such as ENERGY STAR score or source EUI factor in the total amount of all the raw fuel required to operate a property, including losses that take place during generation, transmission, and distribution of electricity; these factors are generally out of the building operators' control. Further grid

decarbonization will be addressed by state renewable portfolio standard policies and utility improvements to the grid.

Setting standards using site EUI as the metric incentivizes efficient use of electricity. Electricity has a higher site-to-source conversion ratio which negatively impacts a building's ENERGY STAR score and source EUI. In coordination with decarbonization and modernization of the grid, building electrification can support efficiency goals and be helpful for overall future GHG reduction.

In addition to controlling for square footage in order to compare buildings, several other conditions influence site energy use and therefore should be normalized over performance cycles. Factors such as weather, occupancy, and operational factors (depending on the building type) should be considered and normalized for wherever possible. Buildings that are densely occupied or commercial buildings that are in use 24/7 typically use more energy and therefore have a higher EUI. These factors should be considered through normalization where practical to enable an apples-to-apples comparison among buildings.

ENERGY STAR Portfolio Manager, the tool used for annual energy benchmarking and reporting by covered buildings, requires the input of many of these operational factors. Portfolio Manager can provide a "weather-normalized site EUI" value which calculates the energy a property would have consumed during 30-year average weather conditions. For example, if 2019 was a very hot year, then the weather normalized site EUI may be lower than actual site EUI because the building would have used less energy were it not so hot – a factor outside of the building operator's control.

Portfolio Manager also provides a "site EUI (adjusted to current time period)." This metric, only available for properties that are eligible to receive a 1-100 ENERGY STAR score[7], allows for an apples-to-apples comparison that normalizes for differences in weather and the operating conditions of the building. For a given 12-month period, this metric reflects the site energy the property would be expected to consume when operating under normal conditions (weather, hours, occupants, etc.).

The County must determine how to deal with buildings that cannot obtain metrics normalized by ENERGY STAR Portfolio Manager. Based on 2018 and preliminary 2019 energy benchmarking submissions, roughly 65% of reported properties have 1-100 ENERGY STAR scores calculated as part of their annual energy reporting. This leaves a substantial portion of properties that will not be provided normalized site EUI values by ENERGY STAR Portfolio Manager.

By default, these buildings will not be normalized, but consideration should be given to normalization procedures that could be approved by the County or a building improvement board.

Renewable Energy and Time of Use Considerations

The standard Site EUI calculation does not make any special considerations for onsite renewable energy. Each building's total energy use is divided by the building gross square footage regardless of the source of that energy. Roughly 3% of County properties that reported 2019 energy benchmarking data

[7] Property types eligible to receive a 1-100 ENERGY STAR score: https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager/identify-your-property-type-0

generated and used renewable energy onsite.[8] While a small portion of properties report onsite generation today, those with renewable energy systems get a sizable amount of energy from those systems. Of those 3% of buildings, on average, onsite renewable systems produced 27% of electricity use at those properties. Over time, it is likely that more buildings will add onsite renewable energy capacity.

Some stakeholders expressed that solar and renewable development projects are an important consideration to BEPS. They cite solar's contribution to reducing GHGs and the significant capital investment of on-site renewables. Others noted the complexity of accounting for solar renewable energy credits (SRECs) and whether they are retained or sold.

While the stakeholder group did not come to a consensus on how to treat on-site solar, there are three potential ways of doing so:

1. Onsite solar could have no influence on site EUI, which would mirror how ENERGY STAR Portfolio Manager calculates site EUI. Washington, DC is likely to adopt this option in its public comment draft.
2. Onsite solar could be given partial credit. For instance, in calculating source EUI and ENERGY STAR scores, ENERGY STAR gives 64% credit to onsite renewable energy.
3. Onsite solar could be given full credit, meaning that the (normalized) site EUI calculated by ENERGY STAR would be adjusted by subtracting onsite renewable energy use from total building energy use.

The stakeholders also discussed but made no recommendation regarding the possibility of the County's BEPS encouraging building owners to shift their electricity usage from periods of peak electricity demand on the utility to off-peak periods as a way of improving grid reliability, lowering the cost of improvements to the grid and thereby lowering costs for electricity users, facilitating the addition of intermittent wind and solar to decarbonize the grid, and allowing the grid to better accommodate electrification of buildings and vehicles. To fully benefit from such load shifting, a building needs multiple systems that are not yet commonplace including a meter that records electricity usage at least hourly and a building automation system that can adjust building electricity usage in response to signals from the utility. Accordingly, the County's BEPS law could initially rely on annual energy usage but empower the County to consider switching buildings to a BEPS metric based on time of use as conditions become more favorable to do so.

Buildings Covered by BEPS

BEPS would apply to buildings covered under the County's Benchmarking Law. Over 100 million square feet, roughly 35% of the County's total building area[9], is currently covered by County's building benchmarking and transparency law, which requires certain County-owned and private non-residential buildings that are 50,000 square feet and greater to annually track and report building and energy performance details to the County.

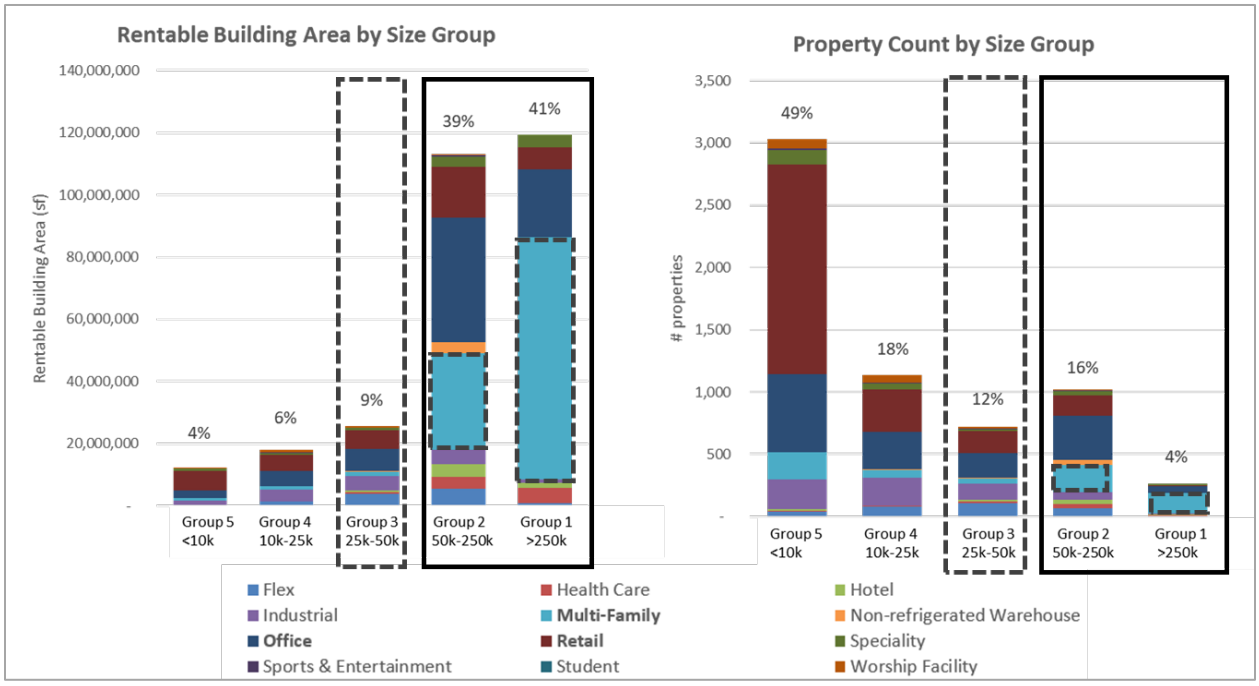
[8] Renewable energy generation data is not a required field in Portfolio Manager; thus, this figure may not fully represent the number of benchmarked buildings in the County that have installed renewables onsite.
[9] Source: CoStar Commercial Real Estate Information Company. Data accessed Jan 2020.

As of June 2020, all benchmarking groups[10] have now reported at least three years of publicly disclosed data. This data set provides a wealth of information for assessing current performance by sector, grouping properties by size, and setting standards.

The vast majority of building area in Montgomery County is comprised of buildings 25,000 square feet or greater. Future expansion of the benchmarking law to add multifamily buildings and properties 25,000 gross square feet and greater would capture roughly 85% of county building area.[11]

As other property types (like multifamily) and sizes (like those between 25,000 to 50,000 gross square feet) are phased into the benchmarking program, they would also become covered by BEPS. In Washington DC, the BEPS applies to only buildings 50,000 gross square feet and larger in the first compliance cycle, then to buildings 25,000 gross square feet and larger starting in the second compliance cycle, and finally to buildings 10,000 gross square feet and larger starting in the third compliance cycle.

Chart 2: Energy Benchmarking Law Coverage



Rentable building area and number of sites currently covered by benchmarking ordinance in black square; anticipated benchmarking expansion to multifamily properties and those 25k sq ft and greater in dotted squares. Source = CoStar, accessed Jan 2020.

[10] County buildings first reported CY 2014 data June 1st, 2015 with 2015 as the first year publicly disclosed. Group 1 (sites 250k sq ft and greater) first reported CY 2015 data June 1st, 2016 with 2016 as the first year publicly disclosed. Group 2 (sites 50k sq ft to 250k sq ft) first reported CY 2016 data June 1st, 2017 with 2017 as the first year publicly disclosed.

[11] Industrial properties are not currently covered by the benchmarking law and would not likely be included in future coverage.

Standard Setting

Detailed analysis is required to set long-term and interim energy performance standards for buildings. Several resources are available on technical considerations for standard setting including Carbon Neutral Cities Alliance recommendations on site EUI metrics.[12] The legislation establishing BEPS could specify that performance targets are set by regulation; give authority to a County department (e.g. DEP and/or the Department of Permitting Services) to establish performance targets; or charge an appointed committee of government and private sector representatives with this responsibility (see the section entitled *Building Energy Improvement Board*).

While the terminal standard itself needs further research to be set, the standard setting methodology would be to draw a straight line from each building's initial performance in a base year to its required terminal performance (e.g., 2035) and set interim standards for all buildings at intervals of 5 years.

Based on the current performance of each building, each building will have its own specific interim targets. The baseline year should be set in such a way as to not penalize building owners as a consequence of reduced or increased energy use due to COVID-19 or other extraordinary events, and/or should take into account changes in operations such as by averaging performance over two or more benchmarking years. However, the way that interim targets are set and calculated should be uniform and capable of being automatically generated by software to reduce the level of effort required to calculate individual targets.

Given the differences in energy use between buildings, standards will need to be developed based on property type. Buildings' property types will be determined by their Portfolio Manager designation.

Office, multifamily, and retail make up 81% of county building area and 69% of properties over 25,000 square feet. These groups have a larger sample size of buildings benchmarking and significant pool of data to pull from (or will once they are covered by the energy benchmarking law, as in the case of multifamily). These property types are also eligible for ENERGY STAR scores, meaning that site EUI can be normalized in ENERGY STAR Portfolio Manager. For properties with secondary spaces, an area-weighted standard should be assigned according to the different occupancy types in the building.

For property types with a small sample size, such as hospitals, courthouses, hotels, malls, etc., a national data set with climate adjustments should be used as a standard-setting reference to represent the type's typical energy use. The final performance standard will be informed by many data sets including local and national buildings of the property type and building science calculations. Using national datasets removes dependencies on other jurisdictions for publishing schedules or data quality. If additional sources for robust, regional data that align with the county's building stock become available in the future they should be considered as a reference resource.

Several national building inventories are also available for reference in standard setting. For instance, the Commercial Building Energy Consumption Survey (CBECS) is updated every few years; 2012 is the

[12] Carbon Neutral Cities Alliance "Performance Standards for Existing Buildings Performance Targets and Metrics Final Report," March 2020.

latest and 2018 will be the next data set. Fannie Mae and ASHRAE are two other sources of reference data. In setting standards, the County will give careful consideration to ensure consistent and equitable treatment across all property types including those that cannot receive an ENERGY STAR score.

Less common building types, such as laboratories and strip malls, could use a custom approach with review and approval. Stakeholders and owners of these less common property types could also propose normalization procedures that could be approved as part of the energy performance target setting process.

Reporting Timelines

To limit the administrative burden on both building owners and County staff, the stakeholders agreed that reporting for annual Benchmarking Law compliance and BEPS should be accomplished using EPA's ENERGY STAR Portfolio Manager. BEPS will rely on the same benchmarking submission, which reduces administrative paperwork requirements on owners.

The recommended site EUI metric with normalization is available through Portfolio Manager for most property types. The County plans on measuring building performance standard compliance based on benchmarking reports from appropriate year(s).

Compliance Pathways

Buildings that meet the applicable performance standard will have complied with the law. For those that do not hit the standard, or have demonstrable difficulty complying, existing laws in other jurisdictions offer a prescriptive pathway of compliance. This prescriptive path is a set list or menu of upgrades that must be undertaken, such as retro-commissioning and mechanical, lighting or other systems replacements, in lieu of meeting the performance standard.

By adopting a flexible, long-term path as a BEPS policy model, the County hopes that a prescriptive path isn't necessary as the policy already provides maximum flexibility for building owners and allows them to find optimum solutions for their buildings without the County prescribing measures.

However, if interim standards are not being met, additional prescriptive requirements could be required. For instance, under-performing buildings may be subject to additional prescriptive requirements such as audits and capital planning to bring the building to its end compliance level on schedule. Or, for buildings that miss or anticipate missing interim standards, the County may require alternative compliance plans be developed for review by the appropriate entity authorized to approve energy performance targets. Additionally, buildings with planned capital improvement projects or those scheduled for demolition may submit plans for approval showing work is scheduled to be completed or demolition performed.

In New York City, the prescriptive pathway only applies to buildings not covered by the performance standard (e.g., affordable housing, rent-regulated multifamily, places of worship). DC's law directs the Department of Energy and Environment (DOEE) to create a prescriptive compliance pathway for buildings that results in savings comparable to the savings from the performance path. Considerable work and research will be required to develop the prescriptive path, the details of which will be

published as guidance in 2021. The prescriptive path will add significantly to the complexity of DC's BEPS compliance and enforcement processes.

To incentivize early compliance with the performance standard and spur savings above and beyond the required target, the County could also explore an energy efficiency credit trading system, either between buildings or within portfolios. Such a system would allow high-performing buildings to sell or trade credits to under-performance buildings such that all covered buildings in the County, or within one portfolio, collectively meet the performance standard.

Building Energy Improvement Board

As BEPS is implemented, unique situations may arise, buildings may fall behind on compliance, and decisions may need to be made about normalization and other policy elements. As such, creating a board that can help to interpret and apply the policy may be useful.

Other jurisdictions have enacted advisory boards to help expand capacity beyond existing staff. Part of the St. Louis BEPS is enacting a "building energy improvement board" which is appointed by the mayor and expands city bandwidth in terms of reviewing, approving, and providing feedback on plans. The board will have representation from the building industry, labor, utilities, commercial building owners, and affordable housing owners and tenants. The board's role is three-fold: to oversee a rulemaking process that sets and updates performance standards; to advise on and oversee implementation of the ordinance; and to administer a process for creating alternative compliance methods for buildings unable to meet the required standards.[13] Compared to other jurisdictions, St. Louis's board has more authority and a technical subcommittee. And, unlike other jurisdictions, St. Louis will pay stipends to its board members.

The Clean Energy DC Act, which created DC's BEPS, also created a BEPS Task Force to advise the District on how to implement the BEPS program, including commissioning research, rulemaking, setting standards, and granting extensions as well as to advise on developing complementary policies and programs. The Act specified agency representation and tasked the Mayor with appointing unpaid members representing private stakeholders including owners and operators of affordable housing, multifamily building, commercial building, and universities, as well as energy service providers, professional associations, and advocates for building decarbonization. DC's DOEE convened, chairs, and staffs the Task Force.

In New York City, Local Law 97 created an unpaid Advisory Board to provide guidance and prepare and submit periodic reports on the results of implementation once the law is fully in effect. The Advisory Board is chaired by the Department of Building's Chief Sustainability Officer, and comprised of 16 appointees, with eight appointments made by the mayor, and eight appointments made by the city council speaker. The Board members are architects, engineers, property owners, representatives from the business sector and public utilities, environmental justice advocates, and tenant advocates.

[13] Source: https://www.stlouis-mo.gov/government/city-laws/board-bills/boardbill.cfm?bbDetail=true&BBId=13504

Adjustment Processes

Throughout a building's lifecycle, special situations may arise such as financial distress, changing ownership, changing occupancy type, vacancy, demolition, or other events that may necessitate adjustments of compliance, timing, or penalties.

As mentioned previously, a "Building Energy Improvement Board" could be established to review and provide recommendations on adjustments, to be approved by the County. For example, an adjustment could be made to the long-term standard if the building is redeveloped to a new building type, e.g. redevelopment of an office building into a multifamily building. Likewise, extra time could be granted per compliance cycle in the case of financial distress or ownership change immediately preceding a 5-year target.

Equity Considerations

Policy considerations need to be evaluated for challenged and under-resourced sectors that may include affordable housing, small businesses, and non-profits. This is an area that needs further study and recommendation from the appropriate County departments or a Building Energy Improvement Board.

In NYC, Washington DC, and St. Louis, building performance policies allow challenged sectors compliance extensions, funding carve outs for specific sectors like affordable housing, longer compliance cycles, or options to meet prescriptive requirements.

Given the direct benefits of energy efficient buildings such as lower operating costs and utility bills and corresponding co-benefits like improved comfort, health, and resiliency, stakeholders felt that these sectors should not be exempted, but rather given support or other allowances to comply. Making the standards less stringent, or exempting these sectors all together, would likely limit realized energy efficiency in those building types which can have negative consequences for equity. Therefore, challenged sectors should still be subject to BEPS.

Similar to other jurisdictions, the County could offer these sectors modifications to the requirements (e.g., extensions, delays, longer compliance cycles), specialized technical assistance (e.g., staff specific for affordable housing or other building types), and/or limited financial assistance.

Penalties or Alternative Compliance Payments

Currently, Maryland state law caps civil penalties of local laws at $1,000 per offense (Md. Code Ann., Local Gov't. § 10-202(b)). While the County can issue multiple citations, this process creates excess administrative burden on County staff—and the final penalty amount will very likely be less than the cost of the energy efficiency improvements needed to comply with BEPS. If the County proceeds with BEPS, an amendment to this state law, or identification of another mechanism for inducing compliance, may be necessary to ensure the effectiveness of this policy. Since the BEPS standards have not yet been determined, additional analysis would be required to determine the penalty amounts that would be commensurate with the cost to comply.

Related to the penalty itself, the stakeholders were supportive of directing compliance funds back to building owners who need assistance with complying with BEPS, either focusing on a certain sector such as affordable housing or the worst-performing buildings to help them meet the standard. Stakeholders also suggested a tiered fine structure that would not penalize building owners who were close to their target as severely as building owners who were far away from meeting their target to recognize building owners for making progress. Another suggestion was to work with the Montgomery County Green Bank to create a revolving loan fund for building owners to access capital for upgrades that would grow over time.

IMT also suggested that rather than using the term "penalty", the County could explore using "alternative compliance payment" or a property tax assessment to enable pass-through benefits to tenants as a means to engage building tenants on the BEPS requirements.

Technical and Financial Assistance for Building Owners

Existing Resources

While Montgomery County explores a BEPS requirement, it is worth considering the existing resources building owners already have access to that will help them achieve the new requirements:

- **Utility Incentives**
  Building owners and tenants who directly pay an energy invoice can take advantage of the EmPOWER Maryland utility incentives, which are ratepayer-funded, utility-provided energy efficiency programs. Pepco, BGE, Potomac Edison, and Washington Gas offer incentives and rebates for commercial, industrial, and multifamily properties in Montgomery County and throughout Maryland. Current program offerings include prescriptive Incentives for HVAC, lighting, commercial kitchens, variable frequency drives (VFDs), controls, and select energy-efficient equipment; building tune-ups and monitoring-based commissioning; combined heat and power (CHP) systems; instant rebates on lighting and HVAC equipment; building operator training programs; and custom programs for energy efficiency projects that aren't included in a different program.

- **Federal Programs**
  Federal Tax Rebates are available for energy efficiency upgrades (179D) and renewable energy systems (ITC).

- **State Programs**
  The Maryland Energy Administration offers state-level grants, tax credits, and loan programs for energy efficiency and renewable energy projects in commercial and multifamily buildings on a rolling fiscal year basis.

- **County Programs**
  Technical and financial assistance is available from the County. Support includes:
    - **Technical Assistance** from the Department of Environmental Protection for Benchmarking Law reporting and compliance.

- **Montgomery County Commercial Property Assessed Clean Energy (PACE) Financing Program** which provides up to 20-year financing for energy and renewable projects secured to the property and repaid as an assessment on the property tax bill. PACE financing is available for existing buildings and new construction projects that are incorporating energy efficiency improvements in renovation and construction. Learn more at MC-PACE.com.
- **Montgomery County Green Building Property Tax Credit** wherein County property taxes reduced for new and existing buildings that achieve certain LEED certifications (Sec. 52-18Q). Legislation is pending (Bill 10-20) to shift these property tax credit incentives to energy efficiency and actual, measured energy reduction metrics and expand building certifications recognized.

- **Montgomery County Green Bank**
  The Montgomery County Green Bank is a County-created non-profit that partners with lenders to provide better loan rates, terms, and credit access for clean energy and energy efficiency projects. Its mission is to catalyze private investment, not replace private capital sources, via de-risking such as providing technical assistance, credit enhancements, upfront capital, preferred rates, etc. The Green Bank offers products for commercial buildings, multifamily and affordable housing and is looking to develop additional programs to meet building owners' needs. Learn more at https://mcgreenbank.org.

Potential Opportunities for New Resources

In jurisdictions that have implemented BEPS or "beyond benchmarking" requirements, the new policies tend to come with additional resources, programs, and/or funding to assist building owners in meeting the increased requirements. These programs include technical and financial support.

Stakeholders suggested targeting outreach by sector to provide tailored technical assistance for key sectors. Benchmarking data can help to assess those sectors most in need of assistance. As building efficiency is tracked over time, if performance does not improve, outreach methods will need to be reevaluated.

Montgomery County should consider a range of technical assistance, including:

- **Hub/Accelerator Programs**

Models started in NYC and DC with the goal of providing technical and personalized advisory services to streamline the process of making energy efficiency improvements, capacity building, training, and collaboration. There may be the potential to collaborate with DC on a regional high-performance building hub.

Stakeholders favored a regional hub as it could be confusing to coordinate across multiple hubs for owners who may have a portfolio across multiple jurisdictions. In addition, companies that provide building energy assessment and improvement services work throughout the region. A one-stop-shop

would be more efficient to provide technical assistance that is aligned with the new standards and is directed at reaching as many people as possible.

- **Additional Incentives**

The County may need to work with those providing existing resources and incentives (e.g. utilities, Green Bank, etc.) to suggest or develop additional incentives for owners. For instance, the County could recommend increased and varied utility incentives as they seem most effective and popular but are often limited for some properties like individually metered multifamily buildings.

- **Outreach and Education**

    - **Helping owners and tenants work together**

    The County could offer landlord-tenant collaboration workshops to bring tenants and building owners together to see how both can cooperate for their mutual benefit to meet the goals of BEPS. Training on green leasing is one example of a program that can align incentives and continue to improve performance in leased spaces.

    - **Making the business case for energy efficiency**

    Six studies have found that rental prices, sales prices, and occupancy rates are all higher in efficient/green commercial buildings.[14] High performance buildings also experience higher net operating income (NOI) due to lower utility costs, higher rents, lower vacancy rates, and lower tenant turnover/associated expenses.[15]

    Many case studies, locally and nationally, are available to support the business case and show soundness of investments and return, which will likely also hold true for Montgomery County owners.[16]

    Cost/benefit analyses by building sector (e.g. multifamily) may be useful to evaluate estimated costs to comply with BEPS versus energy savings and other benefits.

    - **Coordinate with lenders and brokers**

    It would be useful to coordinate training of lenders and appraisers on the benefits of underwriting efficiency improvements. The County and/or the Montgomery County Green Bank could communicate efficiency benefits to the lending community to educate them on how to

[14]Even controlling for other factors (like location and size), six statistical analyses looking at different data sets and time periods all show that green, efficient commercial buildings are more valuable assets than their peers. https://www.imt.org/resources/added-value-of-energy-star-labeled-commercial-buildings-in-the-u-s-market/

[15] "Utilizing Commercial Real Estate Owner and Investor Data to Analyze the Financial Performance of Energy Efficient, High Performance Office Buildings," 2017, prepared for U.S. Department of Energy, Building Technologies Office. https://energy.gov/sites/prod/files/2017/05/f34/bto_PilotResearchStudy-DOEFinancialDataInitiative_5-8-17.pdf

[16] Case studies of renovations to improve the energy efficiency of commercial and multifamily buildings show that they often yield $2-3 in added property value for every dollar invested. https://www.imt.org/resources/valuing-energy-efficiency-in-multifamily-housing/

underwrite efficiency improvements. Traditional mortgages are often the cheapest sources of capital.

Many financing approaches rely on the value of the building, which makes it important for owners seeking access to borrowing that appraisals recognize the value of high performing buildings. By presenting the right information in the right format to appraisers, owners can improve the odds that this will happen.

Next Steps

The stakeholder work group appreciated the opportunity to provide Montgomery County input on the design and implementation of a BEPS policy for existing buildings. While this report is a compilation of varied interests, the stakeholders were able to find common ground on the need to improve the energy efficiency of buildings in the County, provide market certainty for building owners, and advance the County's climate goals.

As this report illustrates, the establishment of Building Energy Performance Standards is a complex process that, while a key measure to help the County reach its climate goals, would place significant requirements on building owners in the county. This report provides recommendations on key aspects of a BEPS policy and highlights several important issues that need further analysis. In order to implement BEPS, these issues will have to be addressed during the process of adopting legislation authorizing BEPS and/or during the implementation process. Stakeholders expressed a willingness to continue to engage on this important topic.

Appendix A: List of Organizations Involved in the Stakeholder Work Sessions

Representatives from the following entities participated in the stakeholder work sessions and gave DEP permission to list their organizations in the report. As noted in the report, inclusion in this list does not indicate agreement with any specific recommendation in the report.

Property Owners, Developers, and Managers	
○ Brookfield Properties ○ The Duffie Companies ○ Federal Realty Investment Trust	○ Southern Management Corporation ○ The Tower Companies ○ Unibail-Rodamco-Westfield
Contractors and Consultants	
○ Gensler ○ MaGrann Associates ○ New Ecology, Inc.	○ SSGOVRELATIONS ○ Sustainable Design Consulting, LLC
Non-profit and Industry Associations	
○ American Council for an Energy-Efficient Economy (ACEEE) ○ American Institute of Architects (AIA) Potomac Valley ○ Apartment and Office Building Association (AOBA)	○ Commercial Real Estate Development Association (NAIOP DC/MD) ○ Institute for Market Transformation ○ Montgomery County Green Bank ○ National Housing Trust
Government	
○ City of Gaithersburg ○ City of Rockville ○ City of Takoma Park ○ Montgomery College	○ Montgomery County Department of Environmental Protection ○ Montgomery County Department of General Services ○ Montgomery County Department of Permitting Services

Appendix B: Materials from Stakeholder Work Sessions

Below are the presentations and summary meeting notes from the stakeholder work sessions:

Meeting Date	Link to Presentation	Link to Meeting Notes
January 29, 2020	Presentation	Meeting Notes
February 26, 2020	Presentation	Meeting Notes
March 18, 2020	Presentation	Meeting Notes
April 21, 2020	Presentation	Meeting Notes
May 19, 2020	Presentation	Meeting Notes

TESTIMONY BY ADAM ORTIZ, ON BEHALF OF COUNTY EXECUTIVE MARC ELRICH

on Bill 16-21, Building Energy Use Benchmarking and Performance Standards

July 20, 2021

My name is Adam Ortiz, Director of the Department of Environmental Protection. Thank you for the opportunity to testify on behalf of the County Executive on Bill 16-21, which amends the current Benchmarking Law to expand the number of covered buildings and establish an energy performance requirement.

The County Executive strongly supports passing Bill 16-21.

We are in a climate emergency. Commercial building energy use accounts for 26 percent of the County's community-wide greenhouse gas (GHG) emissions. Building Energy Performance Standards, or BEPS, are a foundational policy highlighted in the Climate Action Plan that will directly reduce emissions from the existing built environment and get us one step closer to eliminating GHG emissions by 2035. In my written testimony, I have outlined many other climate actions being undertaken by the Elrich administration.

We have enacted ambitious green building codes for new construction, and similar mandates for existing buildings are needed to achieve our climate targets. BEPS requirements and accompanying tools will help property owners succeed in reducing the climate impacts of their buildings through deep energy retrofits, operational improvements, and tenant engagement. This Bill will allow us to eventually cover 85% of commercial and multifamily floor area in the County.

This legislation establishes a thoughtful and stakeholder-supported framework for BEPS. Our approach includes a phased, long-term performance standard that balances building owners' need for flexibility in how they manage their buildings with our climate emergency need for immediate action.

DEP is undertaking comprehensive data analyses on the magnitude of potential energy savings and GHG reductions achievable, as well as a cost-benefit analysis of BEPS implementation. The findings will inform the regulations to establish building types, final performance standards, and other details as specified in the Bill.

Additional resources will be needed to support building owners and managers in understanding the BEPS requirements and identifying energy improvements in their buildings. As BEPS will cover regulated and non-regulated affordable housing buildings, houses of worship, and non-profits, technical assistance and financial support for these under-resourced building sectors will be critical.

BEPS is expected to produce many benefits beyond direct GHG reductions including reduced utility and operating costs for building owners and tenants; improved, more resilient, and higher-value building stock in the County; improved health from better indoor air quality; and increased local economic activity and green jobs related to the building upgrade market.

The COVID-19 pandemic presented an unprecedented challenge to residents and businesses in Montgomery County. Our County's climate emergency is another unprecedented challenge that we must tackle—one where BEPS can be a key strategy for reducing emissions and helping building owners become more resilient to economic shocks.

Additional climate actions being undertaken by the Elrich administration include:

- The proposed 2018 International Green Construction Code (IgCC), which has been transmitted to Council, sets more stringent requirements for new commercial construction projects and major building additions, including energy efficiency improvements, onsite energy generation and improved indoor air quality. The 2018 IgCC will apply in the County to all commercial construction and additions of 5,000 square feet and greater. The code requirements provide improved scope and stringency over the 2012 IgCC, which is currently in effect in the County. Adoption of the 2018 IgCC will help the County toward net-zero buildings.
- With the support of the County Executive and County Council, the Maryland General Assembly passed House Bill 768—Montgomery County – Community Choice Energy – Pilot Program—during the 2021 General Assembly Session that will give Montgomery County the authority to implement an opt-out Community Choice Energy (CCE) program. The bill will provide an opportunity for the County to purchase energy on behalf of residential and small commercial electricity customers. Maryland is only the ninth state in the nation to pass CCE legislation. CCE will enable the County to offer more renewable energy supply to customers than is currently provided by the three electric utilities serving the County. At the same time, it has the potential to deliver price stability and cost savings to residents and small businesses. Opt-out CCE is one of the actions identified in the County's Climate Action Plan as a tool to significantly reduce the County's electricity-related emissions.
- In order to provide community solar power for low- and moderate-income residents lowering their utility bills, the Department of General Services is installing 6 megawatts of solar at the closed Oaks landfill site.
- The County is moving its entire government fleet to electric and zero emission vehicles. Four electric Ride On buses are already in circulation and ten more are on the way. The County is also pilot testing an EV police vehicle, the Mach-E.
- To help people get out of their cars and use more public transit, in 2020 the County opened the first Flash bus route on US 29, the region's most ambitious bus rapid transit effort. Two more routes are in the works on Veirs Mill and Rockville Pike/355.
- Montgomery County Public Schools recently signed an agreement to lease over 300 electric school buses.
- The County has added more EV charging stations and launched a pilot program in residential neighborhoods that allows residents to site charging stations in the right-of-way if they do not have off-street alternatives for siting chargers.
- To make it easier for people to walk, bike and scooter, the County is building an extensive network of bikeway facilities, including protected bike lanes, and continue to install sidewalks. There is an e-bike and e-scooter "micromobility" pilot program underway as well.
- Continuation and expansion of government employee teleworking policies to reduce commuting and traffic congestion of Montgomery County employees.
- County government staff are receiving training to work across departments for climate solutions. The County is also engaging with the community on these efforts, including the upcoming launch of the climate stories project to hear personal stories about climate action.
- A full list of planned climate actions for Fiscal Year 2022 (FY22) is available in the FY22 Climate Work Plan: https://www.montgomerycountymd.gov/green/Resources/Files/climate/climate-work-plan-fiscal-year-2022.pdf

MONTGOMERY COUNTY COUNCIL
TRANSPORTATION AND ENVIRONMENT COMMITTEE

BILL 16-21 – PROPOSED AMENDMENTS

ENVIRONMENTAL SUSTAINABILITY BUILDING ENERGY USE BENCHMARKINGAND PERFORMANCE STANDARDS

PRE-HEARING COMMENTS OF THE APARTMENT AND OFFICE BUILDING ASSOCIATION OF METROPOLITAN WASHINGTON

JULY 19, 2021

The Apartment and Office Building Association of Metropolitan Washington ("AOBA"), on behalf of its members who own or manage approximately 20 million square feet of commercial office building space and approximately 60,000 multifamily residential building units in Montgomery County, Maryland,[1] hereby respectfully submits the following pre-hearing "Comments" on Bill 16-21.

Bill 16-21 is currently under consideration by the Montgomery County Council's ("Council") Transportation and Environment Committee ("Committee") and, if enacted, would principally expand the number of buildings subject to the County's Energy Benchmarking law and establish new "Building Energy Use Benchmarking Performance Standards" or "BEPS" for specific buildings located in Montgomery County. As proposed, Bill 16-21 would also create a "Building Performance Improvement Board," charged with advising the Montgomery County Department of Environmental Protection ("DEP") on the implementation of BEPS.

[1] In Maryland, AOBA Members own, manage or control approximately 23 million square feet of commercial office space and approximately133,000 multifamily residential building units. In the Washington, D.C., Maryland and Virginia metropolitan area, the total numbers for AOBA Members are approximately 185 million square feet of commercial office space and more than 400,000 residential units in the District of Columbia, Maryland, and Virginia.

As promulgated by the Council, BEPS are a set of foundational policies and principles that establish energy efficiency requirements for buildings and require building owners to meet such requirements at regular intervals. A hearing on the proposed BEPS amendments set out in Bill 16-21 is scheduled for July 20, 2021 (the "July 20 Hearing).

I. SUMMARY

Building owner compliance with BEPS should be delayed. Specifically, there are simply too many uncertainties – legislatively and administratively – to force building owners to go forward with the long-term and costly investments and financing that will be necessary to install new equipment and related energy efficiency measures to comply with BEPS. County Executive Elrich, for example, has already stated that the County "is pursuing state-enabling legislation" and that DEP "*envisions*" that noncompliance payments would be directed "to support a technical assistance hub." Bill 16-21, likewise, seeks to establish a "Building Performance Improvement Board," charted to "generally advise [DEP] on implementation of building performance standards." And, as explained below, the unprecedented and permanent impact of the COVID-19 pandemic on the benchmarking of building performance in particular and the management, maintenance and occupancy in buildings in general is still uncertain. All substantive determinants necessary for the successful implementation of BEPS, in sum, compel a conclusion that now is not the time to force compliance upon building owners.

Delayed compliance notwithstanding, AOBA has carefully reviewed Bill 16-21 and respectfully recommends that the Committee:

(i) expressly acknowledge and legislatively mandate that the cost and expenses incurred in implementing benchmarking and the building performance standards will be equitably apportioned among building owners and the public;

(ii) reallocate a portion of tax revenues to the implementation of the benchmarking requirements and performance standards to assist building owners to finance and invest in the equipment and efficiency measures necessary to comply with the requirements and standards;

(iii) delay, by at least 18 months, the implementation of building performance standards to enable building owners to collect and analyze the impact of the COVID-19 pandemic on building benchmarking;

(iv) mandate that, while the plan is in effect, DEP approval and building owner implementation of a building performance improvement plan shall suspend any additional commitments or obligations under BEPS;

(v) mandate the completion of a cost-impact study to assess the effectiveness of the benchmarking requirements and building performance standards;

(vi) exempt affordable housing buildings from compliance with BEPS;

(vii) eliminate and replace, in the BEPS statute, all refences to penalties and fines with " BEPS assessment";

(viii) permit building owners to reinvest any BEPS assessment in the installation of additional building efficiency measures; and

(viii) provide building owners with the discretion to assign any BEPS assessment to commercial building occupants or multifamily building residents.

II. BACKGROUND

Montgomery County was one of the first counties in the nation to mandate both the measurement or "benchmarking" of building energy usage *and* the application of such benchmarks to force building owners to improve the energy performance of their buildings over time.[2] AOBA supports the Council's adoption of benchmarking and performance standards for buildings located

[2] The benchmarking legislation was enacted in 2014 and initially amended in 2015. Current law is codified at Montgomery Code 18-38A, *et. seq*.

in Montgomery County (and elsewhere) and welcomes the opportunity to continue to work with the Committee to shape, adopt and implement legislation that will enable building owners to make informed and equitable investments in building performance and energy conservation supported in part by critically needed public investment. AOBA is confident that the open and collaborative working group process that produced the BEPS legislation will continue unabated during the consideration of Bill 16-21.

AOBA also endorses the Council's aspirational goal of eliminating greenhouse gas emissions by 2035 and applauds the Council for its progressive and prescience approach to climate change. AOBA notes, however, that any approach to remediate the effects of climate change must be a measured and coordinated effort that includes all stakeholders and resources, particularly the federal government, and does not unduly burden one sector, like building owners, over another. Failure to abide by a measured and coordinated effort, AOBA cautions, could result in unintended consequences that burden local residents and businesses with unforeseen costs and, thereby, make the County a less desirable place to do business. In particular, and as explained below, AOBA has concluded that the economic dislocations caused by the COVID-19 pandemic necessitates a delay in the adoption of the building performance standards.

AOBA, lastly, has carefully reviewed Bill 16-21 and is generally supportive of the proposed expansion of both the scope of building benchmarking and the application of new performance standards. These Comments, therefore, reflect the *informed* perspective of AOBA members, who will be responsible for collecting the required benchmarking data and for financing and implementing the building performance standards. AOBA does not seek to overturn or otherwise render BEPS benchmarking or the BEPS performance standards impotent. AOBA and its members, rather, are committed to the principles and policies foundational to BEPS and seek a

full partnership with the Council and public to ensure that the benchmarking requirements and building performance standards are successfully – and equitably – implemented.

III. DISCUSSION

A. AOBA URGES THE COMMITTEE TO ADOPT A "BALANCED" APPROACH TO THE AMENDMENTS PROFFERED IN BILL 16-21

The County's establishment of building benchmarking standards, the Green Bank and PACE financing programs are just a few examples of initiatives that resulted from the successful collaboration and informed partnership between local building owners (many of whom are AOBA Members) and the County on climate change and sustainability issues. Such collaboration and partnership must inform any debate over the expansion of energy benchmarking amendments and the new building performance standards proposed by Bill 16-21. Specifically, and as acknowledged elsewhere, BEPS is a "complex process"[3] that, when implemented, will "place significant requirements on building owners in the County."[4] These additional requirements will impose even more significant and, in many instances, nonrecoverable costs on building owners, as building owners will not only be required to continue to adopt and implement ever-higher building performance standards, but will also be required to comply with new, costly and permanent occupant health and building safety mandates resulting from the COVID-19 pandemic.

The impact of the intersection of BEPS compliance and pandemic remediation cannot be overstated. As the Montgomery County Planning Department (the "Planning Department") observed:

> The sudden experiment in widespread telework for office workers as a result of the COVID-19 pandemic has pundits appropriately questioning the future of the office. Much of this discussion focuses on using technology to make buildings safer, ***but there are more fundamental questions about***

[3] *See* "Stakeholder Recommendation Report" at 21.
[4] Stakeholder Recommendation Report at 21.

> ***the need for and relevance of office space itself***. The sector is at risk of disruption: an estimated 40% to 50% of the 472,126 jobs in Montgomery County could be performed by telecommuting. That in turn has significant implications for real estate in Montgomery County …. The relatively painless transition to mass teleworking revealed that office space provides limited value to the operation of many businesses over the short term. This revelation will cause many firms to question the value of top-tier office space costing between $7,500 per 150-square-foot cubicle per year in the suburbs ….[5]

"While the current pandemic may result in firms taking more space to let employees spread out," the Planning Department continued, "the longer-term trends toward increased working from home and reduced storge of physical files favors continued reduction in the total amount of office per worker."[6] Market conditions and pandemic-related restrictions, in short, have conspired to preclude or otherwise limit the ability of building owners to recover cost and expenses in full or on a timely basis. Consider, for example, the Montgomery County Landlord-Tenant Relations – Rent Stabilization During Emergencies Act ("Act"), which limits allowable rent increases to the County's "Voluntary Rent Guidelines ("VRG") currently set at currently set at 1.4%.[7] The blanket prohibition's application to all tenants, including those with the ability to pay, further compounds the economic struggles facing many housing providers. Consider, for example, that the County's restriction on allowable rent increases does not expire until 90 days after the end of the state public health emergency and there is now pending legislation to extend the prohibitions for one year after the expiration of the public health emergency.[8] Further, restrictions on evictions and delays with approving applications and disseminating payments under the County's COVID rental assistance

[5]Future of the Office Market, Part I: "What will be the post-pandemic office market mean to the growth and development of Montgomery County"? November 23, 2020, Montgomery County Planning Department. (Planning Department)
[6]Planning Department
[7]Montgomery County Landlord-Tenant Relations – Rent Stabilization During Emergencies, effective April 24, 2020.
[8]Expedited Bill 30-21, Landlord-Tennant Relations – Restrictions During Emergencies – Extended Limitations was introduced on July 13 and is tentatively scheduled for a September 14 hearing at 1:30pm.

program remain, meaning many housing providers continue without relief for significant amount of back rent payments owed by tenants. These same housing providers are now facing additional expenses associated with BEPS compliance.

AOBA also notes that most of the BEPS working group process occurred before the devastating COVID-19 pandemic. As a result, the resulting proposed amendments fail to assess the continuing economic impact of the pandemic on both the owners of commercial and multifamily buildings. Indeed, many of the challenges facing both building sectors pre-dated the pandemic, which only exacerbated the challenges. It remains to be seen, for example, whether the commercial office sector, already plagued with high vacancy rates before the pandemic, and which experienced near zero percent occupancy during its peak, will truly recover from the impact of the pandemic.[9] Indeed, if some forecasts are to be believed, it is likely that the commercial real estate market will not rebound to 2019 levels until 2025; a devasting development that could affect business retention in the County for years to come.[10]

Any evaluation of the amendments proposed by Bill 16-21, therefore, must balance the new and costly BEPS and COVID-19 mandates imposed on building owners *and* the current

[9] See Economic Impact Statement on Bill 16-21 on pre-Covid office market, page 7 "***Relative to its peer jurisdictions, Montgomery County entered the crisis with a weaker office market.*** In the four quarters before the pandemic, Montgomery County averaged lower quarterly gross rents and deliveries, and it was the only jurisdiction to average a negative net absorption rate. While the average quarterly vacancy rate in Montgomery County (12.2%) was lower than the rate in Fairfax County (15.1%) prior to the pandemic, this difference is partly a function of Montgomery County's lower relative office space growth. Figure 2 shows that annual deliveries of office space in the County have been consistently lower than Fairfax County, as well as Washington, DC. In fact, from 2010 to 2021Q2, almost 3,700,000 sq. ft. of more office space has been delivered in Fairfax County than Montgomery County. And almost 12,700,000 sq. ft. of more office space has been delivered in Washington, DC than Montgomery County. See Table 4." See also comments on significant harm to retail markets in Montgomery County.

[10] Montgomery County Planning Department, ("Already office brokerage firm Cushman & Wakefield forecasts that *office vacancy globally will rise and bottom out in 2022, **but only return to 2019 levels in 2025**."). *See also*, Colliers Suburban Maryland Office Report, Q2 2021 ("*Vacancy continued to increase* on the heels of negative demand rising by 30 basis points to end the quarter at 16.6 percent."); JLL Suburban Maryland Office Report, Q2 2021 ("Vacancy reaches record-high as negative absorption returns").

legislative and market restrictions that prevent the full and timely recovery of costs incurred by building owners in implementing both mandates. Failure to weigh – and weigh heavily – the costly and disparate compliance mandates imposed by BEPS and the continued economic fallout from the COVID-19 pandemic will not only force building owners to choose between the health and safety of building occupants (pandemic compliance) and the investment and installation of building efficiency measures (BEPS compliance), but more importantly, reinforce the perception that Montgomery County is not a hospitable place to do business and reduce the County's competitiveness in the region.[11]

Accordingly, in reviewing the amendments set out in Bill 16-21, AOBA asks the Committee and the Council to remain cognizant of the timeliness of imposing costly and disparate mandates on building owners. Specifically – and significantly – the recommendations and suggestions set out below seek to ensure that the costs and other resources necessary to adopt additional benchmarking requirements and to apply new building performance standards are properly balanced and appropriately apportioned among building owners and Montgomery County residents. Building owners, in short, cannot finance and implement BEPS alone.

[11]See Economic Impact Statement on Bill 16-21, page 16 "… ***OLO expects that enacting Bill 16-21 may reduce the County's competitiveness in the office, retail, and/or multifamily markets vis-à-vis peer jurisdictions, particularly Fairfax County.*** As shown in **Table 2**, Montgomery County would join Washington, DC as the only peer jurisdiction in the metropolitan area to have established BEPS policies. Fairfax and other northern Virginia jurisdictions currently lack the legal authority to establish their own. Holding all else equal, *establishing a BEPS policy in Montgomery County would increase average capital, administrative, and operating costs for buildings vis-à-vis those in surrounding jurisdictions. In addition to increasing the cost of doing business in the short-term, establishing a BEPS policy may also undermine perceptions of the business-friendliness of the County among investors, developers, and other economic actors. These effects could, in turn, reduce investment in the office, retail and/or multifamily building markets, as Fairfax and other nearby jurisdictions appear relatively more attractive. Given the weakness of the office market in the County relative to Fairfax and Washington, DC, it is possible that this market would be impacted the most. If enacting Bill 16-21 would result in decreased investment in the office, retail, or multifamily markets, Montgomery County would experience economic development losses (i.e., foregone jobs from building infrastructure projects.")*

B. AOBA AGAIN URGES THE COMMITTEE AND THE COUNCIL TO REALLOCATE REVENUES TO ENVIRONMENTAL SUSTAINABILITY PROGRAMS

AOBA will be clear and concise: if the Committee and the Council are in fact serious – and seriously committed – to environmental sustainability in general and eliminating greenhouse gas emissions by 2035 in particular, then the Committee and the Council must allocate additional resources, including tax revenues, to programs that promote energy conservation and emission reduction, like benchmarking and building performance standards. Significantly increasing funding to support sustainability initiatives is consistent with County goals and statements issued to date.[12] The proposed reallocation and investment will allow the County to meet stated sustainability goals by substantially increasing the amount of financing available to building owners seeking to move forward with costly energy efficiency projects. AOBA has raised the allocation of fuel/tax revenues in separate Comments on the County's Climate Action Plan.[13] There, AOBA "strongly support[ed] dedicating the County's annual fuel-energy tax revenues to financing energy efficiency and/or renewable energy improvement programs for existing commercial and multifamily communities."[14] AOBA further explained:

> While the County has invested heavily in sustainability initiatives, increasing available funding . . . would be a game-changer for the

[12]See, for example, the following: Climate Action Plan, *Expand access to incentives, financing*, and programs to construct or upgrade to resilient, efficient commercial and residential buildings. Montgomery County, Maryland Commercial Building Energy Efficiency Study: Several forces drove the need for the Study: … *Desire to help building owners and managers reduce their energy bills in a time of rising energy costs.* County Executive Marc Elrich's Transition Report, A Greener Economy Recommendations: ***Provide County … businesses incentives*** for renewable fuel sources, reforestation, forest protection, and soil restoration. Montgomery County Code Sec. 18A.13. Department of Environmental Protection – Office of Sustainability. (b) Duties. The Office must: (1) *promote residential energy efficiency and renewable energy programs through direct collaboration with* homeowners, renters, *property managers*, real estate agents, and others to support: … *(C)* ***utilization of available incentives from government****, utilities*, and the private sector …; …. (2) *promote commercial and multi-family energy efficiency and renewable energy* programs through collaboration with commercial and multi-family property owners, managers, and industry associations to support ... **(*C) utilization of available incentives from government***, utilities, and the private sector…;"

[13]Comments of the Apartment and Office Building Association of Metropolitan Washington on the Draft Montgomery County Action Plan, March 3, 2021 (AOBA Comments)

[14]AOBA Comments

> County's efforts to reduce carbon dioxide and other harmful emissions from one of the leading energy categories – the built environment. While building owners have implemented cost-effective measures to reduce their energy costs, many energy-efficiency projects require more a significant financial investment. The proposed investment will allow the County to meet stated sustainability goals by substantially increasing the amount of financing available to building owners seeking to move forward with various energy efficiency projects. The measure would also send a strong and important signal to current and prospective businesses and investors of the business-friendly environment in the County.[15]

AOBA urges the Committee and the Council to consider again the allocation (or reallocation) of additional revenues to sustainability programs. Simply stated – the Council's current strategy of passing legislation and promulgating regulations that force building owners to finance and install energy efficiency measures to meet mandatory building performance standards is not conducive to the timely and effective implementation of BEPS. As noted, the adoption and expansion of BEPS is a "complex process," that will require innovative thinking and "trial-and-error" practices by all stakeholders (including the public).

The successful implementation of BEPS, as also noted, will require significant expenditures by building owners; expenditures that are unlikely to be recovered on a timely basis – if the expenditures are recovered at all. The timely adoption and successful implementation of BEPS, therefore, will require a commitment from and expenditures by building owners *and* a commitment from and investment from the Committee, the Council and, of course, the public. To cite just one example, Montgomery County budget report estimates that FY22 revenues from energy tax will be $175.7 million. When introduced, moreover, this tax was not intended to be a

[15]AOBA Comments

permanent tax , but was enacted as a stopgap measure and the funds from this tax currently support County initiatives other than energy conservation and emissions reduction.

There can be little doubt that the reallocation of a portion of the revenues from programs, like the fuel/energy tax, to environmental sustainability programs, like BEPS, will further the timely and equitable implementation of BEPS. Specifically, the reallocation of such revenues to fund compliance with BEPS and other DEP energy efficiency grants and incentives will allow building owners to install more energy efficiency measures and, thereby, increase the likelihood that a specific building(s) will satisfy the newly-adopted performance standards. An allocation of a just a portion of the revenues from fuel/energy tax to the BEPS programs, in short, will provide immediate and, most importantly, direct assistance to local building owners forced to establish benchmarking requirements and forced to implement building performance standards. Accordingly, if the Committee and the Council are seriously committed to the goal of eliminating greenhouse gas emissions by 2035, then the reallocation of revenues form programs like the fuel energy tax to BEPS initiatives must be revisited and approved.[16]

C. COMPLIANCE WITH THE BOTH NEW BENCHMARKING REQUIREMENTS AND PERFORMANCE STANDARDS SHOULD BE DELAYED

As proposed, Bill 16-21 imposes a June 1, 2022 deadline for the initial reporting of benchmarking data to DEP by owners of commercial and residential buildings. Owners of these buildings would then have until December 31, 2028 and December 31, 2036 to demonstrate compliance with, respectively, interim and final performance standards. Under Bill 16-21, failure to comply with either the benchmarking reporting requirement or a building performance standard would subject a building owner to a "Class A Violation," under which a maximum fine of $500

[16]AOBA notes that even the BEPS Stakeholder Recommendation Report acknowledges that "[i]n jurisdictions that have implemented BEPS . . . the new policies tend to come with additional resources, programs, and/or funding to assist building owners in meeting the increased requirements." (at 19).

for an initial offense and $750 for a repeated offense may be levied. Under the pertinent regulation, a building owner convicted of a Class A violation could also receive a six-month jail term.

Building owner compliance with BEPS should be delayed. Given the unprecedented and still unfathomable impact of the COVID-19 pandemic on the management, maintenance, measurement and occupancy of privately-owned buildings in Montgomery County, building performance data collected in 2021 and 2022 is no longer representative of building energy consumption and, therefore, should not be used as a baseline for the adoption of future building performance standards.[17] Indeed, the COVID-19 pandemic has forever altered building energy consumption and building occupancy patterns in ways building owners are just beginning to understand and anecdotal and preliminary post-pandemic evidence suggests that actual building energy usage may be lower than pre-pandemic baseline usage. Reliance on building energy consumption data measured prior to or cotemporaneous with the pandemic to establish benchmarking forecasts, therefore, is simply unwise.

Likewise, the unprecedented and ever-increasing health and safety expenditures to be incurred by building owners as a result of the pandemic further militates against the immediate adoption and enforcement BEPS performance standards. Building owners have had to change

[17]See also Economic Impact Statement, page 17 ("As previously discussed, the COVID-19 pandemic has significantly harmed the office, retail, and multifamily building markets. Owners have lost revenues due to loss of rent and incurred new costs associated with meeting public health standards for buildings. As the economy continues to open, owners of commercial buildings will incur more costs to make buildings safe for occupancy. Importantly, it is likely that the goals of meeting public health standards and reducing energy would come into conflict. For example, many building managers have been implementing new standards for ventilation and air-filtration, in addition to meeting other guidelines. ***Councilmembers may want to consider whether the timeline of the benchmarking and/or BEPS policy could be adjusted to accommodate the cost and market conditions due to the pandemic, without undermining the environmental goals of the policy and the County's GGE reduction goals***. ... Due to the closure and reopening of the economy, building energy-use has been atypical since the start of the pandemic. Councilmembers may want to consider the economic implications of using 2020-2022 data to establish ***baselines for certain buildings and evaluating buildings' future energy-use based on this atypical period***.")

dramatically the operations of buildings during the pandemic to create and maintain a safe space for tenants and occupants. These changes include how the air is processed and conditioned to be brought into a building to ensure the safety of its occupants. This one added effort exponentially increases the energy usage in a building because the equipment will need to run longer to ensure a safe environment.

In addition, as more companies adjust corporate policy on in-office and remote work, changes in the timing and level of building occupancy will be adopted. It is unlikely, for example, that the traditional 9 to 5 workday and arduous commute to and from the office will return, as office schedules will continue to be adjusted to ensure that employees are provided a safe and heathy work environment.

Importantly, the above measures and protocols will not evaporate with the repeal of the moratoriums and other pandemic relief programs promulgated by local, state and federal governments. Instead, and to borrow an accounting term, the cost of the above measures and protocols are "sunk" costs; building owners have already and will continue to expend the funds necessary to begin to remediate the effects of the pandemic and will be required to do so whether or not the costs are subject to recovery. Building owners, therefore, continue to combat the deleterious impact of the pandemic even though most of Montgomery County has reopened.

AOBA further notes that many building owners, especially those with properties at or near the new 25,000 sq. ft threshold, do not have the staff and resources necessary to comply with the performance standards as prescribed by Bill 16-21. Indeed, managing and operating office and multifamily buildings in a post-COVID 19 environment will likely be more complicated and require even more resources than even building operators now realize. The ability of a large, multi-jurisdictional company to implement the efficiency measures necessary for several buildings to

satisfy a particular building performance standard will also differ dramatically from the ability of a small, local company to implement the same building efficiency measures for one or two buildings. BEPS, in sum, is not a "one-size-fits-all" building performance program.

Many of these expenditures, as again noted, are not readily recoverable, as the combination of the pandemic-induced decrease in building occupancy and the pandemic-induced increase in the installation of health and safety and training measures have forced building owners to make difficult resource allocation decisions. Simply stated, and as stated elsewhere by AOBA: "*there could not be a worse time* to obligate owners to make additional expenditures on building efficiency and energy conservation – especially when assumptions which formed the basis for energy consumption modeling have been dramatically altered."[18]

AOBA offers one final reason to delay BEPS implementation: In transmitting Bill 16-21 to the Committee, County Executive Elrich explained that the County "is pursuing state-enabling legislation to implement 'poor performance payments' beyond the current Class A violations for non-compliant buildings."[19] Since the County will be seeking additional legislation to augment penalties for non-compliance with BEPS requirements and standards and, since the Maryland General Assembly will not reconvene until January 2022, AOBA respectfully submits that the more efficient and more cost-effective course of action would to delay further consideration of BEPS pending legislative action on the penalty provisions. As explained below, certainty and predictability will be key to the successful implementation of BEPS. The lack of detail as

[18]*See* "Joint Comments of The Apartment and Office Building Association of Metropolitan Washington and The District of Columbia Building Association" at 13 (emphasis original) (the "AOBA/DCBIA DC Comments") (March 4, 2021). The AOBA/DCBIA Comments were submitted in response to a "Notice of Proposed Rulemaking," issued by the District of Columbia Department of Energy and Environment on December 4, 2020.

[19] Bill 16-21 at circle page 27.

exemplified by the penalty provision and the fact that most of the stakeholder input on Bill 16-21 occurred before the pandemic, in sum, offer further support for a delay in the implementation schedule.

Accordingly, both the expansion of the number of buildings subject to benchmarking and the implementation of the building performance standards must be delayed. Current benchmarking data is inaccurate and, therefore, obsolete. Implementation of building performance standards cannot take precedent over the need to ensure that employees return to a healthy and safe work environment/building. The wise course, therefore, is to delay compliance with both the expanded benchmarking requirements and implementation of the building performance standards.

D. THE PROPOSED BUILDING PERFORMANCE IMPROVEMENT PLAN MUST BE IMPROVED

Bill 16-21 authorizes the submission and, if approved, implementation of a "building performance improvement plan" by a building owner unable to satisfy an interim or final performance standard.

Specifically:

> If a . . . building owner cannot reasonably meet one or more of the applicable interim or final performance standards due to economic infeasibility or other circumstances beyond the owner's control, based on guidelines established by regulation, the owner may submit a proposed building performance improvement plan to [DEP] for review and approval by the Director in consultation with the Building Performance Improvement Board.

AOBA supports the submission and DEP approval of a building improvement plan as a palliative measure for a building owner's inability to satisfy an interim or final performance standard, but asks the Committee to improve or "sharpen" the parameters of the plan. To begin, if an improvement plan is to be successfully implemented, building owners must have some

reasonable assurance (or certainty) that adoption of the plan will satisfy the owner's obligation under BEPS while the plan is in effect. In particular, it a building owner needs bank financing to purchase equipment or efficiency measures or if a building owner needs senior management approval to move forward with the installation of costly building efficiency improvements – then the building owner must be able to assure the bank or senior management that, once approved, successful implementation of the building improvement plan will suspend any request for additional financing or approval while the plan is in effect. Approval of a building improvement plan, therefore, must include a commitment to shield building owners from further investment and installment obligations while the plan is in effect.

The need for this commitment is not illusory. Banks will be hesitant to extend financing and company senior management will be equally hesitant to extend required approvals if the bank of manager knows that additional financing or internal approval requests may be forth coming. Building owners, therefore, must be able to assure lenders and senior company personnel that, once a building improvement plan is approved, any additional obligations under BEPS will be suspended while the plan is in effect.

The required commitment, AOBA has concluded, is best reflected in the adoption of an alternative and stipulated approach to BEPS compliance. As proffered by AOBA, this stipulated approach would permit building owners to propose building efficiency measures that, if approved by DEP and installed by the building owners, would preclude assessment of a penalty for noncompliance. The AOBA suggested approach is modeled after the "conditional compliance" plan adopted by the Washington State Department of Commerce. Under the State plan, full BEPS compliance is not required; instead, the building owner is given additional time to verify and document compliance.

AOBA further notes that the State of Washington has also approved, by regulation, an "Early Adoption Incentive Program." Under this incentive plan, building owners who demonstrate early compliance with an applicable performance standard receive a one-time base incentive payment. AOBA again urges the Committee to adopt a similar plan to incentivize BEPS compliance in Montgomery County. If adopted, an incentive plan would provide building owners with two approaches or incentives for BEPS compliance: the current negative incentive (penalties or a "stick") or a positive incentive (payment or a "carrot"). This balanced approach, AOBA respectfully submits, further encourage BEPS compliance.

AOBA emphasizes that the proposed stipulated compliance is not an attempt to evade or otherwise circumscribe compliance with the building performance standards. The emphasis, rather, is on a streamlined, alternative and stipulated approach to assist and encourage building owners who will need to secure additional financing and approvals to meet specific building performance standards.

E. BILL 16-21 SHOULD BE AMENDED TO INCLUDE A COST-IMPACT STUDY

An informed assessment of the financial impact of the benchmarking expansion and new BEPS requires the County to direct DEP to conduct a cost-impact study to better understand the actual cost impact and benefits of a BEPS program on building owners.[20] Notably, the BEPS statute enacted in the District of Columbia (and on which the Montgomery County BEPS statute is partly based), mandates such an analysis:

> In fiscal year 2020, up to $250,000 shall be used by DOEE to engage an independent third party to conduct a comprehensive study to help DOEE and building owners better understand the potential for cost impacts and benefits of the Building Energy Performance Standards Program, required pursuant to § 8-772.21 to District residents and property owners, or owners

[20]While the County Executive's transmission to the Council notes that DEP has contracted with Steven Winter Associates to undertake this analysis, AOBA believes this requirement should be codified in law. See Marc Elrich, County Executive to Tom Hucker, Council President, Memorandum, April 1, 2021.

> of large buildings and affordable housing. The study shall include case studies for different property types of buildings.[21]

Given the significant cost to business owners, AOBA respectfully suggests that only a cost-benefit analysis will enable the Committee, building owners and the public to determine the efficiency and efficacy the investment necessary to comply with the expanded application of the benchmarking requirements and the new building performance standards. If the benefits to installing energy efficiency measures do not outweigh the costs and/or the payback period is beyond a reasonable investment horizon, the measure should not be installed. Any cost/benefit decision, rather, should be based solely on the merits of the efficiencies to be gained and not "soft" benefits that could arbitrarily inflate the viability of the project.

F. THE COUNTY SHOULD EXEMPT AFFORDABLE HOUSING DEVELOPMENTS

When building owners are required to retrofit or otherwise significantly upgrade existing multifamily buildings, the cost of the retrofit (or related equipment upgrade) is ultimately borne by the building occupants. These costs, in turn, impact the affordability of housing; specifically, the cost of new affordable housing. Due to the age of the County's rental housing stock and the income limitations imposed by most affordable housing programs, many owners are limited in what can be purchased or financed to achieve greater environmental efficiencies. Many desirable energy-efficiency upgrades for older residential buildings require cost-prohibitive solutions. Due to these concerns, the County should consider exempting qualified affordable housing communities and developing an incentive-based package to help finance energy-efficiency improvements in such properties.

[21]DC Official Code § 34-1436(G)(i).

G. THE PENALTY AND FINE PROVISIONS SET OUT IN BILL 16-21 SHOULD BE REVISIED

As noted, and as prescribed by Bill 16-21, noncompliance with the requisite benchmarking requirement or building performance standard is a Class A violation, subjecting the noncompliant building owner to a $500 penalty for an initial offense and a $750 penalty for a repeated offense. Under the Montgomery County Code, a Class A violation also provides for criminal sanctions – so, as proposed, a building owner who fails to bring a building(s) into compliance with the applicable performance standard could receive six-month jail sentence.

AOBA offers several substantive comments on the penalty and enforcement provisions set out in Bill 16-21. To begin, AOBA asks the Committee to remove any reference to "penalty" or "fine" from Bill 16-21. As the Committee is likely aware, most commercial and residential leases prohibit the assignment of penalties and fines to tenants – even if it was the tenant's behavior or conduct that caused the penalty or fine to be levied. Any reference to penalty or fine, therefore, should be replaced with "assessment" in order to permit a building owner to assign the assessment to an obstinate tenant.

Second, AOBA respectfully requests that the Committee amend Bill 16-21 to permit building owners to reinvest any assessment for noncompliance in the same building that precipitated the penalty in the first place. As envisioned by AOBA, the reinvested assessment would be used to purchase additional energy efficiency measures designed to boost the building's compliance with the applicable performance standard.

Compliance with BEPS will be difficult and costly. Building owners, therefore, should be permitted to avail themselves of any additional funding source that would defray the cost of compliance. Assessments for noncompliance with BEPS mandates represent one such source. Specifically, if authorized by the Committee, the reinvestment of a noncompliance assessment in

the purchase and installation of additional building efficiency measure would not only improve the building's performance score, but also encourage building owners to engage in innovative thinking when evaluating the purchase and installation of building efficiency measures. AOBA respectfully submits, therefore, that the more performance-effective and more cost-efficient practice would be to permit building owners to use assessments to install additional efficiency measures in the very buildings that precipitated the assessment. If the goal of the BEPS legislation is to meet an ambitious climate plan, then any penalties should be returned to building owners to improve the building performance score.

Third, AOBA notes that the successful implementation of building performance standards will require an active – and enforceable – commitment from both building owners *and* commercial building occupants and multifamily building residents. Indeed, it makes little sense to implement and enforce stringent building performance standards if the resulting conservation savings can be undermined by a cavalier or deliberately detrimental approach to energy conservation by commercial building occupant or multifamily building residents. Building occupants and residents, therefore, must be incentivized to adopt effective energy conservation practices or be penalized for the inefficient or otherwise wasteful consumption of energy. AOBA, accordingly, respectfully recommends that Bill 16-21 be further amended to permit building owners to assign or "pass-through" noncompliance assessments to recalcitrant building occupants or multifamily residents.

Building owners and managers have the responsibility and cost for meeting the aspirational goal of achieving zero greenhouse gas emission by 2035. Building owners and managers, however, cannot achieve this goal alone. Tenant behavior in commercial space and multi-family housing is a large component of how well a building will perform and be judged against other

buildings. The tenant who has the heat on and the windows open in the winter is driving usage up and, in some cases, there is no impact to the tenant if the utilities are included in the rent. Unless the tenants have some "skin" in the game related to building performance and conservation then the building owners and managers are unjustly being punished and charged for actions that it cannot control.[22] It is for this reason that AOBA requests that Bill 16-21 be amended to permit building owners to assign noncompliance assessments to recalcitrant office building occupants and multifamily residents.

Fourth, and finally, Bill 16-21 should be revised to remove the possibility of any jail sentence for noncompliant building owners. While AOBA acknowledges that a jail sentence for a BEPS violation is unlikely, Bill 16-21 currently classifies a violation of the BEPS statute as a Class A violation and, as noted, the possibility of a six-month jail sentence is attached to the violation. AOBA respectfully submits that even the possibility of any jail sentence for any violation of the BEPS statute is wholly inappropriate and, therefore, should be removed.

IV. CONCLUSION

WHEREFORE, in view of the foregoing, AOBA respectfully requests that the Committee further amend Bill 16-21 to:

- provide for the reallocation of a portion of tax revenues to installation of building efficiency measures pursuant to the BEPS statute;
- extend, for 18 months, the deadlines for building owner compliance with the BEPS performance standards;
- provide that, while the plan is in effect, implementation of an approved building performance plan shall relieve a building owner of any additional BEPS funding or installation obligations;

[22] See also Economic Impact Statement for Bill 16-21, page 17 ("Some tenants may …. be unwilling to change their poor energy management behaviors. The latter is of particular concern when utilities are included in rents. Councilmembers may want to consider how to modify the bill to directly incentivize tenant energy-use behavior.)

- authorize and adopt an incentive payment plan, under which building owners would receive a one-time payment for early compliance with the building performance standards; and

- permit building owners to reinvest BEPS noncompliance penalties or fines in the installation of additional building efficiency measures;

- require DEP to conduct a cost-benefit study to evaluate the impact of building efficiency measures installed pursuant to the BEPS statute.

Dear Montgomery County Council & Interested Parties,

As a national leader in building performance for energy, indoor environmental quality, and sustainability, UL would like to formally express our support for the Montgomery County's proposed Building Energy Performance Standard (BEPS) legislation being considered for adoption. We are excited to see Montgomery County become an early leader in reducing building consumption through improved operations and awareness. This legislation aligns with UL's mission to create a safer and more sustainable world, and we fully endorse your efforts to create a more valuable and equitable real estate market, as well as buildings stakeholders can be confident and proud of.

Time and time again, our building owner clients and municipalities across the country are waking up to the realities of their building's performance. Those realities have consistently demonstrated that prioritizing energy performance through monitoring, management, and improvement provides several direct and indirect benefits for virtually all stakeholders. Decreased maintenance, reduced utility consumption, properly functioning systems translate to healthier indoor environments, improved tenant satisfaction, reduced operating costs, and ultimately a higher value asset for commercial real estate.

Up until relatively recently, much of that progress was made proactively or by incremental improvements in standards, code, and financial incentives. During this time, most of the focus has been on *prescriptive* measures and 'low hanging fruit'. While this allowed the industry time to collect and analyze performance impacts, the investment and process proved expensive, potentially creating a barrier to entry for owners and facilities operating on smaller margins.

As more and more cities eye implementing their own BEPS programs, a common benefit increasingly becomes clearer. Through implementing a *performance*-based requirement, the industry knowledge and expertise becomes more wide spread and can potentially lower costs for implementation. This simplification of knowledge significantly reduces the barrier to entry for organizations with tight cap rates and unlocks asset value previously out of reach. This value is then instantly and transparently communicable to investors, markets, and firms which helps reduce time on market for asset resale, thereby increasing the mobility of firms whose portfolios are typically tied to specific asset classes.

The benefits of a robust and engaged Building Performance Standard are clear from our standpoint. These programs can level the playing field between cash-flush portfolios and those with historically little access to improvement capital, they expand building science knowledge, generate significant job growth locally, improve asset value through reduced consumption and maintenance, and enable improved indoor environmental quality and tenant wellness. Additionally, it should go without saying, these performance standards align with and directly contribute to achieving local and national goals for reduced GHG emissions and consumption. We at UL enthusiastically support this legislation and Montgomery County's commitment to exceptional environmental and market leadership for all stakeholders.

Thank You,

Josh Jacobs

Director of Environmental Codes & Standards

UL

678-559-8848

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MARYLAND BUILDING INDUSTRY ASSOCIATION
11825 West Market Place | Fulton, MD 20759 | 301-776-6242

Hon. Thomas Hucker
President, Montgomery County Council
100 Maryland Avenue, 6th Floor
Rockville, MD 20850

Re: Bill 16-21 - Building Energy Use Benchmarking - Performance Standards

Dear Chair Anderson and Planning Commissioners,

The Maryland Building Industry Association is submitting testimony in reference to Bill 16-21 – Building Energy Use Benchmarking - Performance Standards. Bill 16-21 would expand the number of buildings covered by benchmarking requirements, while amending certain definitions and establishing energy performance standards for covered buildings with certain gross floor area, the bill would also create a Building Performance Improvement Board to oversee implementation of the requirements and monitor the benchmarking standards.

We would first like to acknowledge the hard work of the Department of Environment and county staff on crafting this legislation. MBIA and its members are in full support of creating new policies that allow building types to operate as efficiently as possible, however Bill 16-21 has too many uncertainties both legislatively and administratively – to force building owners to go forward with the long-term and costly investments and financing that will be necessary to install new equipment and related energy efficiency measures to comply with BEPS. See below our comments:

- Given the timeline included for requiring newly covered buildings under the benchmarking requirement it is unclear whether owners/operators not actively tracking 2021 data currently will be able to meet a reporting requirement for 2021. The proposal seems to be retroactively assuming all required data is available to buildings not currently benchmarking their usage so that despite being in Q2 already these newly covered buildings will be required to provide data for all of calendar year 2021 by June 2022. Will this be possible? Are all of the newly covered buildings able to monitor usage in the required manner without implementing new tracking tools/equipment that they don't currently have installed?

- With regards to coverage of mixed use properties does the proposal (or subsequent regulations) need to address management issues unique to these structures? For example, does the same entity operate and oversee both the residential and commercial spaces in the structure? Will reporting and performance standards be done collectively or separately for the multiple uses? Are performance standards on a single building able to be operationalized across the different types of tenants (residential/commercial)?

- One issue that we are not clear on (and may be an issue for the regulatory side of things) is how the proposal addresses issues of performance where the responsible party (the owner) is not the one responsible for usage (the tenant). While benchmarking may be easier to achieve how will the performance standard address existing structures where owner/operator doesn't control usage or pay for utilities? Tenants may have systems designed for optimum performance but if they are not used in an equally optimum manner (i.e. window open while running air conditioner) than how will the performance standard address this?

- Representation on the new Building Performance Improvements Board – while there is a slot for multifamily owner/operator and residential construction financing there is no representation for builder/developer. These seems short sided as the best place to influence performance I would think is during the construction/development stage. While they may see the owner/operator as decision maker the other members of the board make me think that they are trying to round out all aspects of the process and therefore there should be room for a builder perspective as well.

- The performance standard provisions looks at using a two-year average in setting a buildings baseline. Given the unique usage patterns associated with 2020/2021 due to the impact of the pandemic should there be some acknowledgement of how that may impact establishment of the baseline.

We appreciate the opportunity to offer our feedback on Bill 16-21 and look forward to working with the County Council and DEP on creating building performance standards that work for Montgomery County. If you have any questions or concerns, please contact Griffin Benton, Vice President of Government Affairs at gbenton@marylandbuilders.org or (202)-815-4239.

Respectfully,

Griffin Benton
VP, Maryland Building Industry Association

cc: Montgomery County Council

AGRICULTURAL ADVISORY COMMITTEE

June 15, 2021

The Honorable Tom Hucker, President
Montgomery County Council
100 Maryland Avenue
Rockville, MD 20850

Dear Council President Hucker: Bill 16-21 Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards - Amendments

On behalf of the Montgomery County Agricultural Advisory Committee-AAC, please accept this letter with our recommendations for the Bill 16-21 Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards.

The AAC discussed this Bill 16-21 during their May 18, 2021 meeting and we agree that energy must be used efficiently to reduce costs and to eliminate waste. From our reading of the Bill 16-21, we understand that the focus of the legislation is to ensure all buildings greater than 25,000 square feet in size will be required to meet the new Building Energy Use Benchmarks and Performance Standards.

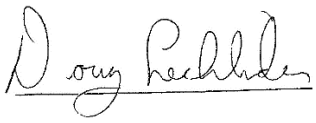
We want to make sure the Councilmembers understand that some agricultural buildings in the County exceed 25,000 square feet in size, however these agricultural buildings only use electricity for lighting and these builds do not have mechanical heating and air conditioning systems. It is important to note that farmers also incorporate poly carbonate panels in the roofs of agricultural buildings to let sunlight in during the daytime hours which helps to reduce both energy costs and energy waste.

The AAC recommends that all existing and new agricultural buildings should be included in the Applicability section 18A-38 (d) as underlined below.

18A-38B. Applicability.
This Article does not apply to a covered building for which more than 50% of the total gross floor area is used for:
(a) public assembly in a building without walls;
(b) industrial uses where the majority of energy is consumed for manufacturing, the generation of electric power or district thermal energy to be consumed offsite, or for other process loads; or
(c) transportation, communications, or utility infrastructure.
(d) existing and new agricultural buildings used for farming, production, and storage.

We thank the County Council for this opportunity to present our views and we will participate in the Transportation and the Environment Council Committee Work Session when this Bill 16-21 is scheduled.

Sincerely,



Doug Lechlider, Chairman

Cc: Marc Elrich, County Executive

AGRICULTURAL PRESERVATION ADVISORY BOARD

July 16, 2021

The Honorable Tom Hucker, President
Montgomery County Council
100 Maryland Avenue
Rockville, MD 20850

Re: Bill 16-21 Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards - Amendments

Dear Council President Hucker:

On behalf of the Montgomery County Agricultural Preservation Advisory Board - APAB, please accept this letter with our recommendations for the Bill 16-21 Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards.

The APAB discussed this Bill 16-21 during their May and June meetings and agree that energy must be used efficiently to reduce costs and to eliminate waste. From our reading of the Bill 16-21, we understand that the focus of the legislation is to ensure all buildings greater than 25,000 square feet in size will be required to meet the new Building Energy Use Benchmarks and Performance Standards.

We want to make sure the Councilmembers understand that some agricultural buildings in the County exceed 25,000 square feet in size, however these agricultural buildings only use electricity for lighting and these buildings do not have mechanical heating and air conditioning systems. It is important to note that farmers also incorporate poly carbonate panels in the roofs of agricultural buildings to let sunlight in during the daytime hours which helps to reduce both energy costs and energy waste.

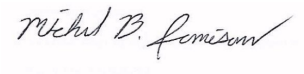
The APAB recommends that all existing and new agricultural buildings should be included in the Applicability section 18A-38 (d) as underlined below.

18A-38B. Applicability.
This Article does not apply to a covered building for which more than 50% of the total gross floor area is used for:
(a) public assembly in a building without walls;
(b) industrial uses where the majority of energy is consumed for manufacturing, the generation of electric power or district thermal energy to be consumed offsite, or for other process loads; or

(c) transportation, communications, or utility infrastructure.
(d) existing and new agricultural buildings used for farming, production, and storage.

The APAB thanks the County Council for this opportunity to present our views and will participate in the Transportation and the Environment Council Committee Work Session when this Bill 16-21 is scheduled.

Sincerely,



Michael Jamison, Chairman

cc: Marc Elrich, County Executive
Jeremy Criss, Director, Office of Agriculture

Gaithersburg
A CHARACTER COUNTS! CITY

July 9, 2021

Montgomery County Council
Stella Werner Council Office Building
100 Maryland Avenue
Rockville, MD 20850

RE: Bill 16-21
Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards

Dear Councilmembers:

In December 2017, Montgomery County declared a climate emergency and accelerated community-wide climate goals to be carbon neutral by 2035. Recognizing that residential and commercial building sectors combined to contribute 50% of Montgomery County's greenhouse gas emissions, Bill 16-21 (Building Energy Use Benchmarking and Performance Standards, or BEPS) would amend the County's Building Energy Benchmarking Law with a variety of programs and policies to mitigate emissions, including a Building Energy Performance Standard for commercial and multifamily buildings. The City of Gaithersburg supports Montgomery County's ambitious goal of carbon neutrality by 2035, and recognizes the impact of certain building sectors on greenhouse gas emissions.

In 2018, the City of Gaithersburg opted-in to the County's original Building Energy Benchmarking Law, which requires owners of nonresidential buildings of 50,000 square feet and greater in the City to benchmark their energy usage in the ENERGY STAR Portfolio Manager. Elected officials and city staff noted the strong support from the building-owner and economic development communities on benchmarking activities, as they were viewed as a valuable way for building owners and managers to understand energy use and identify opportunities to reduce energy costs.

The intent and goals of the BEPS legislation (Bill 16-21) are laudable. Realizing carbon neutrality in Montgomery County within the next 15 years will depend upon strong action today, and this legislation could help us achieve that objective. In addition to the benefits of reduced greenhouse gas emissions, the BEPS legislation could, if implemented correctly, help reduce costs for some of our most vulnerable residents and small business owners in the form of lower energy, water and maintenance expenses via more efficient, well-designed mechanical systems and building components. However, the costs to cure or improve these systems and components could be considerable, depending on the age and condition of the property.

To ensure that our most vulnerable residents and small business owners are not inadvertently and adversely impacted by these costs in the form of higher rents, the City of Gaithersburg is respectfully requesting your consideration of our concerns and recommendations:

1. The inclusion of multifamily properties of 25,000 square feet or more may have unintended consequences that negatively affect the supply of naturally occurring affordable housing. These are properties that offer low-end market rate rents, with owners who have not benefitted from the various low interest rate mortgages and tax advantages common to "affordable" housing.

a. Smaller, older apartment buildings will require significant investment. Landlords can only collect rents based on existing lease structures, and any additional expenses may translate into higher rents.
b. Many of these properties are highly leveraged and owners cannot borrow additional funds.
c. Many of these owners lack the capacity to layer multiple funding sources.

2. The legislation does not include creation of a financing tool to assist the owners of what are likely the most problematic buildings – older, in need of greater capital investment, but generating little net operating income. Financing tools to support owners who seek, or are required to, make property improvements should be established with, or in advance of, any BEPS legislation.

    a. The County might be drawn to a "revenue neutral" law, but improving energy efficiency costs money. Properties in poor condition may have tenants who are most vulnerable – small businesses, often minority-owned, and from low-income households.
    b. Building improvements to energy-inefficient properties should be a priority, and deserving of financial assistance, but it's illusory to believe that the costs will be borne by the landlords only. Commercial landlords (including multifamily) will almost certainly pass costs on to tenants.

3. A high degree of **discretion** built into the administration of the program could create inconsistent requirements across all eligible properties, with resulting real or perceived inequity. *Staff discretion* creates an opportunity for overzealous regulation by some, or conversely, preferential treatment of favored landlords.

    a. Determinations of "economic hardship" that would prevent, delay, or modify building improvements should be more clearly defined.
    b. "Discretion" introduces risk and unpredictability into the valuation of income-producing properties, and potentially negatively affecting assessed values.

Much of the language in the legislation leaves important details to be determined after its adoption, to be crafted as regulations. The City of Gaithersburg recommends and requests that any associated regulations be adopted concurrently with the BEPS legislation, and that consideration of this bill is delayed until this can occur. Benchmarking has already been implemented for commercial buildings. We recommend expanding the existing Building Energy Benchmarking law after the regulations (parameters, administration, data sources, etc.) are developed. This would allow all the individuals impacted to fully understand the proposed changes. As drafted, the program could potentially have negative and profound impacts upon property values, create uncertainty for property owners, and unintentionally displace vulnerable households and small businesses.

We know that Montgomery County's BEPS legislation was designed to balance the challenges of a climate emergency with the realities of the County's varied building stock. We hope that the County Executive and County Council will also work together to ensure that any legislation does not excessively encumber those owners and tenants who are least able to absorb any costs for mandated property improvements. Thank you in advance for your consideration of our concerns and recommendations. Please let me know if you have any questions.

Respectfully submitted,

DocuSigned by:
Jud Ashman
52E570A5749C472...
Jud Ashman
Mayor, City of Gaithersburg

American Council for an Energy-Efficient Economy
529 14th Street, N. W., Suite 600 Washington, D.C. 20045 202.507.4000 202.429.2248 www.aceee.org

June 10, 2021

The Honorable Tom Hucker, President
and Members
Montgomery County Council
Stella Werner Council Office Building
100 Maryland Avenue
Rockville, MD 20850

Dear President Hucker and Council Members:

RE: Bill 16-21, Environmental Sustainability – Building Energy Use Benchmarking and Performance Standards

The American Council for an Energy Efficiency Economy ("ACEEE") welcomes this opportunity to provide testimony for Bill 16-21, which expands the number of buildings covered by the County's benchmarking requirements, establishes energy performance standards for large buildings, and creates a building performance improvement board. We submit this testimony today to help the Council on its deliberations of the legislation.

ACEEE is a nonprofit, 501(c)(3) research organization that develops policies to reduce energy waste and combat climate change. Our independent analysis advances investments, programs, and behaviors that use energy more effectively and help build an equitable clean energy future.

ACEEE has deep expertise on energy efficiency strategies municipalities have used and can use to create local jobs, strengthen the economy, and scale up their ambitions to fight climate change. Since 2013, ACEEE has regularly published the *City Energy Efficiency Scorecard* and *City Clean Energy Scorecard* to gauge the extent to which large cities in the United States are prioritizing energy efficiency, renewable energy, and energy equity.[1] Each city scorecard edition provides insights on the activities of the leading cities and the innovative policies they are pursuing to reach their climate goals. ACEEE has also looked at building performance standards in detail in a research report published in 2020, *Mandatory Building Performance Standards: A Key Policy for Achieving Climate Goals*.[2]

We applaud the Montgomery County Council for its consideration of Bill 16-21, and in particular, its inclusion of building energy performance standards. To meet long-term goals to reduce greenhouse gas emissions, increasing energy efficiency in existing buildings is key. However, current programs to encourage building energy retrofits are not leading to upgrades at a scale large enough to reach ambitious climate goals. At current rates, these programs will take approximately 500 years to complete whole-building retrofits to all homes and apartments and 60 years to complete retrofits across all

[1] ACEEE. "The City Clean Energy Scorecard." Accessed June 7, 2021. https://www.aceee.org/local-policy/city-scorecard.

[2] Nadel and Hinge. 2020. "Mandatory Building Performance Standards: A Key Policy for Achieving Climate Goals." https://www.aceee.org/white-paper/2020/06/mandatory-building-performance-standards-key-policy-achieving-climate-goals.

commercial buildings.[3] New aggressive approaches are needed to speed up retrofits; building energy performance standards are one such approach. Beyond the energy savings and greenhouse gas reduction benefits, building performance standards can stimulate the economy and create jobs. For example, the Urban Green Council estimates that the building performance standards in New York City will create a $20 billion retrofit market and lead to the creation of more than 140,000 jobs by 2030.[4] By adopting building energy performance standards in Montgomery County, the County is setting itself up to create a more prosperous economy.

The findings of the *2020 City Clean Energy Scorecard* also demonstrate that building energy performance standards are an emerging policy tool for cities. The *2020 City Scorecard* found that cities are beginning to pursue groundbreaking policies to increase energy efficiency and reduce greenhouse gas emissions from existing buildings in their cities. At the time of publication, only three cities—New York City; St. Louis; and Washington, DC—had adopted legislation to set performance standards for large buildings.[5] Developing building performance standards puts cities at the vanguard of climate action for buildings. Should the County adopt this legislation, it will be in elite company with some of the most ambitious municipalities in the United States when it comes to climate action.

ACEEE's past assessment of Montgomery County's clean energy efforts indicate that the County would strengthen its energy efficiency efforts by the passage of Bill 16-21. ACEEE uses the *Local Clean Energy-Self Scoring Tool* to assess municipalities outside of the 100 cities assessed in the *City Scorecard*.[6] In 2019, we worked with Montgomery County staff to assess the County's clean energy efforts.[7] We found that had the County been included in past city scorecards, it would have likely performed well enough to be in the top-25 of the rankings. In our assessment, the County had its best performances in the buildings policies and transportation sections of the scoring. The strong performance in buildings was due in part to the existing benchmarking and transparency program at the time. By further increasing the number of buildings that need to comply with the benchmarking program and adding a building energy performance standard, the County is furthering its strong dedication to a clean energy future.

One issue we would note is that when the building performance standard starts applying to multifamily buildings as part of groups 4 and 5, affordable housing in particular is likely to need attention and assistance. We urge the County to begin planning for such assistance well before standards on these buildings take effect.[8]

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[3] *Ibid*.

[4] Urban Green Council. 2019. "Retrofit Market Analysis." urbangreencouncil.org/sites/default/files/urban_green_retrofit_market_analysis.pdf.

[5] Ribeiro, Samarripas, Tanabe, Jarrah, Bastian, Drehobl, Vaidyanathan, Cooper, Jennings, and Henner. 2020. *The 2020 City Clean Energy Scorecard*. aceee.org/research-report/u2008.

[6] Tanabe, O'Neil, Jarrah, and Ribeiro. 2021. "Local Clean Energy Self-Scoring Tool, Version 5.0." aceee.org/toolkit/2021/01/local-clean-energy-self-scoring-tool-version-50.

[7] Tanabe. 2019. "Tool Allow Communities to Assess Clean Energy Progress; Montgomery County Calls it Innovative." aceee.org/blog/2019/12/tool-allows-communities-assess-clean.

[8] See, Nedwick and Ross. 2020. "Mandating Building Efficiency while Preserving Affordable Housing: Opportunities and Challenges." In *Proceedings of the 2020 ACEEE Summer Study on Energy Efficiency in Buildings* 13: 215–31.

Thank you for the opportunity to submit testimony regarding Bill 16-21. Should you have any questions about ACEEE's testimony, please feel free to contact me.

Sincerely,

David Ribeiro

David Ribeiro
Director, Local Policy Program
ACEEE
dribeiro@aceee.org
202-507-4750

https://aceee2020.conferencespot.org/event-data/pdf/catalyst_activity_10997/catalyst_activity_paper_20200812133235576_437b9bd6_1824_4c79_8c8b_c8be751171c4, for the steps that the county should consider and take to support affordable housing compliance.

June 28, 2021

Montgomery County Council President Tom Hucker
100 Maryland Ave
Rockville, MD 20850

Comments from the Montgomery County Climate, Energy, and Air Quality Advisory Committee regarding the proposed Building Energy Performance Standard for commercial and multifamily buildings

Montgomery County's Climate, Energy, Air Quality, and Advisory Committee ["the Committee"], an advisory committee to the Montgomery County, MD County Executive and County Council, is offering its recommendations regarding the proposed Building Energy Use Benchmarking and Performance Standards (BEPS) legislation. The Committee supports passage of the proposed BEPS bill but recommends several key changes to ensure it achieves its stated aims. Our recommended changes include:

1) Strengthening the process to establish final and interim standards to ensure they align with the County's Climate Action Plan (CAP);
2) Introducing benefits for exceeding final standards and early compliance with final standards; and
3) Ensuring that penalties are sufficient to achieve compliance.

Expanded benchmarking

The Committee supports the expansion of the current benchmarking law to now cover 25,000 sq. ft. gross area and greater, including multifamily and mixed-use buildings. This expansion will be critical to implementing the county's Building Energy Performance Standards (BEPS) in alignment with the Climate Action Plan. Multifamily and mixed-use buildings comprise a significant share of the building space in the county, and therefore must contribute to emissions reductions in significant ways.

Alignment with CAP

The Committee recommends that the legislation incorporate mechanisms to modify final standards should it be determined they are no longer aligned with the CAP. The legislation, corresponding regulation, and any other implementation tools should be reviewed (and if necessary modified) after the CAP is finalized, and periodically after that, to ensure that these remain sufficient to achieve the County's CAP goals.

Benefits for going beyond compliance

In addition, the Committee recommends introducing added incentives for buildings to achieve early compliance or exceed their final standards. As the county's CAP report has assessed, the county will still have about 15-20% of emissions remaining even if it implements all actions as defined in the CAP (pgs. 65-66). Therefore, the BEPS legislation may achieve further gains beyond those assumed in the CAP by encouraging buildings to comply with interim and final standards earlier than stated deadlines. More importantly, the Committee suggests establishing fiscal or other incentives to encourage buildings to exceed their final standards.

Implementation, oversight and compliance

The Committee supports the mechanisms proposed for oversight and implementation of the proposed legislation, including creation of a BEPS committee to advise and oversee the county's efforts. The Committee also supports the development of Building Performance Improvement Plans (BPIP) as the mechanism to address non-compliant buildings. However, the Committee strongly recommends enhancing potential penalties for non-compliance beyond a Class A violation. We understand that state law may prevent the county from levying more substantial penalties, but we anticipate that many building owners and operators may opt to absorb the penalty rather than make the investments necessary to comply with their respective standards. If the county cannot work around state limitations, the Committee recommends that Council explore alternative mechanisms to enforce compliance.

One such mechanism is to pass an increase in the fuel-energy tax for covered commercial buildings and coupling with an associated compliance or green building tax credit that offsets the higher tax. Compliant buildings, those that have met interim targets or have submitted Building Performance Improvement Plans may be eligible to apply the credit while non-compliant buildings will not be eligible to claim the credit. Funds collected via the fuel-energy tax could be targeted towards Low-Moderate Income properties and initiatives to ensure equitable implementation of the BEPS law, or else could be applied towards financial incentives to encourage non-compliant buildings to make the necessary improvements to their facilities.

Finally, as stated in the financial impact statement, implementation of the law will require additional resources and new FTE positions. The draft BEPs legislation lays out a regulatory framework and timeline for achieving meaningful progress. Much of the work to implement BEPS must be done early in the timeline. Because the FY22 budget did not include a single new position to implement BEPS, it is critical that the FY23 budget provide needed staffing and funding for BEPS.

The BEPS timeline requires that:

- By June 1, 2022, new smaller buildings and large multifamily buildings would need to start benchmarking energy use; and DEP would issue regulations that establish building groups; numerical performance standards for each building type; and requirements related to a Building Performance Implementation Plans, etc.

- By January 1, 2023, the first stage of implementing BEPS would begin for nearly a thousand buildings. During this period, outreach, training, and advice to the building community would be critical.

Currently, all the implementation steps outlined above fall to two energy managers who already staff all the DEP building energy responsibilities and one position previously budgeted for but not yet hired. The Fiscal Impact Statement for the BEPS legislation recommends a total of seven positions to support the BEPS program. Washington DC, which has a similar BEPS plan, currently has 8 staff assigned to this program. Therefore, when the FY23 budget comes before the Council, it is critical that funding for adequate staff be authorized.

In addition, it is important that there be adequate operating funds in the FY23 budget to implement BEPS. The Fiscal Impact Statement for the BEPS legislation states that operating expenses would be needed to cover development and maintenance of a database, including a portal for building managers; general outreach mailings, a website etc.; technical assistance to property owners; and support for engineering analysis to implement BEPS and evaluate improvement plans. An effective program will require funding commensurate with these requirements.

IMT
INSTITUTE
FOR MARKET
TRANSFORMATION

1707 L St. NW | Suite 1050
Washington, DC 20036
202.525.2883
IMT.org

Dear Members of the Montgomery County Council,

My name is Cliff Majersik. I am a Senior Adviser at the Institute for Market Transformation (IMT). IMT is a national nonprofit that seeks to catalyze widespread and sustained demand for high-performance buildings. To do this, we are working with jurisdictions across the country on how to create and deploy building performance policies that can help decarbonize buildings by establishing performance targets that reduce energy use and greenhouses gasses over time. IMT strongly supports Bill 16-21 and urges the Montgomery County Council to act promptly to move it toward enactment.

IMT works with more than 100 local governments around the country whose jurisdictions represent roughly half of all large buildings in the U.S. In many of these jurisdictions, those large buildings account for a significant portion of greenhouse gas emissions. In Montgomery County specifically, buildings account for 50 percent of the county's greenhouse gas emissions. That means in order to meet the County's ambitious goal of eliminating GHG emissions by 2035, the County must dramatically improve the energy efficiency of its commercial and residential buildings.

Bill 16-21 provides the framework for a thoughtful and rigorous plan for achieving these dramatic reductions in public and private building energy use in the County. It builds upon the groundwork laid by Montgomery County's early adoption of a building energy benchmarking and transparency law in May 2014. When fully implemented, Bill 16-21's building energy performance standards (BEPS) will result in deep improvements in buildings' energy performance, moving the County significantly closer to its aggressive climate goals. Furthermore, BEPS will drive private investment in buildings' efficiency and distributed energy generation – cutting energy costs, accelerating economic investment in the county, reducing pollution, and creating jobs at all skill levels from laborers and roofers to electricians and engineers – jobs which are tied to Montgomery County buildings and cannot be offshored.

IMT provided technical assistance and helped facilitate the stakeholder group that advised the Department of Environmental Protection as it developed Bill 16-21. We believe that in Bill 16-21, Montgomery County and its stakeholders have developed an innovative policy

that will serve as a model for other governments considering building performance standards. The ordinance's central innovation is its "trajectory approach," which uses a combination of long- and short-term performance standards to provide building owners with regulatory certainty and appropriate flexibility to accommodate typical capital planning cycles, while still pushing owners to improve their properties at the earliest opportunity. This long-range approach will help the county overcome short-term economic shocks like the COVID-19 pandemic.

This approach also allows better-performing buildings to improve more gradually than poorer-performing buildings, which despite being expected to improve more quickly, are permitted to use more energy at every interim standard. This distributes the level of effort and cost equitably among all building owners. It recognizes and rewards the best performers while giving poor-performing buildings a realistic and achievable path to compliance. The bill also provides additional flexibility for buildings that, for technical or financial reasons, cannot meet the standards by allowing them to propose achievable alternatives.

The standards themselves would be set by regulation following the adoption of Bill 16-21 in consultation with stakeholders, including building owners and the environmental advocacy community. DEP would work with these stakeholders to ensure that buildings are grouped together fairly in setting performance standards for each property type, and in developing complementary programs to support building owners as they work to improve their properties. In recognition of the financial difficulty that some building owners may face in meeting the performance standard, the County has signaled a commitment to providing technical assistance, favorable financing tools and, where appropriate, financial incentives, to help building owners comply with BEPS. Additionally, if the legislation is adopted by the County Council, Montgomery County and neighboring Washington, DC would have an opportunity to continue collaborating on a regional level to support building owners and the contractors that serve them through financing programs, technical assistance, and facilitating the exchange of best practices among owners, contractors, utilities, and other stakeholders. DEP is exploring mechanisms to participate in DC's Building Innovation Hub, expanding it into a regional service available to Montgomery County building owners.

Bill 16-21 is a thoughtful, ambitious, and realistic approach to reducing emissions from buildings in Montgomery County and will be a big step toward reaching the County's climate commitment. By adopting Bill 16-21, the County would become the first county and the fifth

jurisdiction in the country to adopt a law requiring minimum performance standards for large public and private buildings—further establishing the County's leadership not just in Maryland, but nationwide.

We urge the County Council to take prompt action to move this bill forward and are available to assist the County with the implementation of BEPS.

Sincerely,

Cliff Majersik
Senior Adviser
Institute for Market Transformation

SIERRA CLUB
MONTGOMERY COUNTY, MD

To,
The Montgomery County Council
100 Maryland Avenue
Rockville, Maryland

July 15, 2021

Reg: Building Energy Use Benchmarking & Performance Standards, bill number 16-21

Dear Council President Hucker and members of the Montgomery County Council,

Sierra Club Montgomery County supports the adoption of the Building Energy Use Benchmarking & Performance Standards, bill number 16-21, that is scheduled to be heard by the council on July 20th.

Montgomery County declared a Climate Emergency in 2017 and resolved to reduce its greenhouse gas emissions by 80 percent by 2027 and by 100 percent by 2035, but as yet has enacted only modest legislation to work towards achieving that goal. Policy is a crucial instrument in helping to drive private markets to prioritize reduction of greenhouse emissions.

Buildings constitute 50 percent of Montgomery County's greenhouse gas emissions (of which 26 percent are from commercial office and multi-family residential buildings). Building energy performance standards (BEPS), in conjunction with benchmarking, are a foundational tool for reducing greenhouse gas emissions from buildings. To reach the County's climate goals, greenhouse gas emissions reductions must be obtained from existing buildings.

Jurisdictions around the country, including Washington, D.C., and the world are increasingly using BEPS to achieve their climate goals. Building energy performance standards are in place for high-energy-use commercial and industrial buildings in Tokyo; rental buildings in Boulder, Colorado, and the United Kingdom; offices in the Netherlands; single family homes in France; and commercial buildings in Reno, Nevada; New York City; Washington State; and St. Louis.

BEPS in Washington, D.C., implemented in January 2021, covers commercial and multifamily buildings of 10,000 square feet and greater and utilizes a complementary building innovations hub.

For building performance standards to be successful, they must complement other policies and programs, such as energy benchmarking (a part of the proposed legislation) and education and technical assistance. The legislation contemplates partnering with and expanding Washington, D.C.'s Building Innovation Hub that is a part of its BEPS programs and that provides technical advice and guidance to building owners.

Anticipating there will be concerns raised regarding the cost impact of this legislation upon property owners and concerns for potential increased rent and pass-throughs to commercial and residential tenants as a result, we strongly recommend that the Department of Environmental Protection prepare data, recommendations, and potential funding sources to respond to these concerns. Every effort should be made to minimize the

impact of this bill upon small business owners and low-income residential tenants who should not bear the financial impact of this important legislation through increases in rent or uncontrolled pass-throughs.

BEPS is also expected to produce many consequent benefits that Sierra Club supports including increased energy efficiency, resiliency and sustainability of new and existing buildings, reduced energy consumption and air pollution, and improved human health because of better indoor and outdoor air quality. We also support creating more green jobs that come from construction and retrofit of buildings to increase their energy efficiency and resiliency that result in increased economic activity.

Thank you for considering Sierra Club's input and position in support of this legislation.

Sincerely,

Shruti Bhatnagar,
Chair, Sierra Club Montgomery County, MD
Shruti.bhatnagar@mdsierra.org | 240.498.3459

honeydew
ENERGY ADVISORS

July 7th, 2021

Sent via Webform

Recipient: Montgomery Council Legislative Branch

Re: Letter of Support for Montgomery County's proposed Building Energy Performance Standards

To the Montgomery Council Legislative Branch,

My name is Andrew Zimdahl and I run an energy consulting firm in Northwest Washington DC that specializes in assisting multifamily and commercial clients improve their building's energy efficiency and access sustainable sources of energy. We enthusiastically support BEPS legislation in Montgomery County.

Our firm has focused a lot of our resources on helping our clients comply with the new BEPS regulations in DC. We are planning on hiring locally to meet the increase in demand for BEPS related services and expanding into the Montgomery County market would allow us to grow our workforce significantly. Having local expertise in this market will be critical for our company's success.

We believe BEPS will help Montgomery County continue to be a leader in the nationwide effort to create a sustainable economy and are happy to avail our company's resources to help facilitate.

Sincerely,
Honeydew Energy Advisors

Andrew Zimdahl
CEO
Honeydew Energy Advisors

Dear Montgomery County Council,

I am writing to express my personal and professional support for the adoption of a Building Energy Performance Standards (BEPS) as detailed in Bill 16-21. Through my work with affordable housing and market rate multifamily developers as the Vice President of Business Development at MaGrann Associates, I can assure you that BEPS will be good for business in Montgomery County. It was my pleasure to serve on the stakeholder workgroup that informed the development of this BEPS, and I am thrilled at the sophistication of the result as seen in Bill 16-21.

BEPS are the new policy tool of choice for state, county, district and city governments to bring about the next stage of improvements in the energy efficiency of our existing building stock. This is a critical next step in addressing the big energy users within our built environment, while improvements to building codes ensure that new additions to our building stock are held to a high level of energy efficiency. I am offering here a few key points regarding how building performance standards will be good for the local economy. **If government and industry implement these standards hand in hand – Building Energy Performance Standards will be good for business.**

BEPS for Service Providers

The most obvious BEPS business opportunity is for the energy efficiency and building technology companies that will provide services to building owners and property managers to comply with the standard. There is a robust industry that already supports this voluntary market and businesses that understand the economic benefits of lower energy costs that result from high performing buildings. The International Energy Agency (IEA) estimates an **energy-efficiency-focused recovery from the COVID pandemic could create over 7.7 million jobs** in the US and at a local level the Building Performance industry can position itself as regional, national and even international experts in this transition.

BEPS for Property Owners

The BEPS business case for property owners is simple - **Reducing energy consumption reduces utility costs, provides access to additional (and often lower cost) capital, and improves asset value.** Calculation of total lifecycle cost is critical to understanding the beneficial economics of energy efficiency improvements. In both new construction development and existing building assets, investing in energy efficiency takes an upfront cost to provide predictable ongoing savings that create favorable rates of return. To state the obvious, those are the same economics of many investment strategies, and yet energy efficiency while financed with competitive rates and a solid rate of return is also a much lower risk compared to other investment classes. The professional industry that services this investment market has for 40 years developed a sophisticated set of predictive energy modelling tools, system-based building science, professional credentials, and third-party quality assurance programs to back these investments.

BEPS for Tenants

The attraction of BPS for tenants is gaining a **more comfortable and higher performing building**. Of course, this proposition is different for offices, market rate housing and affordable housing tenants and we need to ensure that we address each of these markets with a sensitivity to their unique purposes. Economic and social disparities can be improved while we improve building performance if we do it correctly. This takes a human-centric approach to looking at buildings and an understanding of each tenant's goals in order to effectively engage them in buildings performance improvements. With this type of inclusive approach, the benefits of higher performing buildings can lead to an improved quality of life for all tenants.

BEPS for All

We all have something to gain from BEPS as individuals, businesses, a community, and a region. We are competing on a global scale to attract investment, residents, and businesses to our communities. There is no question that implementing solutions to climate change through energy-efficient high-performing buildings is a global priority and competitive agenda for the coming decades. **We have a lot to gain and little to lose** from coming together to create a common vision and coordinated effort to achieve this shared goal that we can all benefit from.

Sincerely,

James Ball
Vice President of Business Development
MaGrann Associates

Montgomery County GreenBank
Your partner for clean energy ™

TO: The Montgomery County Council

FROM: Tom Deyo, CEO of the Montgomery County Green Bank

RE: Green Bank Financing to Support the Building Energy Performance Standards

DATE: June 28, 2021

The Montgomery County Green Bank (the "Green Bank") is a market participant in identifying and offering financial support to energy savings improvements in commercial property projects throughout the County, and is an active partner with the County for implementation of the County's Climate Action Plan. In particular, the Green Bank is set to provide support to property owners responding to any Building Energy Performance Standards (BEPS) through its many products and services for those owners seeking financial resources to undertake improvements related to the BEPS.

The BEPS being considered by the County would create more direction for properties to undertake energy savings measures. Such improvements can lessen property operating costs and reduce the property's environmental footprint. The undertaking of these measures would require financial resources, some of which could be supported through normal operating expenses or capital planning for the properties. For some, undertaking the measures may have owners seek other financial resources to fund the improvements.

The Green Bank has established several financing offerings in partnership with local financial institutions that commercial property owners have successfully used to accelerate energy efficiency and clean energy projects. With these products, the Green Bank is in a clear position to support property owners needing financial resources to undertake improvements related to the BEPS. The Green Bank's suite of products includes the County's C-PACE program, the Commercial Loan for Energy Efficiency and Renewable Energy (CLEER), the Small Business Energy Savings Support loan program, the Commercial Solar Power Purchase Agreement, and direct debt with flexible terms for project needs.

These Green Bank products have supported or are being considered by commercial office properties, hospitality establishments, residential condominiums, retail establishments, faith-based institutions, affordable multi-unit rental properties, community solar and other institutions. Each of these entities are looking at Green Bank financing to move forward on energy savings improvements by aligning with other resources (including incentives) and to leverage the energy savings to support repayment of the financing. These projects not only reduce energy and operating costs and help meet County environmental goals, but also yield good paying jobs for the County's local labor force.

In a similar way to this current practice of property owners, the Green Bank's financing offerings can help property owners take action to meet the requirements of the BEPS and leverage the benefits of the energy savings improvements to support the financing. This approach can also minimize out-of-pocket upfront costs of property owners by including those where possible in the financing structures.

The Green Bank has positioned itself to be an effective resource for the County to meet its aggressive greenhouse gas emissions targets. The Green Bank stands ready to partner with the County were it to enact the Building Energy Performance Standards, and to assist property owners seeking resources to meet the goals of BEPS with offerings of affordable, flexible, and transparent financing.

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July 14, 2021

Montgomery County Council
100 Maryland Avenue, 6th Floor
Rockville, MD 20850

Re: **SUPPORT:** Bill 16-21, Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards

Dear Montgomery County Council,

I write in strong support of bill 16-21 and the positive outcomes it will herald for Montgomery County's economy and its property owners and residents.

BEPS is sound public policy. By properly incentivizing private sector action, we will drive sustainable, innovative, and data-driven investments in our buildings. BEPS will also deliver co-benefits for Montgomery County's economy,[i] its property owners,[ii] the health and productivity of its residents and workers,[iii] and its efforts to address racial justice.[iv]

Any serious effort to meet our climate crisis must focus on buildings as the nation's single largest consumer of energy.[v] Thankfully, Montgomery County has an energized green business community and a highly climate-conscious community. We also have exceptional professional leadership and staff at our Department of Environmental Protection.

Together, we have another opportunity to be a national policy leader. Passage of bill 16-21 would make Montgomery County the first County in the US to enact building energy performance standards (BEPS) legislation.[vi] Currently, there are statewide BEPS programs in place in Washington and Colorado and there are city-level programs in NYC, DC, and St. Louis. More and more jurisdictions have and are planning to propose similar legislation based on the clear public policy benefits realized in these jurisdictions, and the practical on-the ground experience of helping building owners make cost-effective efficiency improvements will spur local innovation and will create high-paying green jobs at companies like PulseIQ.

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PulseIQ proudly manufactures its smart thermostat product in Montgomery County and the majority of our clients are in Montgomery County. Our mission is to serve master-meter multifamily properties with reliable, impactful, and innovative energy efficiency solutions. Our data-centric building automation and controls products and services help clients reduce energy and maintenance costs, increase property values, and improve resident safety and satisfaction.

I am particularly heartened by Bill 16-21's inclusion of multifamily properties. Prior to joining PulseIQ, I spent a decade in property management, overseeing a large and diverse portfolio of common ownership community properties, predominantly in Montgomery County. During that time, I experienced first-hand how a lack of awareness, a lack of impetus to change, and a lack of resources led properties to underinvest in their physical infrastructure with profoundly negative consequences for their long-term physical and financial viability.

In every multifamily building I have set foot in, I have seen immediately achievable low-cost and no-cost opportunities to improve energy efficiency, many with significant potential to reduce electric, gas, and water consumption. Even in the most efficient buildings, there are *always* opportunities to do better.

There is potential in this history of failure. As former US Energy Secretary and Nobel Laureate, Dr. Stephen Chu once said, "Energy efficiency is not just low-hanging fruit; it is fruit that is lying on the ground." We know from the US EPA that the average building needlessly wastes 30% of the energy it consumes.[vii] BEPS will encourage property owners to act in their own self-interest to solve this problem using proven, economically sound, and data-driven techniques to reduce this waste.

The best time to invest in energy efficiency was years ago. The second-best time is right now. I encourage you to seize this opportunity and pass bill 16-21.

Respectfully submitted,

Adam L. Landsman, CEM, AMS, CMCA
President

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[i] https://www.oecd.org/coronavirus/policy-responses/making-the-green-recovery-work-for-jobs-income-and-growth-a505f3e7/

[ii] https://www.fastcompany.com/90565386/how-we-could-save-4-billion-in-building-energy-costs-without-any-renovations

[iii] https://cobe.forhealth.org/

[iv] https://www.npr.org/2021/06/13/1004873139/tackling-energy-justice-requires-better-data-these-researchers-are-on-it

[v] https://www.eia.gov/tools/faqs/faq.php?id=86&t=1

[vi] https://www.imt.org/behind-the-scenes-montgomery-countys-journey-to-building-energy-performance-standards/

[vii] https://www.epa.gov/statelocalenergy/local-topics-energy-efficiency-non-governmental-buildings

Testimony by the Cedar Lane Ecosystems Study Group
on the Building Energy Use Benchmarking & Performance Standards (BEPS)
of Montgomery County, Maryland (Bill 16-21)
July 15, 2021
Contact: EcosystemsStudyGroup@gmail.com

This testimony on BEPS is being submitted on behalf of the Cedar Lane Ecosystems Study Group (ESG), a collective of approximately 25 scientists, sociologists, engineers, activists, and other concerned and informed citizens, primarily residing in Montgomery County, who came together in 2017 when we noticed that many in the County, State, and some local activist groups appeared to not fully understand the scope of the climate emergency or hear the most dire warning yet by the United Nations Intergovernmental Panel on Climate Change (IPCC), that the world faces an existential threat to civilization as we know it unless we immediately implement *rapid, far reaching, and unprecedented change in all aspects of society*.[1]

ESG recently signed onto the MoCo CAP Coalition testimony. ESG also agrees with the testimony of The Climate Mobilization (TCM), which highlights (1) the absence of a climate evaluation; (2) a compliance timetable that is too slow and inconsistent with meeting the greenhouse gas targets in the Emergency Climate Mobilization Resolution; and (3) that the legislation would result in an exacerbation of racial and social Inequities as a result of excluding single-family homes.

Please note, however, that while ESG generally supports the legislation, it is because BEPS only represents steps in the right direction. As indicated by our comments on the draft CAP plan, attached, **BEPS and the other CAP actions are only baby steps, and only in the general right direction.** Failure to recognize and acknowledge this reality sets up a false sense of security that will be catastrophic in the coming years. We encourage you to review our attached detailed comments on the CAP that explain this position.

Thank you for this opportunity to provide comments.

[1] IPCC. (2018, Oct. 8). *Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C approved by governments.* [Statement by IPCC Chair Hoesung Lee during release of IPCC, 2018). https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/

ATTACHMENT

Comments by the Cedar Lane Ecosystems Study Group
on the Draft Climate Action Plan of Montgomery County, Maryland
February 28, 2021
Contact: EcosystemsStudyGroup@gmail.com

These comments on the draft Climate Action Plan (CAP) of Montgomery County, Maryland are being submitted on behalf of the Cedar Lane Ecosystems Study Group (ESG), a collective of approximately 25 scientists, sociologists, engineers, activists, and other concerned and informed citizens, primarily residing in Montgomery County, who initially came together several years ago when we noticed that some local activist groups appeared to not fully understand the scope of the climate emergency or more recently hear the most dire warning yet by the UN Intergovernmental Panel on Climate Change (IPCC), that the world faces an existential threat to civilization as we know it unless we immediately implement *rapid, far reaching, and unprecedented change in all aspects of society*.[2, 3]

Briefly, ESG recently signed onto the MoCo CAP Coalition comments, but we have several caveats. We particularly agree with the following Coalition comments:

1. It is clear that **much effort and thought went into the creation of the draft CAP**. We appreciate the many hours of hard work that staff and consultants did to bring this draft to fruition, and the far-reaching and nation-leading goals that they represent.

2. It is imperative that the County put forward a climate implementation plan for 2021 by April 22, Earth Day, and **announce a rapid shift into emergency mode**.

3. **Develop a schedule** for implementing, coordinating, funding, and measuring the specific climate actions that the County will take.

4. **Implement an aggressive outreach program** to immediately engage Black, Indigenous, and people of color communities (BIPOC), low-income, labor, youth and other groups as active partners and decision-makers in the climate implementation plan.

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[2] IPCC. (2018, Oct. 8). *Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C approved by governments.* [Statement by IPCC Chair Hoesung Lee during release of IPCC, 2018). https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/; Watts, Jonathan. (2018, Oct. 8). *We have 12 years to limit climate change catastrophe, warns UN.* The Guardian. https://www.theguardian.com/environment/2018/oct/08/global-warming-must-not-exceed-15c-warns-landmark-un-report

[3] Deutsche Welle (DW). (2020, July 12). *Climate Change Performance Index: How far have we come?* DW.com. [U.S. ranks last on a list of 60 countries.] https://www.dw.com/en/climate-change-performance-index-how-far-have-we-come/a-55846406

5. **Include a full plan to achieve the carbon reduction goals**, to address the restoration of a safe climate, join a worldwide mobilization to restore a safe climate, and remove CO2 from the atmosphere on a large scale.

6. Create **a dedicated County workforce** to address climate change.

7. Discuss **more detailed options for ongoing funding** of climate action.

8. Present a **clear and detailed vision of what life would be like in 2035**.

This last item—what life would be like in 2035—along with several other Coalition comments not included above, highlight the extent to which **ESG deviates from the Coalition comments and the draft CAP**. In particular, as described in more detail in our written testimony to the Montgomery County Planning Board regarding Thrive Montgomery 2050, attached (Attachment A), the earth's supply of nonrenewable natural energy sources and other materials we depend on will begin declining over the next decade, possibly much sooner. With little chance of sufficient renewable energy becoming available to meet the energy demand of our current lifestyles, **our "business-as-usual" will be significantly impacted**. Furthermore, greenhouse gas emissions and subsequent threats to human existence continue to increase. With sufficient renewable sources unlikely to come to the rescue, we will need to substantially reduce our use of energy and our use of other nonrenewable materials. This will likely cause a decline—possibly a significant one—in our economy, based on the current growth paradigm. Consequently, **energy conservation and efficiency should be the top priority** of the CAP's implementation strategy, which would need to include substantial public education and engagement. We also recommend that a citizen-government task force be established to study the implications of a future of declining energy resources, and to make recommendations about how to prepare for such a future.

Many other readily foreseeable impacts will occur that have not been mentioned in the draft CAP, let alone addressed. For example, **climate migration has already started**, including from right here at home as the loss of livable land in Maryland waterside communities becomes apparent, yet the draft CAP mentions neither this impact nor a plan to address it.

An additional and critical comment not addressed by the Coalition or in ESG's attached Thrive testimony (at least directly), is that based on the En-ROADS policy simulation model, which was developed and is freely available online by Climate Interactive, Ventana Systems, and MIT Sloan,[4] **the draft CAP actions, even if fully implemented immediately and around the globe, are likely to be insufficient to mitigate the expected climate and other impacts** unless the root causes of climate change—basically the current paradigm of infinite growth in a finite world—are acknowledged and addressed. ESG is very familiar with En-ROADS and would be willing to meet with you to demonstrate the model. We also are holding a related forum with the Post Carbon Institute on March 10 at 7 pm that we encourage you to attend, https://www.postcarbon.org/power-forum.

[4] En-ROADS, Climate Change Solutions Simulator, https://www.climateinteractive.org/tools/en-roads/

We recommend that the CAP, and especially the public education and engagement component, address that fact that **a very significant—possibly the largest—portion of our carbon footprint is generated outside of the County** by the production of energy, food, and goods we then import for our consumption. We have a moral responsibility and—as the first large county in the US to declare a climate emergency and develop a significant plan—a leadership responsibility to address that portion of our footprint by encouraging less consumption, fewer travel miles, local production, and closing the loop of what we do, make, consume, and waste. The County should also educate residents and businesses about opportunities for investments outside the County, state, and U.S. that accelerate carbon drawdown, especially via nature-based solutions.

Acknowledging the above likelihoods, and including a more explicit accounting for the inevitable effects of baked-in climate change (e.g., temperature extremes, droughts/flooding, climate migrants), are critically needed additions to the CAP. **Not only would it be insufficient to simply hope that the above impacts do not occur, it would be a severe dereliction of duty.**

* * *

Thank you for this opportunity to provide comments. We hope you will take us up on our offer to meet with you, whether during the upcoming forum with the Post Carbon Institute, by allowing us to demonstrate En-ROADS, and/or otherwise via discussing any of the comments noted above or in Attachment A.

Attachment A

Written Testimony
from the Cedar Lane Ecosystems Study Group[5]
to the Montgomery County, Maryland Planning Board,
regarding Thrive Montgomery 2050

December 10, 2020
Contact: EcosystemsStudyGroup@gmail.com

Executive Summary

- The earth's supply of nonrenewable natural energy sources and other materials we depend on will begin declining over the next decade, possibly much sooner. With little chance of renewable energy becoming sufficiently available to meet the energy demand of our current lifestyles, our "business-as-usual" will be impacted;
- Greenhouse gas emissions and subsequent threats to human existence continue to increase. Without sufficient supply from renewable sources, we will need to substantially reduce our use of energy and our use of other nonrenewable materials. This will likely cause a decline in our economy;
- We have an opportunity to be proactive, and we can use our county's highly influential and prominent position to be a model to others;
- Therefore, we recommend that the planning board review and incorporate the systems modeling, projections, and recommendations from the experts referenced in this testimony, and implement the following:
    1. **Include two additional planning scenarios in the Thrive Plan**, in addition to the existing plan based on assumptions of "business-as-usual." These scenarios are:
        a. A "steady state economy" scenario that assumes no economic growth and no increase in tax revenue; and
        b. A "declining economy" scenario that models at least a 6-8% decline per year in resources and tax revenue;
    2. **Include a more explicit accounting for the effects of climate change** (e.g., temperature extremes, droughts/flooding, climate refugees).

* * *

[5] The contributors to this document—Philip Bogdonoff, Wilfred Candler, Sam Hopkins, Jim Laurenson, Lee McNair, Louise Mitchell, and Nanci Wilkinson—are grateful for comments, assistance, and endorsements from Dr. Nate Hagens (Executive Director, Energy and Our Future; Co-Director, Systemic Economic Response Initiative; Adjunct Professor, University of Minnesota; https://www.linkedin.com/in/nate-hagens-004810b), Dr. Charles Hall (Professor Emeritus, SUNY College of Environmental Science and Forestry; https://www.esf.edu/EFB/hall/), Dr. Brian Czech (President, Center for the Advancement of the Steady State Economy; Visiting Professor, Virginia Tech; https://steadystate.org/brian-czech/); and numerous other unnamed individuals.

Introduction

This written testimony is being submitted on behalf of the Cedar Lane Ecosystems Study Group (ESG), a collective of approximately 25 scientists, sociologists, engineers, activists, and other concerned citizens, primarily residing in Montgomery County, who initially came together several years ago when the UN Intergovernmental Panel on Climate Change (IPCC) gave its most dire warning yet, that the world faces an existential threat to civilization as we know it unless we implement "rapid, far reaching, and unprecedented change in all aspects of society." [6, 7]

We recognize the huge effort that has gone into creating a plan for Montgomery County for the Year 2050. We acknowledge your recognition of the importance of addressing climate change in the plan. And, we applaud your statement of purpose in the plan, which states that Thrive Montgomery 2050 isn't about reinvention. **It's about adapting to *new realities*, addressing historic inequities, and shifting the way we think about how the county should grow.** We highlight this statement since it very much resonates with our group's perspective.

The Problem

After researching the work of numerous experts, as listed in the attached bibliography and other resources, we have become aware of several other realities in addition to climate change that we think are important for the planning board to account for in our county's 30-year plan.[8] These realities include the following:

- Our society has been operating under the assumption that we have an almost endless supply of fossil fuel and other natural resources on the planet for our use. Thrive Montgomery 2050 appears to have been developed under this assumption as well.

- The supply of oil is finite and both the USA and the world have increasingly used up the highest quality and cheapest reservoirs. The USA has produced (and consumed) more oil than any country on Earth but our remaining oil is mostly in shale formations, which is the 'source rock' - there is no oil remaining after that. We technically have plenty of oil left, but what's left is more costly, environmentally damaging and, because it is in shales,

[6] IPCC. (2018, Oct. 8). *Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C approved by governments.* (Statement by IPCC Chair Hoesung Lee during release of IPCC, 2018). https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/; Watts, Jonathan. (2018, Oct. 8). *We have 12 years to limit climate change catastrophe, warns UN.* The Guardian. https://www.theguardian.com/environment/2018/oct/08/global-warming-must-not-exceed-15c-warns-landmark-un-report

[7] Deutsche Welle (DW). (2020, July 12). *Climate Change Performance Index: How far have we come?* DW.com. [U.S. ranks last on a list of 60 countries.] https://www.dw.com/en/climate-change-performance-index-how-far-have-we-come/a-55846406

[8] For a more thorough understanding of the predicament humanity faces, see the following topics in the "Other Recommended Resources" below: Limits to Growth and the Big Picture, The Energy Picture, Regional Food Self-Sufficiency, Climate Refugees.

it has an extremely rapid decline rate (see ***Figures 1*** and ***2*** below).[9, 10] For instance, the underlying annual decline rate in the five major oil producing regions (Texas, North Dakota, Gulf of Mexico, New Mexico, and Oklahoma) is approximately **42% per year.** These five regions account for 80% of U.S. production. Yet renewables show no sign of being able to fill this gap (see ***Figure 3***). This significantly relevant constraint for our future is hidden (and exacerbated) by the pandemic because demand has also fallen. We are increasingly facing a situation where the market price for oil is much lower than the cost to extract it, further exacerbating future supply.

- Fossil fuel is literally what fuels our economy. Therefore, as the supply diminishes, our economy will be impacted significantly. These impacts on the economy will compound the current effects from the COVID-19 pandemic and this will impose significantly greater hardship on our communities.[11]

- In addition to the depleting supply of fossil fuel, we are also rapidly depleting the earth's supply of other nonrenewable natural resources including metals and nonmetallic minerals. We have designed our lives to depend on these resources, which we use at almost every point in our industrialized lives.[12]

- These realities of depleting resources are in addition to the increase in greenhouse gas emissions we are producing and their subsequent threats to human existence due to climate change.[13] As a result, we must make substantial reductions in our demand for energy and in our demand for our broader use of nonrenewable natural resources, and make adjustments in our lifestyles for the likely concomitant decline in our economy.[14]

Steps Toward a Solution

As a result of these and other realities, we propose that the planning board review and incorporate the systems modeling, projections, and recommendations from the experts we have

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[9] Hagens, Nate. (2020, Nov. 9). *Americans and their leaders face ten daunting challenges in the next 4 years, says Dr. Nate Hagens.* Citizen Action Monitor.
[10] Weyler,Rex. (2020, March 22). *The decline of oil has already begun.* Greenpeace International. https://www.greenpeace.org/international/story/29458/peak-oil-decline-coronavirus-economy/
[11] Lawrence Livermore National Laboratory. (accessed 2020, Nov 30). *Estimated U.S. Energy Consumption in 2019: 100.2 Quads.* flowcharts.llnl.gov. https://flowcharts.llnl.gov/content/assets/images/energy/us/Energy_US_2019.png
[12] Heinberg, Richard. (2007). *Peak Everything: Waking Up to the Century of Declines.* Indiebound. https://richardheinberg.com/bookshelf/peak-everything
[13] Waldron, Lucas and Lustgarten, Abrahm. (2020, Nov. 10). *Climate Change Will Make Parts of the U.S. Uninhabitable. Americans Are Still Moving There.* ProPublica https://www.propublica.org/article/climate-change-will-make-parts-of-the-u-s-uninhabitable-americans-are-still-moving-there [see embedded clip: *How the Climate Crisis Will Force A Massive American Migration.* YouTube. https://www.youtube.com/watch?v=pWu_-duWSh8&feature=youtu.be]
[14] Whyte, Caroline. (2020, November 12). *Aggregate green growth is a mirage: we need to take a more scientific approach to societal wellbeing.* Resilience. https://www.resilience.org/stories/2020-11-12/aggregate-green-growth-is-a-mirage-we-need-to-take-a-more-scientific-approach-to-societal-wellbeing/

been studying and then revise the plan over the next year, by adding at least two more scenarios to the plan:

1. One in which our current economy and lifestyle remains level at what it is currently - a “steady state economy” scenario, and

2. Another scenario in which our economy declines (at say, 6-8% per year) and our lifestyles and policy options become increasingly constrained.

Further, we recommend that you include a more explicit accounting for the effects of climate change (e.g., temperature extremes, droughts/flooding, climate refugees) and better coordinate with the managers of the county’s Climate Action Plan (CAP), since it will be important for these two county documents to be consistent with one another in their plans and recommendations.

Conclusion

Many communities around the world are suffering from extreme financial strain and resource scarcity due to the impacts of our lifestyle choices here in the U.S. Most of us in Montgomery County, however, are not currently experiencing these consequences of our lifestyle choices, which blinds us to the above realities. We are facing some tough decisions about how to allocate our remaining resources wisely as we transition to a much lower level of living. We can further awaken to these realities, make the changes that are needed, and use our highly influential and prominent positions to be a model to others.

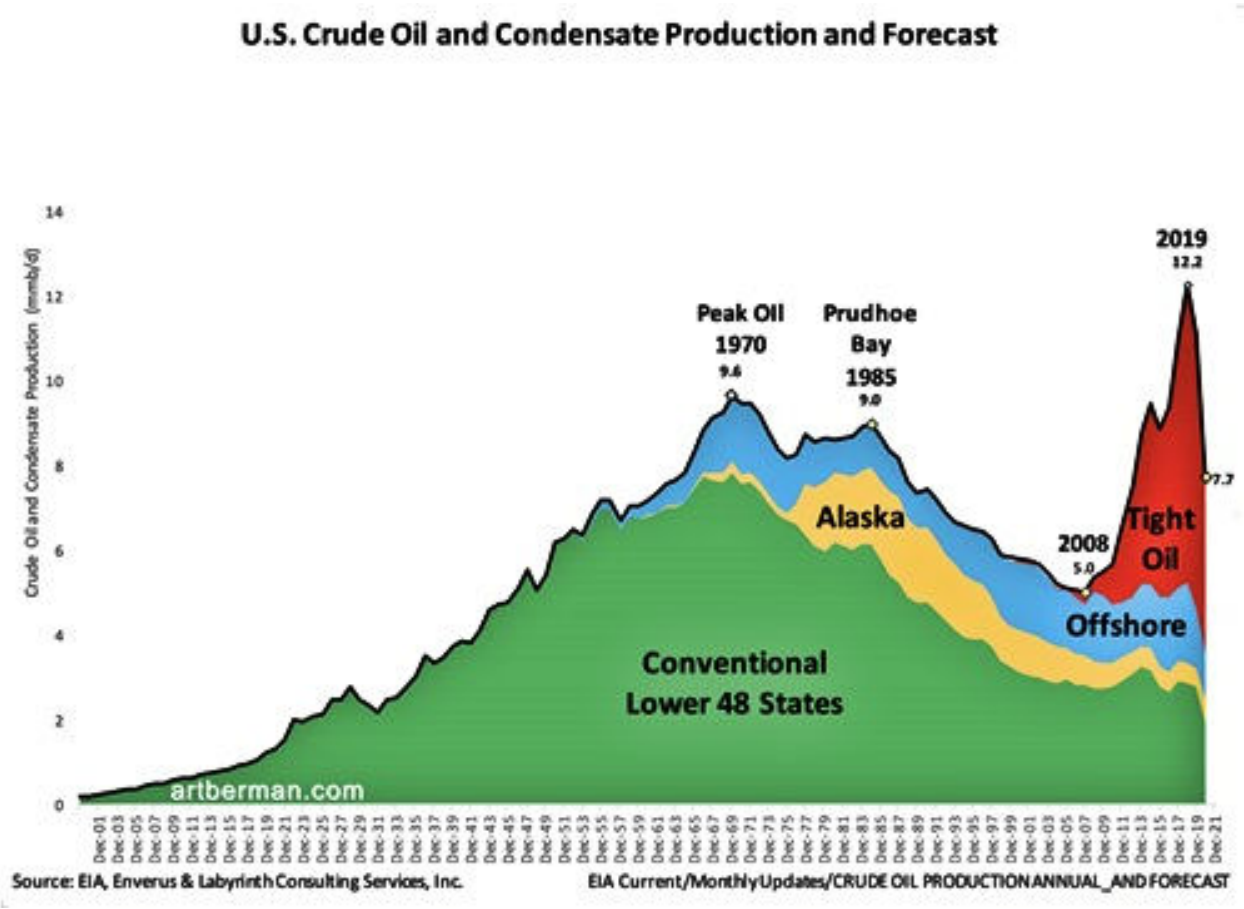
We encourage the planning board to also confront these realities and update the plan so that it engages our residents and communities into taking action and becoming as prepared as we can be for the possibility, perhaps likelihood, of these outcomes. Instead of one business-as-usual plan, we believe it would be prudent for the planning team to include a series of scenarios and action plans for an increasingly uncertain future.

* * *

FIGURES

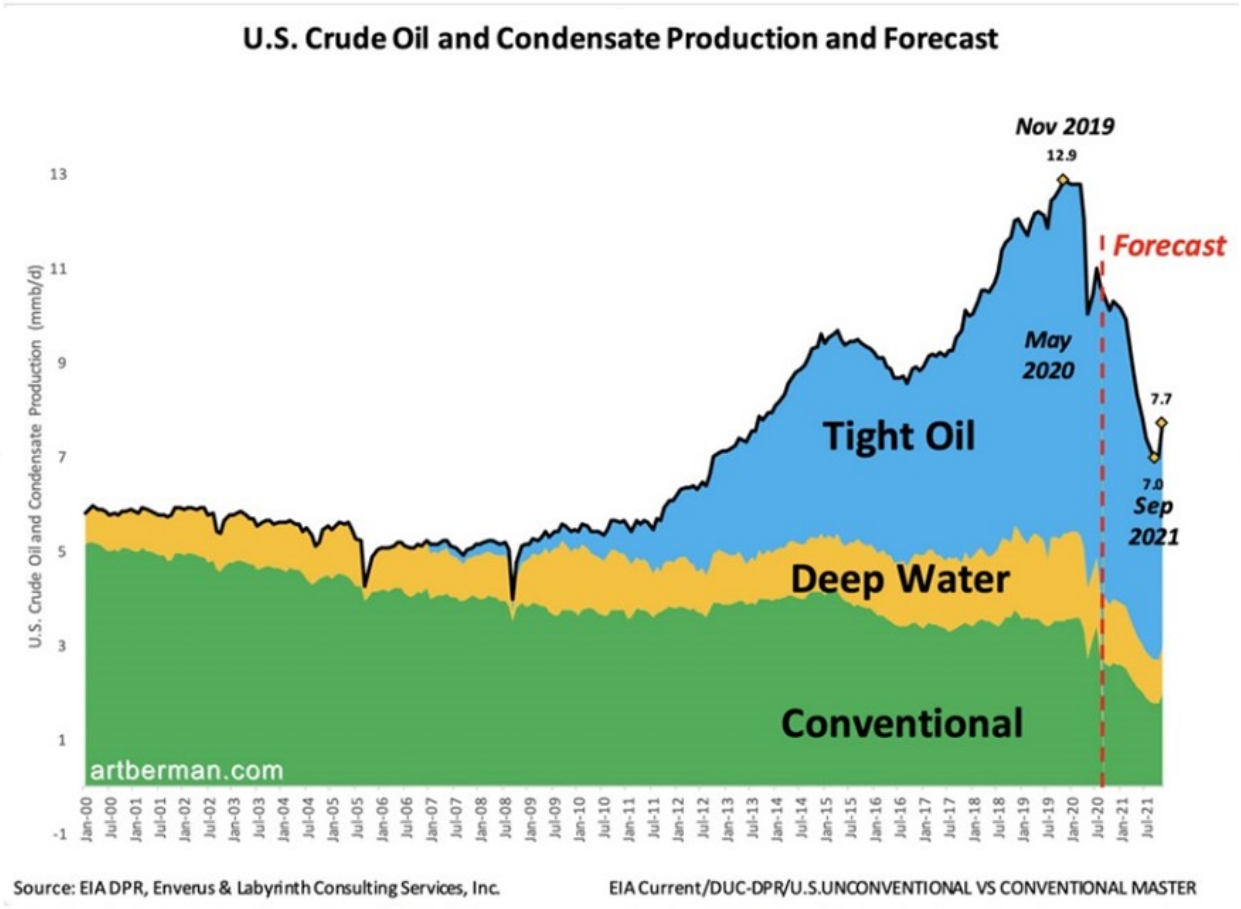
Figures 1 and ***2*** are both of “U.S. Crude Oil and Condensate Production and Forecast.” ***Figure 1*** spans the 120 years from 1901 through 2021, and ***Figure 2*** spans two decades from January 2001 through July 2021. Both show that absent the exploitation of “tight oil” (largely sourced from fracked shale formations), U.S. oil production would have been in steady decline since 1970. The ramp up in production of tight oil beginning in 2008 gave the U.S. a reprieve and enabled us to reduce the amount of imported oil (although we never came anywhere close to becoming energy independent, despite some misleading headlines to the contrary). That reprieve will soon come to an end, exacerbated in part by the impact of COVID-19 on the economy, which has affected investment in the fracked oil plays. Even before COVID-19, those plays were already becoming uneconomic to produce.

Figure 3, “Estimated Maryland Energy Consumption in 2018,” shows 1) how heavily dependent Maryland’s economy is on fossil fuels and 2) despite many decades of construction of renewable energy infrastructure, relatively little energy is contributed by solar and wind. Thus, the gap between where we are and where we would like to be is quite large. This gap is not realistically going to be closed before the effect of the decline in oil, and the required material resources to create the new infrastructure, comes into play.



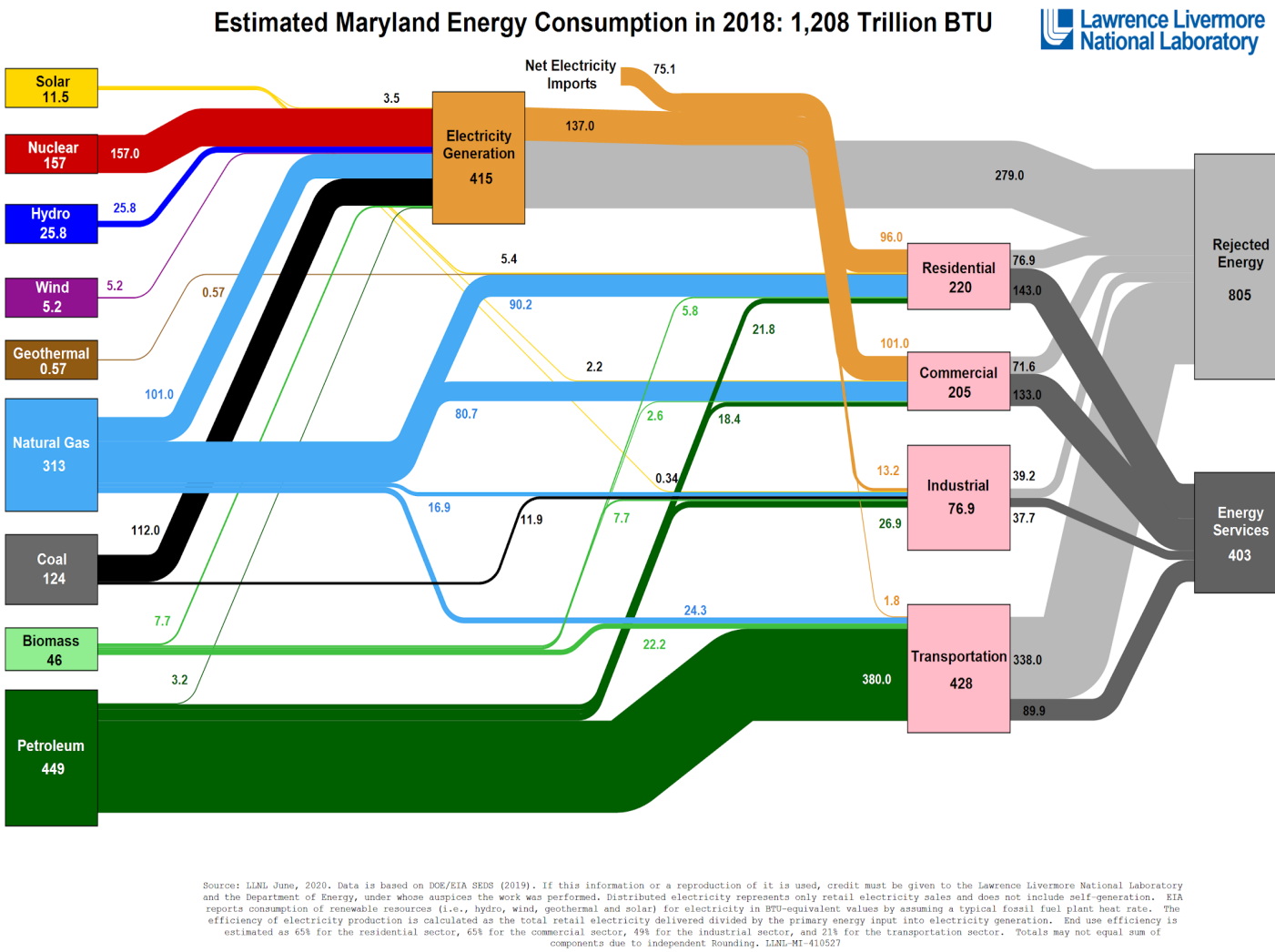
Source: https://www.energyandourfuture.org/2020/11/02/no-matter-who-wins/

***Figure 1*. U.S. Crude Oil and Condensate Production and Forecast - Crude Oil Production Annual and Forecast (1901 - 2021)**



Source: https://www.energyandourfuture.org/2020/11/02/no-matter-who-wins/

***Figure 2*. U.S. Crude Oil and Condensate Production and Forecast - U.S. Unconventional vs. Conventional (2001 - 2021)**



Source:
https://flowcharts.llnl.gov/content/assets/images/charts/Energy/Energy_2018_United-States_MD.png

Figure 3. **Estimated Maryland Energy Consumption in 2018**

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OTHER RECOMMENDED RESOURCES

ORGANIZATIONS & BLOGS

Center for the Advancement of the Steady State Economy (CASSE)
https://steadystate.org/

Collapse of Industrial Civilization
https://collapseofindustrialcivilization.com/

Four Urgent Global Crises
https://www.porchlightbooks.com/blog/changethis/2020/four-urgent-global-crises

Institute for the Study of Energy and Our Future
https://www.energyandourfuture.org/

Our Finite World - Gail Tverberg
https://ourfiniteworld.com/

Peak Prosperity - Crash Course - by Chris Martenson and Adam Taggart
https://www.peakprosperity.com/crashcourse/

Peak Prosperity - What Should I Do?
https://www.peakprosperity.com/video/crash-course-chapter-26-what-should-i-do/

Post Carbon Institute
https://www.postcarbon.org/

Post Carbon Institute's Home Study Course on Community Resilience
https://www.postcarbon.org/program/resilience/

Resilience Hubs - Urban Sustainability Directors Network
https://www.usdn.org/resilience-hubs.html

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Systemic Economic Response Initiative by the Millennium Alliance for Humanity and the Biosphere (MAHB) at Stanford University
https://mahb.stanford.edu/library-item/systemic-economic-response-initiative/

LOCAL FOOD SELF-RELIANCE

Chesapeake Foodshed Network
http://www.chesapeakefoodshed.net/

Future Harvest - Chesapeake Alliance for Sustainable Agriculture (CASA)
https://www.futureharvestcasa.org/

Montgomery County Food Council
https://mocofoodcouncil.org/

IPCC & CLIMATE-RELATED RESOURCES

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Climate 21 Project, https://climate21.org/. The Climate 21 Project taps the expertise of more than 150 experts with high-level government experience, including nine former cabinet appointees, to deliver actionable advice for a rapid-start, whole-of-government climate response coordinated by the White House and accountable to the President.

‘Collapse of Civilisation is the Most Likely Outcome’: Top Climate Scientists.
https://www.resilience.org/stories/2020-06-08/collapse-of-civilisation-is-the-most-likely-outcome-top-climate-scientists/

The great unravelling: 'I never thought I’d live to see the horror of planetary collapse' | Climate change | The Guardian
https://www.theguardian.com/australia-news/2020/oct/15/the-great-unravelling-i-never-thought-id-live-to-see-the-horror-of-planetary-collapse

Beautiful Yet Unnerving Photos of the Arctic Getting Greener, 2020-11-30 Wired.
https://www.wired.com/story/beautiful-yet-unnerving-photos-of-the-arctic-getting-greener/

OTHER RESOURCES

Tour of the Human Predicament and What To Do About It. Stanford Knowledge Integration Laboratory. http://www.skil.org//position_papers_folder/TourlectureSKILconcepts.html

Unwinding the Human Predicament. Stanford Knowledge Integration Laboratory. http://www.skil.org/position_papers_folder/PlanForUnwindingThePredicament.html

UnDenial, https://un-denial.com/about/. A blog about human overshoot, attempting to integrate evolution, behavior, thermodynamics, ecology, history, and economics into an understanding of what is going on and what might be ahead.

# # #

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RE: U.S. Green Building Council support for a Building Energy Performance Standard (BEPS) (Bill 16-21)

On behalf of the U.S. Green Building Council (USGBC), and our strong community in Montgomery County Maryland, we are pleased to provide our support for a BEPS in Montgomery County (Bill 16-21). We thank the County for their leadership in addressing the built environment's role within the County's broader efforts to reduce greenhouse gas (GHG) emissions and applaud Montgomery County's continued work towards meeting its ambitious climate and energy goals.

Building performance standards are a promising approach aiming to achieve a highly effective, long-term, technology-neutral method to improve building performance. The results from BEPS offer numerous benefits for building owners, operators, users, and the surrounding environment. Especially of note, when buildings are required to meet defined levels of performance, the County has increased certainty of progress towards its goals and the market can plan to meet the increased retrofit demand.

USGBC is eager to leverage our quarter century of experience leading the design, construction and maintenance of high-performing, sustainable buildings, communities and cities to assist Montgomery County with their commitment to achieve net zero carbon emissions by 2030 and in implementing a successful BEPS. LEED provides a valuable and complementary tool for building owners and operators to achieve sustainable and low-carbon buildings. We are available to provide additional technical resources and we welcome the opportunity to provide more information about the industry-leading tool LEED, as well as LEED Zero.

Please do not hesitate to contact me if you have any questions or wish to discuss these issues further.

Sincerely,

Jennifer Gunby

Jennifer Gunby, PE, LEED AP
State and Local Advocacy Manager
U.S. Green Building Council

Enclosure:
LEED and Building Performance Standards: Working Together to Support Sustainable and Low-Carbon Buildings

USGBC and LEED in Maryland:
USGBC is a nonprofit organization dedicated to transforming the way buildings and communities are designed, built, and operated, enabling an environmentally and socially responsible, healthy, and prosperous world. Our flagship green building system, LEED, already has been embraced in Montgomery County by property owners, developers, business owners, and building professionals.

LEED takes a comprehensive approach to buildings, considering objectives such as energy and water efficiency and indoor environmental quality, as well as resource efficiency. LEED projects must meet a set of rigorous criteria in a flexible system of prerequisites and optional credits that, when combined, set building projects on the path to excellence in sustainability and support resilience. And that has led to LEED becoming the most widely used green building program in the world.

LEED and Building Performance Standards: Working Together to Support Sustainable and Low-Carbon Buildings

Cities and states are taking the lead in climate action by making ambitious pledges to reduce greenhouse gas emissions (GHGs) and to reduce overall energy demand. Before the U.S. rejoined the Paris climate agreement in 2021, hundreds of mayors signed pledges to reduce their cities' emissions to meet Paris-level standards.[1] States also took bold steps to reduce causes of climate change, including joining the U.S. Climate Alliance to commit to meeting the terms of the agreement at the state level.[2]

To meet these goals, jurisdictions must accelerate carbon reductions from building operations. Buildings are a significant consumer of energy, including on-site fuels and drawing electricity from power grids. They and their construction together account for 28% of energy consumption and 34% of energy-related carbon dioxide emissions each year in the United States.[3] Energy consumption by and carbon emissions from buildings are leading contributors to climate change - but much of this could avoided through enhanced performance.

With enhanced performance comes reductions in fossil fuel consumption and their associated carbon emissions. Many cities and states are taking action to achieve this by increasing the stringency of building codes and implementing efficiency and solar-ready requirements for new construction.

These steps are important, so that we "get it right" with new buildings, but in many places across the U.S., the volume of new buildings constructed each year is minimal compared to a jurisdiction's total building stock. Thus, improvements must be made to the overall performance of existing buildings to enact

[1] *Member Cities*, Climate Mayors.

[2] *Report: U.S. States with Climate Commitments Off Track to Reach Science-based Emissions Goals*, Environmental Defense Fund.

[3] *2020 Global Status Report for Buildings and Construction*, Global Alliance for Buildings and Construction and UN Environment Programme.

transformational reduction in GHGs and reduce impact on the climate.

To address existing buildings, more and more jurisdictions are considering and adopting building performance standards, sometimes called “BPS.” When buildings are required to meet defined levels of performance, the jurisdiction has increased certainty of progress towards its goals, and the market can plan to meet the increased retrofit demand. The energy intensity reductions resulting from building performance standards offer numerous benefits for building owners, operators, users, and the surrounding environment, as well, and these co-benefits are important considerations.

Building performance standards are a promising approach aiming to achieve a highly effective, long-term, technology-neutral method to improve building performance. This brief explores the power and potential of performance mandates to make transformational changes in building performance, and the relationship between green buildings and BPS.

What are Building Performance Standards?

Building performance standards at a minimum encompass three elements:

1) establishing a measurable standard of performance, which may be based on energy intensity, carbon intensity, or other metric;

2) requiring certain buildings to achieve the standard within a set period or deadline, and

3) providing for reporting and compliance.

Some building performance standards include additional elements. For example, some may specify the steps to be taken if a building doesn’t meet minimum performance targets, such as undergoing specific retrofits. Some performance standards including provisions for targets to become more stringent over time, resulting in long-term impact on building performance.

Figure 1: The American Geophysical Union building in Washington, DC underwent a major renovation enabling it to reach high levels of performance. The project achieved net zero energy status using LEED as a guide and tool.

How does ENERGY STAR Portfolio Manager support BPS?

The ENERGY STAR Portfolio Manager system, developed and supported by the U.S. Environmental Protection Agency (EPA), enables building owners and operators to measure and then benchmark their building portfolio’s energy usage online. Around 25% of commercial building space in the U.S. is already actively using ENERGY STAR Portfolio Manager to benchmark their energy usage.

Figure 2: Entegrity headquarters in Little Rock, Arkansas was the first LEED Zero building in the United States.

Accordingly, all of the state and local building BPS utilize ENERGY STAR Portfolio Manager for reporting. In a few cases such as in

Washington, DC, the BPS uses the ENERGY STAR Score as the key performance metric.[4]

What are some of the ways BPS vary?

Standards. While building performance policies can target carbon emissions and water use, they most often specify energy consumption using an energy intensity metric.

Scope. Building performance policies are most frequently mandated for state-owned facilities, in leadership policies. Increasingly, states and cities are adopting a performance standard for private sector commercial buildings as well, to impact the building footprint across their jurisdiction. BPS most commonly include covered buildings that are 50,000 square feet or larger, and require smaller buildings, ranging from 5,000 to 10,000 square feet to comply over time.[5]

How do Building Performance Standards Affect Building Owners?

Performance standards trigger under-performing buildings to implement energy-saving or carbon-saving measures over time, thereby reducing energy consumption and/or carbon emissions, where the reduced operating costs provide payback to the owner. Owners usually have flexibility in determining what upgrades to make in order to meet the standard. By having a degree of flexibility, owners can better meet the standard, while government entities can avoid political backlash as well as a large number of unnecessary exemptions.[6]

Why are Performance Mandates Important?

Building performance standards represent a step up from incremental policies like lighting upgrades and building tune-ups, which are beneficial yet not tied to a specific ongoing performance outcome. By mandating certain performance by buildings, cities and states can ensure that building portfolios are demonstrating long-term efficiency success.[7]

By implementing minimum performance standards, states and municipalities can ensure that buildings in their jurisdiction will not only improve but will reach specific targeted levels of energy efficiency or carbon emissions.

Community-Scale Benefits

By implementing minimum standards of building performance, cities and states can experience various benefits beyond energy savings. Reduced on-site fossil fuel combustion, for example, can improve localized air quality and indoor air quality, which can alleviate adverse health impacts and environmental outcomes.

A buildings performance standard can also support the local economy, by creating opportunities for the expansion of energy efficiency and clean energy sectors, and local job creation. Additionally, improved performance can support energy cost savings, increased

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[4] *Building Energy Performance Standards (BEPS)*, Department of Energy and Environment, Washington, DC.

[5] *Implementing Building Performance Standards: Consistency is Key*, New Buildings Institute.

[6] *Raising the Standard: Building Performance and the Reshaping of City and State Energy Regulation*, David Cohan, Institute for Market Transformation, and Kimberly Cheslak and Jim Edelson, New Buildings Institute, 2020 ACEEE Summer Study on Energy Efficiency, American Council for an Energy-Efficient Economy.

[7] *Building Performance Standards, Institute for Market Transformation.*

building asset values, and enhanced resilience at the building and community levels.[8]

Performance Mandates in Practice

By adopting a BPS policy, cities and states establish their priorities for building performance and their long-term goals. States adopting building performance standards have most frequently done so for state-owned or state-operated facilities. Many states that have started with policies for state buildings have expanded to mandate a performance standard for commercial buildings as well.

Developing and adopting a building performance standard can take several years. Typically, the jurisdiction undertakes extensive analyses to understand the current levels of performance. Models are used to evaluate different targets and scopes, and to estimate potential costs.

Buildings can't become "high-performing" immediately, thus making a BPS a long-term, forward-thinking commitment towards building performance that often achieves incremental targets for efficiency and carbon reductions.[9]

Audit & Retrofit Requirements

A precursor to building performance standards, mandatory audit and retrofit policies have been used in some jurisdictions to make strides in improving performance of public facilities. These policies require the actions, but not a specific outcome performance level. The audit typically identifies cost-effective energy conservation measures, and the retrofit implements some or all of the measures.

These policies are popular because they decrease building energy costs borne by the government entity, and as a result, alleviate taxpayer burden. In some cases, a policy started as an audit requirement, with the retrofit requirement added later. States or cities that mandate audits and retrofits in tandem may be more effective by reducing the possibility for audit recommendations to become "stale" or otherwise not be acted upon.

In a few places, such as Seattle, Washington, audit and retrofit requirements have been issued for private sector buildings as well as public facilities.

Examples of Building Performance Standards

For a map and links to all BPS in the U.S., see the Institute for Market Transformation's (IMT) Building Performance Standards Map for a summary of U.S. jurisdictions that have passed BPS. Below, we provide representative examples of BPS in practice in the U.S. Note this is not an exhaustive list of BPS.

Washington, DC (2018)

Washington, DC's Building Energy Performance Standards policy includes mandates for both privately-owned and DC-owned buildings. The standard uses EPA's ENERGY STAR as its performance metric, requiring that buildings receive an ENERGY STAR score, or an equivalent metric. For buildings eligible to receive an ENERGY STAR score, the building energy performance standard in DC is no lower than DC's median ENERGY STAR score for buildings of each property type. For buildings not eligible to receive an ENERGY STAR score, they must still benchmark and report their data to the Department of Energy and Environment (DOEE) via the Portfolio Manager platform. DOEE is to issue new performance standards every six years.

[8] *Benchmarking and Building Performance Standards Policy Toolkit*, Energy Resources for State and Local Governments, U.S. Environmental Protection Agency.

[9] *Building Performance Standards: A Power New Tool in the Fight Against Climate Change*, Institute for Market Transformation.

How do Building Performance Standards relate to LEED and Green Building?

For over 20 years, the Leadership in Energy and Environmental Design (LEED) green building rating system has been pushing the top tier of buildings towards better performance. LEED began as a tool for market transformation – and just as the private sector embraced LEED, so did government agencies. Federal, state, and local governments were attracted to LEED's systematic approach, the ability to use LEED to convey the agency's sustainability goals to its contractors, as well as internal staff, and the results they saw.

The growth in LEED certifications, even as the system has evolved with increasingly stringent versions, shows that improving the quality and performance of our buildings, including existing and historical buildings, is achievable. In this way, LEED and improved building codes have helped move the industry to a point where increased building performance is expected, and therefore requirements for such performance in the form of building performance standards are more likely to be accepted. In fact, we've seen a nexus between jurisdictions' use of green building and the adoption of benchmarking and beyond benchmarking requirements, including establishment and utilization of GHG emission inventories and transparent reporting practices.[1]

In the context of the current suite of building performance standards, LEED provides a valuable and complementary tool for building owners and operators to achieve sustainable and low-carbon buildings.

First, LEED is a proven system for achieving goals, and building teams can apply its integrated process and best practice strategies to enable meeting a BPS requirement. Project teams can rely upon the mature support systems, extensive resources and education, system updates reflecting emerging practices, use of performance measures, and market feedback.

Secondly, LEED provides added value beyond the energy or carbon intensity reduction that is the sole focus of the building performance standards. For owners with interest in more holistic sustainability – for example, considering beneficial outcomes for habitat and water quality – or in ensuring a healthy indoor environment for occupants, LEED is a valuable companion to any upgrades being undertaken to meet a building performance standard. Moreover, these "other" outcomes often come with their own carbon emissions reductions as well. In fact, according to a 2014 University of California-Berkeley study, buildings built to LEED standards contributed 50% fewer GHGs than conventionally built buildings due to water consumption, 48% fewer GHGs due to solid waste and 5% fewer GHGs due to transportation.[1] Such GHGs are not accounted for in the building performance standards currently in place.

In terms of a direct connection between LEED and building performance to a particular standard, while there is no shortcut or substitute for the actual standard, it is important to keep in mind that levels matter. Data have demonstrated that LEED buildings at the higher tiers of certification have lower energy and carbon intensity.[1]

LEED can be used to reach the highest level of building performance – net zero energy and carbon Jurisdictions considering new or revised building performance standards in the future might consider ways to incorporate LEED, recognizing its additional carbon reductions as well as other valued outcomes such as healthy indoor environmental quality requirements. Potentially, a jurisdiction could provide an incentive to achieve LEED for Existing Buildings certification along with achieving the specific building performance standard metric. Incentives could be related to a longer timeframe for compliance, financial incentive, or others.

New York City (2019)

New York City's Buildings Mandate (Local Law 97) was passed as part of the NYC Climate Mobilization Act in 2019. The mandate requires that commercial and multifamily residential buildings over 25,000 square feet to reduce their emissions, including those associated with grid power usage, by 40% by 2030 and by 80% by 2050. Buildings account for 71% of NYC greenhouse gas emissions, and the large existing buildings impacted by this law alone account for about 30% of citywide emissions.

Building owners face fines of $268 per ton of emissions above their designated cap beginning in 2024. Fines could reach as high as $5 million annually for individual buildings. Building owners can avoid fines and stay under their emissions caps by investing in energy efficiency and clean energy.

The law included a provision authorizing the establishment of property-assessed clean energy (PACE) financing in New York City. Building owners may use PACE financing to finance the upfront costs of installation of energy-saving equipment or onsite renewable energy. Loans are paid back over the life of the equipment, usually 20 years or more.

Washington State (2019)

Washington's Clean Buildings Bill was signed into law in 2019. The law required the Department of Commerce to develop and implement an energy performance standard for commercial buildings greater than 50,000 square feet, and to provide incentives to encourage energy efficiency improvements. Industrial and agricultural buildings are exempt from the standard. The law directed Commerce to adopt ASHRAE Standard 100-2018 as a base, and to establish energy use intensity targets specific to Washington state for different building occupancy types.

In July 2021 the Early Adopter Incentive Program started, and buildings, depending on their size, must start complying with the new standards by June 2026.

Washington's energy performance standard must be updated by 2029 and every five years thereafter. Buildings that fail to meet the targets will be subject to an administrative penalty, but buildings that comply early may be eligible for incentives.

Figure 3: Located in St. Louis, the Mid-Campus Center of Washington University and the Barnes-Jewish Center for Outpatient Health is a 517,000 square foot building in the center of campus. This 12-story office building was certified LEED Gold in 2020. The project is included on the covered buildings list for the city ordinance and has already started reporting energy performance data, showing it is on track to meet the city's Building Energy Performance Standard.

St. Louis, Missouri (2020)

St. Louis, Missouri Mayor Lyda Krewson signed a law in 2020 establishing a mandatory Building Energy Performance Standard in the city. The standard requires large commercial, multi-family, institutional, and municipal buildings (50,000 square feet in size and larger) to reduce energy use in order to meet an energy performance standard by May 2025. The standard is to be reviewed and updated every four years. Performance standards are set by the Building Energy Improvement Board and measured in

the amount of energy used per square foot at the building (site energy use intensity or EUI) and based on building type.

Building owners will be required to comply with standards using ENERGY STAR's Portfolio Manager too. Along with enacting the performance standard, the law created the Office of Building Performance to oversee the implementation, compliance and enforcement of the existing Building Energy Awareness ordinance and any future ordinances related to building energy improvement and performance.

Example of a Building Benchmarking and Tune Up Policy

Not all jurisdictions are ready to enact a performance standard, and as noted above, having a benchmarking policy is an important first step to understand the energy intensity of local buildings on which to establish performance standards. Below is an example of a recent policy that combines benchmarking with a requirement for periodic audit and/or prescriptive measures.

Chula Vista, California (2021)

The city of Chula Vista adopted its Building Energy Savings Ordinance in 2021 to support its 2017 Climate Action Plan. Buildings measuring 20,000 square feet or larger are required to comply with the regulations, which include annual benchmarking reporting using ENERGY STAR Portfolio Manager and conservation measures. All properties over 20,000 square feet must complete certain conservation measures every five years. The ordinance also requires buildings to "measurably improve" their performance over each five-year period or undertake an audit, and it requires prescriptive updates for buildings that have not improved in two five-year increments.

Resources

American Council for an Energy-Efficient Economy (ACEEE)

- Mandatory Building Performance Standards: A Key Policy for Achieving Climate Goals (2020)

Institute for Market Transformation (IMT)

- Building Performance Standards Are a Powerful New Tool in the Fight Against Climate Change (2020)
- Comparison of U.S. Building Performance Standards (2021)

New Buildings Institute (NBI)

- Implementing Building Performance Standards is Key (2020)

Northeast Energy Efficiency Partnerships (NEEP)

- Building Energy Performance Standards Policy Considerations (2020)

U.S. Environmental Protection Agency (EPA)

- Benchmarking and Building Performance Standards Policy Toolkit (2021)
- Building Performance Standards: Overview for State and Local Decision Makers (2021)

2021 L Street, NW | Second Floor
Washington, DC 20036
InSiteIntelligence.com

Date: July 15, 2021

To: Montgomery County Council

From: Justin Lee, PE, CEM, LEED AP

Re: InSite, LLC's support of Bill 16-21, Environmental Sustainability – Building Energy Use Benchmarking and Performance Standards

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Thank you for the opportunity to allow InSite to voice our support of Montgomery County Council Bill 16-21, Environmental Sustainability – Building Energy Use Benchmarking and Performance Standards. InSite provides business intelligence, analytics and professional managed services to building operators and managers focused on leveraging data from their buildings to reduce energy consumption by optimizing building systems and enhancing operational efficiencies. InSite is currently providing these services for a number of commercial office, healthcare, government and retail buildings located in Montgomery County.

By establishing a minimum threshold for energy performance for existing buildings, Building Energy Performance Standards (BEPS) are an important tool for local authorities to meet their Greenhouse Gas (GHG) reduction and carbon neutrality goals. Montgomery County has committed to be carbon neutral by 2035[1], and establishing a BEPS program will be key to meeting this goal.

Fortunately for building Owners and Operators there is enormous untapped potential for operational efficiencies with little to no capital expenditure by harvesting and analyzing the data from their buildings, and with the proliferation of the Building Internet of Things (BIoT) much of the data needed to perform these analyses already exists today in their buildings. Given the rapidly declining costs of sensing and networking technology, these types of projects see substantial returns on vendor fees.

Projects across verticals focused on harnessing existing building data to drive operational improvements typically see an annual Return on Investment (ROI) of 2x-4x of service fees by delivering the following results:

- 10-20% reduction in energy consumption and spend
- 5-10% improvement in maintenance efficiencies
- Minimum 10% improvement in equipment lifecycle

As data visibility increases, the ability of building operators to shift from reactive to preventative maintenance also increases. This leads to reduced equipment downtime, reduction in tenant hot/cold calls and faster determination of the root cause of issues causing occupant discomfort. This leads to significant improvement in tenant satisfaction, which leads to increased tenant retention and marketability of leasable spaces.

Enhanced visibility and analytics of building data also leads to more informed decision-making capabilities. For instance, data analyzed from a buildings' Building Automation System (BAS) can be used to inform the building's 5-year capital expenditure plan by prioritizing projects that lead to the greatest ROI and are eligible for utility rebate programs.

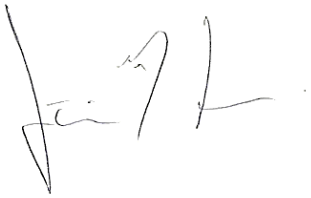
Utilities have also recognized the impact of these types of projects and provide substantial rebates and incentives to help offset vendor fees to collect and analyze building data and implement operational changes to drive down energy consumption. The energy utility companies servicing Montgomery County have several incentive programs available, such as Pepco's Building-Tune Up and Monitoring Based Commissioning rebate programs[2] and the EmPOWER Maryland programs[3].

InSite has successfully obtained rebates via these programs for numerous building Owners in different building verticals. In one recent example, InSite obtained a rebate of over $50,000 on behalf of the Owner of a prominent commercial office building in Bethesda, Maryland – the magnitude of this rebate more than covered the initial installation of the analytics platform and hardware, as well as covered a substantial portion of the ongoing service fees. This rebate is in addition to the substantial benefits the owner is set to receive as previously detailed.

Approving this bill will further enhance Montgomery County's reputation as a national leader in sustainability, provide a path to achieve community-wide carbon neutrality by 2035 and provide building Owners and Operators significant benefits to their bottom line by reducing energy spend, improving maintenance efficiency and increasing Net Asset Value of their buildings.

Please do not hesitate to reach out to me directly with any questions or feedback.

Respectfully,



Justin M. Lee, PE

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1. https://www.montgomerycountymd.gov/COUNCIL/Resources/Files/res/2017/20171205_18-974.pdf
2. https://homeenergysavings.pepco.com/sites/default/files/public/Pepco_CI_Manual_BT_MBCx.pdf
3. https://energy.maryland.gov/pages/facts/empower.aspx

TAKOMA PARK MOBILIZATION

Environment Committee

To: **Montgomery County Council**
Testimony on: **Building Energy Use Benchmarking & Performance Standards Bill No. 16-21**
Organization: **Takoma Park Mobilization Environment Committee**
Person Submitting: **Diana Younts, co-facilitator**
Position: **Favorable**
Hearing Date: **July 20, 2021**

Dear Council President Hucker and Council Members,

Thank you for allowing our testimony today in support of bill 16-21, Building Energy Use Benchmarking & Performance Standards. The Takoma Park Mobilization Environment Committee and the undersigned organizations are supporters of and advocates for the County's ambitious greenhouse gas reduction goals. Many of our members took part in the climate change technical workgroups convened by County Executive Elrich; hosted the 2019 Climate Emergency Townhall; and at the state level, we have fought for passage of Community Choice Energy, Organics Recycling, Climate Solutions Now, and other legislation that furthers the goals of Montgomery County's Climate Action Plan. We strongly support the proposed Building Energy Use Benchmarking & Performance Standards legislation.

Building Energy Performance Standards Are a Foundational Tool for the County's Climate Action Plan

Buildings constitute 50 percent of Montgomery County's greenhouse gas emissions, and building energy performance standards (BEPS), in conjunction with benchmarking, are a foundational tool for reducing greenhouse gas emissions from buildings. To meet the County's climate goals, greenhouse gas emissions reductions must be obtained from existing buildings. This legislation is recommendation B-3 in the County's Climate Action Plan and because it also provides credit to owners who install onsite solar, it partially accomplishes recommendations E-3 (private solar voltaic systems) and E-4 (public solar voltaic systems).

Jurisdictions around the Country, including Washington, D.C., and the world are increasingly using BEPS to achieve their climate goals. Building energy performance standards are in place for high-energy-use commercial and industrial buildings in Tokyo; rental buildings in Boulder, Colorado, and the United Kingdom; offices in the Netherlands; single family homes

in France; and commercial buildings in Reno, Nevada; New York City; Washington State; and St. Louis. BEPS in Washington, D.C., implemented in January, 2021, covers commercial and multifamily buildings of 10,000 square feet and greater and utilizes a complementary technical hub to provide guidance and assistance to the private sector in complying with BEPS.

According to the ACEEE (American Council for an Energy Efficient Economy), retrofit energy savings through BEPS are commonly around 30 percent, although it should be noted that there is great variability in BEPS requirements and many jurisdictions have not yet fully implemented BEPS. Success in energy savings depend upon

- The percentage of building stock to which they apply
- The stringency of the requirements
- The speed at which they are implemented

For building performance standards to be successful, they must complement other policies and programs, such as building benchmarking (a part of the proposed legislation) and education and technical assistance (which will be achieved through the County partnering with Washington D.C.'s technical hub that was set up in its BEPS program).

The proposed BEPS legislation applies to commercial and multifamily buildings that are 25,000 square feet or larger which constitutes about 85 percent of the floor area of all Montgomery County and multifamily buildings. Thus, while it covers a significant percentage of the building stock, it still leaves unaddressed 70 percent of residential buildings and of course commercial buildings less than 25,000 square feet. Implementation is planned to be phased in, with County-owned and buildings already subject to benchmarking to meet interim performance standards by 2026.

The legislation is a framework and does not as yet propose specific numerical targets. The performance standards will be based on site intensity of energy use (SEIU or "Site Energy Intensity Usage") under control of the owners and occupants and will provide full credit for onsite solar as a deduction from site energy use. When the numerical targets are set, they will be benchmarked from peer groups of buildings and interim targets will be included as BEPS is phased into existence.

One important note is that by using SEIU, BEPS strongly favors one of the principal recommendations in the County's climate action plan -- the electrification of buildings -- because it scores only the efficiency of the building itself. So, for instance, if a building owner converts a 80 percent efficient gas system to a heat pump with an average 200 percent efficiency, that owner would achieve large savings toward the performance goals for the building. The proposed legislation also provides for onsite solar credits, a further boon to the County's climate action plan.

BEPS is also expected to produce many co-benefits: reduced utility and operating costs for building owners and tenants; improved, more resilient, and higher-value building stock in the County; improved human health from better indoor air quality and reduced air pollution; and increased local economic activity and green jobs related to building design, construction, energy efficiency, and other trades related to the building upgrade market.

We also encourage the Council to approve the FY 2022 budget request of $255,643, as indicated in the fiscal note for the bill, in order to provide the necessary funds to ensure the BEPS timeline can be implemented. The $255,643 request includes:

- $75,643 for a Program Manager 1 to "work with multifamily and affordable housing building owners and managers to meet benchmarking and BEPS requirements and be a resource for the sectors;"
- $80,000 for "Database development, support, and maintenance;" and
- $100,000 for "General outreach for materials and mailings, general program support, supplies, and website."

Our Proposal for Strengthening Implementing Regulations

We also strongly urge the Council to strengthen bill 16-21 by ensuring that the implementing regulations include the following:

1. Accelerate the performance target for County-owned buildings so that they can demonstrate how building performance can be achieved.

2. Provide incentives to owners for early adoption of performance standards such as credits toward the next performance cycle.

3. Strengthen the provisions that specifically address the needs of moderate and low-income housing -- *e.g.*, grant funds to owners tied to rent ceilings, tax and other rebates, subsidies, affordable financing options, and rent stabilization and provide funding for those programs in the 2023 and beyond budgets.

4. Provide for representatives of low and moderate income residents of covered buildings to serve on the Building Performance Improvement Board (see paragraphs 334-335).

5. Provide provisions that incentive the County and private entities to give contract preferences to women and minority owned businesses.

For these reasons we urge you to enact bill 16-21.

Sincerely,

The Undersigned Organizations and Individuals:

Takoma Park Mobilization Environment Committee
One Montgomery Green
350 Montgomery County
Climate Law & Policy Project
Cedar Lane Unitarian Universalist Environmental Justice Ministry
Cedar Lane Ecosystems Study Group
Montgomery County Faith Alliance for Climate Solutions
Biodiversity for a Living Climate
Montgomery County Civic Federation
Glen Echo Heights Mobilization
Bailey Loving Condrey

July 15, 2021

County Council
Montgomery County MD
Council Office Building
100 Maryland Avenue, 6th Floor
Rockville, MD 20850

RE: Bill 16-21: Legislation to Create Building Energy Performance Standards

Council Members:

Thank you for this opportunity to provide comments on Bill 16-21 to create Building Performance Standards (BEPS) for Montgomery County. The International Center for Appropriate and Sustainable Technology (ICAST) is a national nonprofit that designs and promotes clean energy programs that meaningfully impact disadvantaged communities. We achieve our mission of providing triple bottom-line, i.e., social, economic, and environmental, benefits to low-income (LI) populations by providing energy efficiency and renewable energy (EERE) retrofits to multifamily affordable housing (MFAH). Our MFAH clean energy solutions reduce utility costs for LI residents and improve the quality of their homes, making them healthy and safer.

ICAST currently manage the multifamily weatherization assistance program for the State of New Mexico and energy efficiency programs for nine utilities in six states, including the whole building deep energy retrofit program for Pepco. As implementer of the Pepco program, we are helping MFAH owners and property managers in DC comply with the District's Building Energy Performance Standards (BEPS), and as implementer of the Ameren-Missouri MFAH EE program, helping owners comply with the St. Louis, MO BEPS.

ICAST **supports** Bill 16-21 and the creation of a BEPS for the County. As an EERE service provider, ICAST is well-acquainted with the limitations and regulations MFAH properties encounter in making energy upgrades to their properties. We encourage the Council to work closely with the affordable housing community in designing and implementing specific provisions of the BEPS to ensure MFAH owners and property managers can comply with and meet its requirements in a timely manner. Additionally, we recommend that MFAH properties are given a guaranteed compliance path which will work for 15 years as the vast majority of MFAH owners and property managers do not have the ability to invest in upgrades every five years and, as necessary, refinancing for energy upgrades often must be done in a manner that meets specific federal and/or state requirements. We believe a BEPS has the capacity to help Montgomery County meet the growing climate change issues facing our communities, and believe – if properly implemented – it can also improve the quality of MFAH for the benefit of LI residents.

Thank you for the opportunity to provide input to and support of the Montgomery County BEPS legislation. Please feel free to contact me should you have any questions or need any clarification about ICAST's comments.

Sincerely,

Ravi Malhotra

Ravi Malhotra
Founder and President

SPECTRUM

9505 Berger RD.
Columbia, MD 21046
(443) 832-4373
Spectrumenergyllc.com

Dear Montgomery County Council,

Thank you for your time. I'd like to speak regarding the Building Energy Performance Standard legislation (Bill 16-21). As the President of Spectrum Energy LLC and a licensed Professional Engineer, I have extensive experience regarding every aspect of Bill 16-21. My company currently supports clients in Washington DC, which are working on compliance with the DOEE BEPS Program in DC.

I'd like to first state that anyone expressing concerns that this program will stymie growth and cause undue cost to building owners and developers, simply aren't realizing the opportunities.

My company has an array of clients located in Montgomery County, which range from building owners, developers, property management companies, architects, engineers and utility providers (PEPCO and Washington Gas). I am extremely successful in Montogomery County due to the programs the council and other entities have developed to assist in executing energy efficient measures.

The Montgomery County BEPS bill will help stimulate development and economic growth in MoCo, while aligning with the counties commitment to Greenhouse Gas (GHG) emission reductions. Please allow me to elabortate on how this will unfold.

Once implemented, BEPS will establish building requirements. All buildings covered by BEPS will be required to benchmark their assets, which will generate jobs within the county. Once buildings obtain benchmarking results, non-compliant builds will reach out to companies to obtain energy audits, which will identify energy conservation measures (ECMs) that will bring the building into compliance. The energy audits will develop another set of technical jobs with higher pay to the county. After the ECMs are identified, building owners will hire contractors to install energy efficiency equipment and/or building automation systems, etc… The additional work generated for contractors (general, mechanical, electrical, etc…) will create new jobs in the trades industry, again bringing higher wage jobs to the county. After improvements are completed, a post round of benchmarking will be conducted to verify compliance, assuring the retention of benchmarking jobs.

This sounds great for those executing the work, but I'm sure building owners and property managers will approach you with major concerns around the cost of these measures. They will tell you this is huge burden on their businesses and could close their doors, please don't believe this argument. I'm sure you're thinking I'm being bold in my statement, so please let me explain.

To start, when building owers invest in upgrades to a property, the asset value of the property increases. Next, investments in energy efficiency result in lower annual utility costs and new equipment required less maintenance, which reduces a buildings annual operating costs. Buildings are typically rated on a value called CAP Rate. The higher the CAP Rate, the more attractive the asset is to a potential investor when considering selling. When an assests value increases and operating cost decrease, the CAP Rate increases. In addition, a newly upgraded building is in a better position to increase rents.

Let's continue to peel this onion! Montgomery County Maryland is positioned better than any other county in the county to execute the BEPS program, due to the current energy efficiency programs: Utility Incentives, Maryland state programs, MoCo Green Loans, Local Tax Programs and Federal Tax Programs. Washington Gas and PEPCO provide utility incentives for nearly any energy efficiency measure, I would know, because my company processes the most applications for both utilities. Montgomery County GreenBank offers several loans for energy efficiency

SPECTRUM

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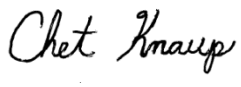
measures, which are designed to provide 100% funding for upgrades with attractive payment term periods (12-25 yrs). Federal programs are available which enable accelerated or bonus deprecation, enabling owners to write down costs and reduce federal tax burden faster than typical. The opportunities in MoCo are so good, I ask building owners why would they want to wait!

Lastly, I'd like to touch base on fines for non-compliance. I am aware of the challenge ahead to assign and execute fines to non-compliant building owners, which is why I recommend elevating this issue to the state level to make the required changes. Currently, the Washington DC BEPS program fines roughly $10/GSF of building, which I feel is a good starting point. A large enough fine in important to persuade compliance, rather than enable a small payoff for non-compliance.

I would recommend however, that all fines be retained in the BEPS program to assist other building owners who desire to be in compliance. This provides a Carrot and Stick approach, which I feel is fair and balanced.

Thank you again for your time and consideration! If you would like to discuss this further, please reach out to me.

Sincerely,



Chet Knaup, PE, LEED AP BD+C, BEMP

President

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Testimony in support of Bill 16-21 - Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards – Amendments

Submitted by:
Todd Nedwick
Senior Director of Sustainability Policy
National Housing Trust
July 20, 2021

Dear Montgomery County Council:

National Housing Trust (NHT) is a non-profit that creates and preserves affordable homes to provide opportunity, advance racial equity, reduce economic disparities, and strengthen community resilience through practice and policy. NHT has been deeply engaged in the Building Energy Performance Standard (BEPS) policymaking process in Washington, D.C., including as a representative of affordable housing owners on the D.C. Building Energy Performance Standards Task Force.

NHT supports the adoption of BEPS by the Montgomery County Council. Improving the energy and water efficiency of multifamily buildings can preserve affordable housing by lowering operating costs, reduce residents' energy bills, and create healthier housing. However, affordable housing owners face several obstacles to improving the energy efficiency of their properties. Obstacles primarily relate to limited access to the funding and capacity required to undertake building upgrades. Therefore, it is essential that easily accessible funding and technical assistance be available to help affordable housing owners comply with the law. In addition, flexibility should be granted to owners of older buildings that may face unique compliance challenges.

As discussed in detail below, we recommend the following improvements to the legislation:

1) Create a funding mechanism to provide financial resources to support under-resourced buildings in complying with the law.
2) Amend the definition of affordable housing to reflect the affordability status of a building.
3) Add a representative from the Montgomery County Department of Housing and Community Affairs (DHCA) to the Building Performance Improvement Board.
4) Amend "18A-42C. Extensions and adjustments" to allow for the consideration of other compliance challenges that may warrant flexibility.

Climate policy must be implemented equitably to alleviate, not contribute to, the economic burdens of under-resourced communities while providing a clean and safe environment. As stated in the Montgomery County Climate Action Plan (CAP), low-income and very low-income households are burdened by the lack of affordable housing in Montgomery County— with demand outgrowing supply.[1] The majority of low-income households

[1] Montgomery County Climate Action Plan, pg. 23

in Montgomery County live in multifamily homes (55%).[2] The CAP further states that "if landlords are required by law to make costly energy efficiency retrofits and/or electrification conversions, this could adversely impact the availability or price of affordable housing and costs could be passed on to renters."[3]

We appreciate the extensive stakeholder feedback process coordinated by the Department of Environmental Protection (DEP) and support the proposed policy model that resulted from that process. Montgomery County's approach of setting a long-term performance standard with five-year interim performance targets provides certainty so owners can plan for the long term and make comprehensive building improvements at the most favorable times. Long-term planning is crucial for affordable housing. Affordable housing owners can more easily finance energy efficiency upgrades when refinancing their debt and can fold in the cost of energy efficiency improvements into new first mortgages.

Recommended Improvements to the Legislation

While we are supportive of the overall goals and approach of the legislation, we urge the County Council to adopt the following recommendations to improve the legislation.

1) **Create a funding mechanism to provide financial resources to support under-resourced buildings in complying with the law.**

   As stated in the Stakeholder Recommendation Report compiled by DEP, building performance policies adopted in other jurisdictions tend to come with additional resources, programs, and/or funding to assist building owners in meeting the increased requirements.[4] For example, legislation enacted or proposed to establish a building performance standard in Washington, D.C., Washington State, Colorado, and Boston[5] created programs to support building owners, as described below.

   - **Washington, D.C.** The Clean Energy Omnibus Amendment Act of 2018 that enacted the D.C. BEPS policy required *at least* $3 million to be appropriated annually to assist affordable housing providers for energy efficiency in buildings subject to BEPS.[6] The Mayor's proposed FY'22 budget far exceeds the $3 million appropriations. The budget invests $26.5 million from the city's allocation of federal American Rescue Plan Act funding to support owners of under-resourced buildings comply with BEPS.[7]

   - **Washington State.** The Clean Buildings Bill required the Department of Commerce to establish a state energy performance standard early adoption incentive program with a budget of $75 million to assist eligible building owners in achieving compliance with the state's building performance standard.[8]

[2] Ibid
[3] Ibid, pg. 26
[4] Stakeholder Recommendation Report, Building Energy Performance Standards in Montgomery County, MD. Compiled by Montgomery County's Department of Environmental Protection September 2020
[5] Enabling legislation in Boston has not yet been enacted.
[6] Clean Energy Omnibus Amendment Act of 2018 at https://doee.dc.gov/service/clean-energy-dc-act
[7] Mayor Muriel Bowser's FY 2021 - FY 2025 Federal Recovery Budget
[8] Engrossed Third Substitute House Bill 1257 at http://www.commerce.wa.gov/wp-content/uploads/2019/06/HB1257.pdf

- **Colorado.** Legislation establishing the state's building performance standard created the Climate Change Mitigation and Adaptation Fund to assist building owners in complying with the building performance standards by providing outreach, training, technical assistance, and grants to building owners.[9]

- **Boston.** Draft legislation to enact the city's building performance standard includes creating the Equitable Emissions Investment Fund to improve low-income affordable housing and housing where tenants are at risk of displacement and in need of rent stabilization, among other purposes.[10]

Funding support for affordable housing owners is important for several reasons. Building owners have limited access to upfront capital. Subsidized affordable housing operates on tight margins. Properties underwritten to serve very low-income households may not generate sufficient net income to cover unexpected costs. While both Section 8 and Low-Income Housing Tax Credit properties are required to fund replacement reserves to cover the cost of expected repairs and upgrades, the amount of reserves is often insufficient to fund needed improvements fully. Also, building owners often need to request permission from HUD or investors to access their reserves. Access to debt to finance efficiency upgrades is often unavailable to affordable housing owners mid-financing cycle.

For these reasons, affordable housing owners will likely require financial support in the form of grants to pay for building upgrades to meet interim performance targets. Therefore, Montgomery County should take a similar approach to the jurisdictions mentioned above and create a funding mechanism to provide financial support to affordable housing owners. Doing so would send an important signal to the housing community that BEPS will be implemented equitably in keeping with the county's Climate Action Plan principles.

2) <u>Amend the definition of affordable housing to reflect the affordability status of a building.</u>

The legislation gives the Director of DEP and the Building Performance Improvement Board authority to modify the performance targets and grant extensions to affordable housing owners. Such decisions should be made for the entire building, not individual dwelling units. However, the legislation defines "affordable housing" as "a ***<u>dwelling unit</u>*** whose sale or rental price does not exceed that of a moderately-priced dwelling unit under Chapter 25A or group senior assisted housing [emphasis added]." A strict interpretation of this definition would suggest that only buildings where 100 percent of dwelling units meet the affordability level would be eligible for performance target modifications or exemptions. In reality, there are likely many buildings that are less than 100 percent affordable that may need flexibility due to financial or other constraints.

The legislation should be amended as follows:

[9] Colorado General Assembly House Bill 21-1286 at https://leg.colorado.gov/sites/default/files/documents/2021A/bills/2021a_1286_enr.pdf

[10] Ordinance Amending the City of Boston Code, Ordinances, Chapter VII Sections 7-2.1 and 7-2.2, Building Energy Reporting and Disclosure

"Affordable housing" means a multifamily building that includes more than fifty percent of dwelling units whose sale or rental price do not exceed that of a moderately-priced dwelling unit under Chapter 25A or group senior assisted housing."

This is similar to the definition of affordable housing incorporated in the BEPS legislation adopted in St. Louis and Washington, D.C..[11]

3) **Add a representative from the Montgomery County Department of Housing and Community Affairs (DHCA) to the Building Performance Improvement Board.**

The legislation establishes a Building Performance Improvement Board to advise DEP on the implementation of building energy performance standards. The legislation specifies that designees of the DEP, Department of General Services, and Department of Permitting Services are ex officio nonvoting members of the Board. In addition, a designee from DHCA should also be included as a nonvoting member. Including DHCA will help ensure that the county's housing programs are aligned with the goals of BEPS. The BEPS Task Force in D.C. includes a representative from the Department of Housing and Community Development. Their presence has helped the Task Force understand the financial and technical challenges of compliance in affordable housing and how they city's housing programs can be used to support compliance.

4) **Amend "18A-42C. Extensions and adjustments" to allow for the consideration of other compliance challenges that may warrant flexibility.**

The legislation specifies four conditions under which an extension or modification to an interim or final performance target shall be considered: planned demolition, financial distress, exemption from real property taxes, and economic infeasibility. However, there are other conditions that could warrant an extension or modification. These may include historic building designations, affordable housing refinancing timelines, and technological challenges due to the age and condition of the property. Section 18A-42C should be amended by adding "or other acceptable conditions as determined by the Director by regulation."

Thank you for considering these recommendations to improve Bill 16-21**.** If you have any questions about this testimony, please contact Todd Nedwick, Senior Director of Sustainability Policy, at tnedwick@nhtinc.org or 202-333-8931 ext. 128.

[11] The City of St. Louis BEPS ordinances defines affordable housing as "a building in which a ***majority of the households*** in the building make less than eighty percent of the Area Median Income for the City of St. Louis."

The Washington, D.C. legislation defines affordable housing as "buildings that are primarily residential, contain 5 or more dwelling units, and: (1) In which use restrictions or other covenants require that ***at least 50% of all of the building's dwelling units*** are occupied by households that have household incomes of less than or equal to 80% of the area median income; or (2) The building owner can demonstrate that ***at least 50% of the dwelling units*** rent at levels that are affordable to households with incomes less than or equal to 80% of the area median income." [Emphasis added]

July 15, 2021

Montgomery County Council
100 Maryland Avenue, 6th Floor
Rockville, MD 20850

Re: Support for Bill 16-21, Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards

Dear Montgomery County Council,

West Arlington Analytics (WAA) is pleased to provide the following comments in support of Bill 16-21. WAA is an energy finance consultancy and commercial property assessed clean energy (C-PACE) program administrator. Since 2015 we've helped customers in the mid-Atlantic region operate energy finance programs and achieve their sustainability goals. I applaud the County's adoption of its Climate Action Plan (CAP) earlier this year, which established aggressive goals to cut greenhouse gas (GHG) emissions 80% by 2027 and 100% by 2035, and am writing today to express strong support for the adoption of Bill 16-21, which expands the number of buildings covered by benchmarking requirements and establishes building energy performance standards (BEPS).

Overview

According to the county's GHG inventory, 26% of county GHG emissions stem from commercial buildings. The CAP includes a list of building-related actions for the County including establishment of the Building Energy Performance Standard (BEPS). The BEPS will require many existing buildings to improve their whole-building energy performance, and saving energy in existing buildings is key to the County achieving its climate commitments.

In the absence of owner-defined sustainability goals or policy such as a BEPS, many property owners are presented with – and often default to investing in – the lowest-cost code-compliant replacement system. They regularly time their investment decisions in response to equipment failure. A BEPS will alter the property owner's approach to investment analysis and timing.

With a BEPS, covered building owners will establish multi-year improvement plans comprising targets for energy performance and timelines for action. Per the BEPS Stakeholder Recommendation Report, "Not only will a BEPS policy in Montgomery County offer long-range expectations for building owners to improve their buildings with guidance and assistance from local government, but it will provide maximum flexibility for owners to choose when and how to improve their buildings, create a tool for the actors in the built environment to collaborate and innovate, encourage financial stability through lower energy bills, and create energy-efficiency jobs at every skill level." [1]

[1] https://www.montgomerycountymd.gov/DEP/Resources/Files/ReportsandPublications/Energy/MC-BEPS-Stakeholder-Report.pdf

How Does a BEPS Economically Impact Covered Building Owners?

The proposed legislation entails establishment of a Building Performance Improvement Board to advise staff on implementation and enforcement. The devil is in the details, but there are multiple compliance pathways envisioned, and a system of county-specific "carrots and sticks" will be developed to promote BEPS compliance.

To the extent these translate to new economic incentives, e.g., "compliance credit" for solar photovoltaic systems or "alternative compliance payments" (ACPs) levied in the event covered buildings fail to reach interim or final performance standards, such incentives would inform a project level cost-benefit analysis. This type of analysis equips property owners with the information needed to determine a course of action - and quantify the cost of insufficient action.

Service providers will be tasked with identifying energy upgrade opportunities and presenting the business case for energy improvements needed in each phase of their customer's multi-year plans. This will often entail consideration of building electrification technologies. Table 8 from the CAP shows how things would have to change in commercial buildings and by what time:

Table 8: How things would have to change and associated CAP actions ***(Buildings)***

How things would have to change by 2027*	How things would have to change by 2035*	Associated CAP Actions
• 85% of residential units with natural gas space and water heating have converted to electric heat pumps • 25% of residential units have installed improved building envelopes • 20% of residential units have installed low-flow water fixtures	• 100% of residential units with natural gas space and water heating have converted to electric heat pumps • 100% of residential units have installed improved building envelopes • 100% of residential units have installed low-flow water fixtures	B-2: Electrification Requirements for Existing Residential Buildings B-4: Electrification Incentives for Existing Buildings
• 75% of commercial buildings with natural gas space and water heating have converted to electric heat pumps • 15% of commercial buildings have installed improved building envelopes • 50% of commercial buildings have installed low-flow water fixtures	• 100% of commercial buildings with natural gas space and water heating have converted to electric heat pumps • 100% of commercial buildings have installed improved building envelopes • 100% of commercial buildings have installed low-flow water fixtures	B-1: Electrification Requirements for Existing Commercial and Public Buildings B-3: Energy Performance Standard for Existing Commercial and Multifamily Buildings B-4: Electrification Incentives for Existing Buildings

The business case for energy projects should include both technical and financial data including the costs, benefits, and payment methods associated with equipment and investment alternatives.

Existing ways to lower the capital cost of improvements include EmPOWER Maryland utility rebates, state and federal grants, and tax credits. Examples of recurring benefits from energy projects include lower operating expenses and revenue generated by the sale of solar renewable energy credit (SRECs).

In addition, BEPS-related economic incentives (e.g., credit for solar PV toward compliance) and disincentives (e.g., ACPs) can be expected to drive an evaluation of high performing energy efficiency

solutions (e.g., heat pumps) and renewables. In the end the magnitude and frequency of such incentives must be sufficient to tilt property owner decision towards investments that align with climate goals.

Covered building owners often explore methods of payment in parallel with project development. BEPS-related disincentives may present a new burden for covered building owners. Fortunately, there are number of financial resources and innovative programs to ease that burden and promote compliance, but not all property owners or service providers are aware they exist. This presents an "education challenge" for the County and area stakeholders.

Traditional payment methods such as self-funding or obtaining a market-rate commercial loan are prevalent. In addition, innovative 3rd party energy financing solutions such as C-PACE, Montgomery County Green Bank products, and power purchase agreements round out the menu of options to choose from in Montgomery County. This ecosystem for capital is a valuable asset to the County, as demand for 3rd party financing solutions will increase with the adoption of a BEPS.

Summary

Given the CAP goals and timeline, I encourage the County to adopt the proposed BEPS policy and immediately commit the resources needed to achieve its policy goals in the specified timeline. The County should continue to rely on input from property owners, service providers, industry experts, and the Montgomery County Green Bank as it settles on an initial BEPS implementation framework. Furthermore, implementation calls for increased market engagement, education on the new standard, and information on financial resources. Of great urgency is a plan to a) help private market actors source project leads in the County (including from among non-covered small buildings that fall outside the size requirements) and b) promote uptake of high performing energy efficiency equipment and renewable energy technologies.

Thank you for the opportunity to provide these comments, and please consider us a partner in working toward a carbon neutral future in Montgomery County.

Sincerely,

Scott Dicke

Principal, West Arlington Analytics

scott@waanalytics.com

West Arlington Analytics
Energy. Sustainability. Finance.

Baumann Consulting

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Your Contact: Jochen Schaefer

File: Letter to Montgomery County re bill 16-21_210709

Montgomery County Council
100 Maryland Avenue, 4th Floor
Rockville, MD 20850

July 15, 2021

Bill 16-21 - Building Energy Use Benchmarking and Performance Standards

Dear Council Members,

I am writing to express our strong support for bill 16-21 - Building Energy Use Benchmarking and Performance Standards.

By establishing a Building Energy Performance Standard for Montgomery County (MC), it puts the County on the leading edge on policies to address climate change. Not only will implementing this measure lead to tangible greenhouse gas (GHG) emission reductions, it will also position the county for economic prosperity by generating demand for local businesses and by attracting forward thinking companies with strong Environmental Social Governance (ESG) criteria in their business plans. In particular, I want to highlight the following aspects:

- Elimination of GHG Emissions by 2035:

  Residential and commercial buildings make up 50% of all GHG emissions in MC, which puts buildings on the critical path to achieving the counties goal of zero GHG emissions by 2035. Besides increased code requirements for energy efficiency for new constructions, existing buildings have to be optimized as well. With a life expectancy of buildings of 50+ years, the majority of buildings that will be in use in 2035 are already built. Setting energy use intensity goals as part of BEPS will lead to lower GHG emissions caused by operating buildings. Furthermore, it reduces the necessary energy generation capacity, which is important with variable energy sources such as solar and wind.

- Economic Growth For Local Businesses

  The District of Columbia has initiated its BEPS this year. It is already generating a range of economic activity and increasing demand for local businesses. Building owners are reaching out to consultants to analyze their portfolios and to develop action plans to maintain or to bring assets into compliance. Furthermore, building owners are taking steps to upgrade their facilities with more efficiency equipment and on site renewables, driving demand for local equipment, installation and service companies.

- Health

  Reducing energy demand and increasing renewable energy sources to clean up the electricity grid lowers emissions, which leads to cleaner air, fewer respiratory health issues and increased quality of life. In addition, buildings with low energy consumption are typically well maintained and operated with increased indoor air quality and thermal comfort.

- Environmental Social Governance

  Led by large corporations such as Amazon and Microsoft, an increasing number of firms have goals for reducing GHG emissions as part of their operations, which includes office and warehouses. Low energy use in buildings as well as availability of public transportation to reduce emissions by commuting of staff, are increasing becoming a part of the decision when selecting locations of businesses operations. Communities that offer conditions that enable low-emissions will increasingly win opportunities for new facilities.

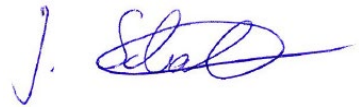
- Financial Burden

  One argument against BEPS are the additional financial expenses for owners to implement energy conservation measures. While no and low cost measures such as lighting upgrades or variable speed drives on pumps or fans are quickly implemented due to their short return on investment (ROI), capital improvement measures are often pushed out until a system fails. Due to the urgency to get the system back up and running they are typically replaced with the same system, missing the opportunity to reduce energy consumption. However, major HVAC systems have a life expectancy of 15-20 years and most of them have to be replaced within or shortly after the 12 year timeline of BEPS anyways. Instead of the in-kind replacements as systems fail, BEPS is encouraging the development of a capital expenditure plan, a road map to reduce energy consumption that can be executed over the next 12 years.

  While not all energy efficiency measures have a short payback time, all of them reduce operating costs. Additionally, incentives from utility companies and financing options such as the Green Bank or PACE are available to reduce the financial impact. It should be noted that should it still be economically infeasible to reasonably meet one or more of the applicable interim or final performance standards, the proposed bill allows to submit a building performance improvement plan to lower energy consumption without leading to an unreasonable financial burden.

As a firm working in the field of sustainability and energy efficiency and based on the beforementioned factors as well as the urgency of implementing measures to reverse the impact of our activities on climate change, I express our strong support for bill 16-21 - Building Energy Use Benchmarking and Performance Standards.

Best Regards,
Baumann Consulting



Jochen Schaefer, SVP

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ARCHDIOCESE OF WASHINGTON

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Montgomery County Council
Public Hearing – July 20, 2021

Bill 16-21, Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards – Amendments

Written Testimony of the Catholic Archdiocese of Washington

The Roman Catholic Archdiocese of Washington (ADW) hereby submits the following comments on Bill 16-21, Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards - Amendments (BEPS).

ADW supports the general intent of reducing energy usage; however, there are concerns that the Council has not taken the steps necessary to fully consider the unique circumstances of houses of worship and private religious schools in our communities.

Despite their substantial stake in the BEPS law, houses of worship and non-public schools were largely not involved in the formulation of the county action plans and have received very little consideration in Bill 16-21. In addition, the proposed Building Performance Improvement Board is deficient in that it fails to include a dedicated seat for these entities.

Finally, it is unclear that the County has the legal authority to pass such a comprehensive bill, including penalties, in light of federal and state preemption.

Therefore, and for the reasons further stated below, ADW submits the following specific testimony:

1) **ADW and its Locations in the County will be Substantially Affected by BEPS.**

In these comments on the BEPS bill, ADW offers both general principles for the Council's consideration and the concerns of a stakeholder. ADW is the institutional component of the Catholic Church in the Washington area, including Montgomery County. ADW also has a considerable stake in the proposed BEPS law as a substantial property owner in the County, as would be expected since ADW is the largest religious, educational and charitable non-profit organization in Montgomery County. ADW includes 36 separately-operated parishes and 31 schools and early learning centers in the County. Many of the students and people that ADW serves in its schools and ministries come from under-served and under-resourced communities in the County.

"In her dialogue with the State and with society, the Church does not have solutions for every particular issue," Pope Francis explains. "Together with the various sectors of society, she supports those programs which best respond to the dignity of each person and the common good. In doing this, she proposes in a clear way the fundamental values of human life and convictions which can then find expression in political activity" (*Evangelii Gaudium*, 241).

ADW and the Catholic Church around the world have answered the call of Pope Francis' 2015 encyclical, *Laudato Si'* ("On Care for Our Common Home"), which calls for "swift and unified *global* action" to combat and end climate change, pollution, environmental degradation, overconsumption, and waste, including reducing the consumption of non-renewable energy and replacing fossil fuels with renewable energy sources. Therefore, as a Catholic institution, ADW supports the goal of reducing the energy consumption of buildings and levels of pollution (*Laudato Si'*, 180).

Laudato Si' also speaks of the need for an "integral ecology," recognizing that everything is interconnected and cautioning that interventions to resolve a problem do not have an adverse effect in other areas (*Id*., 34, 137). Care should be taken then to assess the full *social* environmental impact of any BEPS requirements in addition to the impact on the natural environment, such that the costs do not end up creating inequities or otherwise harming human dignity and quality of life (*Id*., 182-84). For example, disadvantaged persons and the non-profit entities that serve them should not bear a disproportionate burden or costs that for-profit businesses can afford to pay, but they cannot. The Stakeholder Recommendation Report and the Montgomery County Climate Action Plan both recognize these considerations, but a much greater engagement is needed.

Despite limited resources, ADW parishes and schools in the County have done their part to respond to the environmental call to action. The majority of ADW's parishes and schools have elected to power their facilities with 100% renewable energy. In 2019, the Catholic Charities of the ADW constructed and dedicated what is now the largest solar array nearby in Washington, D.C. Further, some ADW parishes and schools with the resources to do so have undertaken stormwater management and energy savings projects at their facilities, such as LED lighting and HVAC refits, with such investments providing the additional financial benefit of reduced energy costs.

ADW not only sees the need, but has been a proactive leader in caring for our common home. However, the parishes and schools within ADW are non-profit entities that depend almost entirely on voluntary contributions for their capital and operating expenditures. Therefore, there are practical limits on what can be done without taking away funds from ADW's primary mission of serving people.

2) Consideration for Religious Stakeholders and Financial Concerns for Religious Nonprofits and Schools.

It does not appear that consideration was given for the unique characteristics of religious non-profits given during the drafting of Bill 16-21. Notably (and without mention in the BEPS bill or attendant data), houses of worship do not use as much energy as office buildings, retail, or residential buildings that consume energy seven days a week, throughout the day and night. When

crafting its similar BEPS program (Local Law 97, codified at NYC Administrative Code § 28-320.1, *et seq*), the New York City government (NYC) researched and published data showing the breakdown of energy use by property type. *See* https://council.nyc.gov/data/green/. NYC found that only storage facilities emit less greenhouse gases than churches, explaining that "these spaces are not occupied most of the time, so don't have the same energy needs as other buildings." NYC's data demonstrates that houses of worship contribute less than 1% of the share of greenhouse gas emissions, as compared to the 84% share produced by residential, business, hospital, institutional and hotel buildings.

NYC's BEPS program exempts houses of worship, and all "real estate owned by any religious corporation" from the standards requirements. Instead, along with rent-controlled housing, houses of worship and other buildings owned by a religious corporation are provided the option of a series of prescriptive measures, and are not subject to financial penalties. *See* NYC Administrative Code §§ 28-320.1 - 28-320.3.[1] NYC's exemption of religious-owned property is important: it respects the unique and reduced energy use of houses of worship, and accommodates the autonomy guaranteed to houses of worship by the Establishment Clause under the First Amendment of the Constitution. Unlike NYC, it does not appear that Montgomery County has published any research regarding the unique energy consumption of houses of worship.[2]

Moreover, we are not aware of the County reaching out to ADW on behalf of its dozens of locations prior to drafting this bill, or regarding the data in the Stakeholder Recommendation Report, published September, 2020, as houses of worship and non-public schools appear to have been overlooked as stakeholders. And the proposed Building Performance Improvement Board members do not include or even mention houses of worship, religious organizations, or non-public schools.

Unfortunately, Bill 16-21 does not include separate consideration of houses of worship and non-public K-12 schools. Thus, there is great concern that houses of worship and non-public K-12 schools will be inappropriately joined together with commercial property. While a Class A penalty may present no problem for a commercial property owner, even that relatively modest penalty would be quite onerous for religious non-profit organizations that devote their resources to serving their communities.

Many non-profit facilities and schools in the County – particularly those that serve minority and underprivileged communities – already face substantial financial challenges, and cannot afford costly upgrades. For example, while ADW's parishes' and schools' land holdings have value, like many non-profit organizations, each has very limited financial resources. These churches and schools use their sparse resources for ministry and for critical service in their communities. Unlike for-profit and government property owners, religious and non-profit property owners cannot rely

[1] The St. Louis BEPS program also provides a separate compliance cycle path for houses of worship and affordable housing buildings.

on tenants or tax revenue to diffuse the cost of upgrades and penalties. Instead, churches and non-profits rely on voluntary contributions from their community.

Regardless of the low share of energy consumption by religious properties, under the bill, houses of worship and schools in the County will be graded against each other for their BEPS, so that at least half will at all times face the onerous cost of building upgrades, compliance, and penalties. Even further, the County's Stakeholder Recommendation Report suggests that the County seek to amend Md. Code Ann. Local Gov't. § 10-202(b)) so that the County could penalize property owners, including religious non-profits, above $1,000. This would not be equitable.

3) Concerns Regarding the County's Legal Authority

Notwithstanding ADW's support for the goal of reducing energy use and carbon emissions, it shares the preliminary questions and concerns of others as to whether the County even has the legal authority to implement building energy performance standards, especially with penalties for noncompliance. However, given the interstate nature of the issues of power generation, purchase, and consumption, and in light of federal and state preemption issues,[3] it is not clear that the County has authority to enact such legislation. Further, it should be clarified whether the County intends to pursue and has the authority to pursue expanded penalties as an enforcement mechanism.

4) The Building Performance Improvement Board Should be Expanded, with Specific Membership for Representatives of Faith-Based Organizations and Non-Public Schools.

It is critical for the success of this program that religious non-profits and non-public schools are represented and included in the formation of the BEPS program. For one thing, faith organizations offer a unique and needed perspective on the stewardship of the world that has been entrusted to humanity. Representing all Catholic churches and schools in the County, the Archdiocese of Washington in particular is a substantial stakeholder; the ADW also shares the goal of ensuring the reduction of greenhouse gases from County buildings. Therefore, the list of the proposed Building Performance Improvement Board members, at 18A-42A(b), should be revised and expanded to 20 seats to expressly include (1) Houses of Worship; and (2) Non-public Schools.

5) Like NYC, Bill 16-21 Should be Revised to Implement Specific Standards for Religious Property Owners.

[3] The Maryland General Assembly has decreed that greenhouse gas emissions reductions reductions should be accomplished "by using practical solutions that are already at the State's disposal," and that regulation of greenhouse gas emissions is most effective when implemented on a national and international level (MD Env. Code § 2-1201). Furthermore, the Maryland Department of the Environment has express jurisdiction over emissions into the air and ambient air quality in the State. MD Env. Code § 2-103(b).

As discussed above, religious property owners present a substantially reduced share of energy consumption and greenhouse gas emission compared to other property types, but at the same time, face financial burdens compared to for-profit building types. They cannot pass on the costs of compliance. They rely on donations. Moreover, religious property owners are owed autonomy guaranteed to houses of worship by the Establishment Clause under the First Amendment of the Constitution, such that any laws that interfere with that autonomy are likely to result in litigation regarding County overreach. Therefore, assuming arguendo the County's legal authority, Bill 16-21 should be revised to provide the following measures for religious non-profits, including nonpublic schools:

1. Provide the choice between performance standards or by meeting a list of established prescriptive measures, and the exemption from penalties applied to other for-profit property types. In addition, we propose the following measures:
    a. Separate definition for "Houses of Worship" - "The real estate owned by any religious corporation and used for a religious purpose."
    b. Resources and Relief for Non-Profit Property Owners:
        i. Non-profit property owners have limited resources to invest in upgrades or for the purpose of reducing energy consumption. Moreover, unlike commercial properties and housing units, non-profit property owners do not have multiple tenants at one facility location over which to spread the costs of compliance or penalties. In order to avoid disproportionate harm to non-profits, the proposed regulations should include relief for non-profit property owners. Alternatively, a new program should be established to provide relief for non-profits.
        ii. A new program should be established that provides resources for religious non-profits, including houses of worship and K-12 schools, to allow them to invest in energy-efficiency projects at their facilities. Such resources may include:
            1. Zero interest loans for energy;
            2. Subsidies for the installation of building energy-efficiency projects (including solar, HVAC, lighting);
            3. Tax incentives;
            4. Free building energy assessments/consultations/technical assistance;
            5. Waiver of compliance for next cycle.
    c. Penalties under should be eliminated or substantially reduced as to non-profits property owners, in lieu of the incentive structure, above.
    d. A new provision should be added that modifies and "raises" the BEPS standard for property owned by non-profits.
        i. For example, the standard shall be marked at 80% or 90% of the ENERGY STAR score or Source EUI benchmark for other buildings of that type, as opposed to 50%.

e. Non-profit property owners should have the option of choosing between the least restrictive of the national median or local median BEPS standard.

Conclusion.

ADW supports the goal of reducing energy consumption and reducing greenhouse emissions. However, ADW has concerns about this specific BEPS proposal in Bill 16-21. Aside from the preliminary and overriding questions about the legal authority to implement binding standards, the process would benefit greatly by broader involvement of stakeholders, specifically the inclusion of faith-based organizations and non-public schools. Moreover, any intervention must be accomplished in an equitable and fair way that does not harm the ability of such entities to serve the community, particularly the underprivileged.

Submitted by:
Andrew Rivas
Archdiocese of Washington
rivasa@adw.org

From: Karl HeldKarl Held <karlheld213@gmail.com>
To: County.Council@montgomerycountymd.gov
Subject: Written Testimony on Bill 16-21, Building and Energy Use Benchmarking and Performance Standard Amendments
Date: Thursday, July 15, 2021 9:28:36 PM

Dear Council President Hucker and Councilmembers,

The Climate Mobilization, Montgomery County Chapter is pleased to submit the following testimony on Bill 16-21, Building and Energy Use Benchmarking and Performance Standards Amendments.

TCM MoCo supports passage of Bill 16-21 subject to satisfactorily addressing the three concerns outlined in this letter. Addressing these concerns would help ensure that the county can meet its 2027 target of an 80% reduction in greenhouse gas (GHG) emissions in a socially and racially equitable manner.

First, we urge the Council to prepare or ask the county executive to prepare a climate impact analysis that describes how this bill will help meet the climate and other goals enumerated in the Emergency Climate Mobilization Resolution.

Secondly, it appears that the timetable in the legislation is much too slow to decarbonize the existing building stock consistent with the 80% GHG reduction in 2027 and elimination by 2035.

A rough estimate suggests only about 40% of the existing commercial and multifamily building square footage would be covered by the 2026 interim standards date. Leaving about 60% not covered all but guarantees that the 80% reduction in GHG's cannot be met by 2027. In addition, a significant portion of the remaining building square footage would not be required to meet the final standards until after the 2035 deadline for total emissions reduction or are not covered at all. And we see no discussion in the CAP for any legislation or executive action that would address this.

Therefore, we recommend that the County Executive accelerate the compliance timetable so that it is consistent with the emission goals in the resolution. Alternatively, the council could drop the timetable from the legislation and require that the County devise a timetable consistent with meeting emission reduction targets as part of the BEPS regulations.

Third, we are concerned about the racial and social equity implications of this legislation. Having a legally binding requirement that all multi-family buildings above 25,000 square feet meet BEPS regulations will inevitably place a significant burden on the many thousands of renters and condominium owners with moderate income and/or people of color while not covering single-family homes that generate significant and, for the most part, higher levels of GHG's and whose owners are disproportionately white and affluent.

This will only exacerbate racial and social inequities and is contrary to the intent of the Racial Equity and Social Justice Act.

We look forward to working with the council in addressing these concerns as it adopts BEPS legislation commensurate with the goals of the emergency Climate Emergency Mobilization Resolution and the Racial Equity and Social Justice Act.

Sincerely,

The TCM MoCo Steering Committee

Washington Gas
A WGL Company

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Montgomery County Council
July 23, 2021

Bill 16-21, Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards – Amendments

Thank you, Council President Hucker and Members of the Council for the opportunity to comment on Bill 16-21. My name is Brian Smith and I manage Maryland Government Relations for WGL.

Washington Gas currently delivers energy to almost 60% of Montgomery County residents.

With over 11,000 commercial & industrial customers, almost 2,000 group-metered apartments, and 223,000 residential meters, we take pride in our role in the County.

We have over 400 employees working in five Maryland facilities with an annual payroll of ~$35,000,000 and contribute ~$80,000,000 in State corporate taxes annually.

As you all well know, County residents expect their government to reflect their values and set an example for taking on the biggest environmental and social issues.

We stand ready to collaborate with the County on implementing equitable decarbonization strategies that reduce emissions, while providing affordable and reliable energy to residents and businesses.

One section of the County's recent Climate Action Plan read "the County needs to reduce the greatest amount of GHG emissions from electricity generation, followed by transportation and followed by private building energy".

Bill 16-21 would focus on a portion of that third bucket.

Currently, natural gas consumption, in both single family and multifamily/ commercial buildings, produces 19% of County-wide GHG emissions.

As the region moves towards a cleaner-energy future, policy makers should ensure we utilize existing infrastructure in a way that won't require extensive and costly improvements to buildings, including owners of affordable housing, non-profits, hospitals and small businesses.

As drafted, the legislation states that the County shall have building energy performance standards (BEPS), but that the timeline, emissions targets, implementation and penalties will be determined by regulations developed by the Department of Environmental Protection.

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As such, WGL cannot comment take a formal position on the County's BEPS program at this time.

One piece of the bill we would like to raise to the Council is the issue of site vs. source energy. As drafted, the bill references EPA's ENERGY STAR Portfolio Manager, which utilizes "Source Energy", but then states that the performance standards will use "Site Energy".

EPA is a strong advocate for measuring building energy use at the source.

"EPA has determined that source energy is the most equitable unit of evaluation for comparing different buildings to each other. Source energy represents the total amount of raw fuel that is required to operate the building. It incorporates all transmission, delivery, and production losses. By taking all energy use into account, the score provides a complete assessment of energy efficiency in a building."

Site energy looks at energy and emissions only at the building, so if you had a fully electric building that was located 5 miles from a coal-fired power plant, that building would have zero emissions. Which we know is not true.

If the County wants to implement sound policy to address emissions reductions, they should take the lead of Boston and use a mixed approach on energy intensity grading.

One more consideration. The legislation would begin benchmarking 25,000+ square foot buildings in 2021. You only need to look at the virtual element of this hearing to know that society, and specifically large, commercial buildings, are not "back to normal". No one can predict what the "new normal" will be for large buildings. The Council should consider delaying implementation of the BEPS program so that the benchmarking begins in a year that accounts for the shift of building utilization.

Again, WGL cannot take a formal position on this legislation because the current version does not contain enough details on the proposed BEPS program. We look forward to working with the Council as they discuss and debate the details of this piece of legislation.

Brian Smith, State Government Relations and Public Policy Manager
M 202.945.7140 | bsmith@washgas.com

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Dear County Council,

I am submitting testimony in support of Bill 16-21, Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards - Amendments for the July 20, 2021 meeting.

Frankly, we are in a climate crisis. In Montgomery County, we need to bring our greenhouse gas emissions down as quickly and efficiently as possible. Buildings make up about half of our greenhouse gas emissions in the county, with commercial buildings making up 26 percent of the total. Making these buildings more efficient would reduce greenhouse gas emissions, while lowering energy costs for the owners of the buildings.

While the current standards are useful, they are simply not enough. The new bill fixes some of these issues. We must make these standards apply to as many buildings as possible as well as provide support so that building owners can renovate or improve their buildings as needed to meet these requirements. I strongly support you passing this bill as well as developing more policies to support building efficiency.

Best,
Shannon Shea
Rockville resident, 20850

--
Shannon Brescher Shea
Parenting and Sustainability Writer

Close

Daniel Meijer

[redacted]

April 26, 2021

Environmental Defense Fund (EDF)
Attention Mr. Fred Krupp, President
257 Park Ave. South
New York, NY 10010

Dear Mr. Krupp,

I read with great interest in the recent EDF "Solutions" magazine, the article titled: "America's Electric Revolution", which made me realize how single family home neighborhoods may enormously contribute to reducing air pollution.

This is because their rooftops can easily host electrically generating solar panels and their on-site driveways can easily house charging stations for the electric cars of the future, which the article recommends is needed to stop the current pollution from today's gasoline powered vehicles.

Considering the vast numbers of single family homes currently in the US – this existing real estate, if modified as suggested, could then become a huge resource for alternative/clean energy.

Sincerely Yours,

Daniel Meijer

EDF Member since 1980 (member #1337649)

Bill 16-21
Environmental Sustainability-Building Energy use Benchmarking and Performance Standards-Amendments

TESTIMONY OF PARIM SHAH

POSITION: SUPPORT

Thank you President Hucker, Vice President Albornoz, and members of the Montgomery County Council. My name is Parim Shah and I am a rising 7th Grader at Dr. Martin Luther King Jr Middle School. To build a better future for my generation and the ones to come, I encourage you to support Bill 16-21. Our economy, habitats, and everyday lives will be affected by climate change. From Olney to Silver Spring to downtown Rockville our communities will suffer if we don't take swift action to combat climate change. Bill 16-21 promotes racial equity, environmental justice, and a better future.

Climate change will affect Montgomery County's low-income and minority communities disproportionately. Poor infrastructure and pre-existing health conditions contribute to the vulnerability experienced by communities of color. Further, de facto segregation still exists in Montgomery County, clustering low-income residents in places more exposed to climate change. People of color account for 63% of Montgomery County's population, so these issues affect the majority of residents. Obstacles like these make climate change an issue of racial equity. Bill 16-21 addresses this by increasing Building Performance Energy Standards. Many communities that are vulnerable to climate change would greatly benefit from this.

Additionally, the Office of Legislative Oversight estimates Bill 16-21 will reduce greenhouse gas emissions, one of the top causes of climate change. By reducing greenhouse gases, air pollutants are also reduced in Montgomery County, reducing residents' exposure to unhealthy pollutants. As described by the OLO, reducing greenhouse gasses will especially benefit communities of color and low - income communities. Climate change is a real threat to our daily life and reducing greenhouse gasses would help us combat it.

Along with these regulations, I hope Montgomery County also provides financial support for low - income residents and support to mitigate the costs of compliance. This will reduce the financial burden on the residents of Montgomery County while still regulating energy standards.

Bill 16-21 will benefit low-income and communities of color, reduce greenhouse gasses, reduce utility costs, improve job creation, and reduce pollution for Montgomery County residents. I encourage members of the Montgomery County

Council to support Bill 16-21. The next generations are counting on you to do what is right and combat climate change for their future. Thank you.

Re: Bill 16-21, Building Energy Performance Standards

I recommend adding to the bill Quality Assurance activities and audit activities, including on-site visits, so that the county can check building owners' claims of progress against actual progress.

As an employee in the private sector I have seen numerous violations of laws, including flagrant violations of OSHA laws; wage theft; funds stolen from employees' 401(k) accounts; a termination of an employee that was so egregiously illegal that it resulted in a successful lawsuit; an exterminator who dumped insecticide directly into a storm drain; and an HVAC technician who released refrigerant directly into the atmosphere in violation of existing law.

If we are going to have a law, we need to have a vigorous monitoring and enforcement mechanism. That is why I recommend that a statistically significant random sample of covered buildings be audited annually to see what is actually happening with those buildings. To avoid years of lost time, data on progress towards compliance is needed years before the interim performance data will be available.

Re: Bill 16-21, Building Energy Performance Standards

Transparency

The bill should require full transparency of all building energy performance data provided to the County. The current bill provides for making available to the public aggregate data, but data at the level of individual buildings would be far more informative.

Full transparency would potentially enable the power of public shaming to be brought to bear on the problem of building owners who do not comply with the law. The county will have very limited resources for enforcement. Public reporting of performance data can help produce compliance.

Timothy Truett

Dear Montgomery County Council, July 19, 2021

I am writing to express my support for the Building Energy Performance Standard legislation submitted to the Council on April 1, 2021. I have worked in the field of energy management and HVAC for 20 years, utilizing my engineering expertise in building systems, automation technology, and energy efficiency to help Federal, Commercial Real Estate, Higher Education, and County Government clients design short- and long-term plans and projects to improve operation of their buildings, their bottom line, as well as meet energy mandates and goals. The case for energy efficiency for each building is different because all business owners have different goals; however, there is always a common thread – instead of handing a dollar to the utility company, the business owner gets to hand it back to themselves. If you consider an Energy Star scale, and that a "certified" building is "energy efficient," that means 75% of buildings are inefficient and are therefore handing profit dollars to the utility company when they could invest back into their business – a new printer for their shop, a fitness center to attract tenants, a new chiller to replace the one that is unreliable. This can be changed with the passage of BEPS legislation.

I was disappointed to read the outcome of the "Economic Impact Statement Summary" on the first page of the document prepared by the Office of Legislative Oversight. If I were a busy Montgomery County business owner this is likely where I would have stopped reading, and I would therefore not want this legislation passed. The most important information our business owners want to see is what is buried in the attachments – the business case for energy efficiency. Throughout my career, when I presented the financial case to business owners and CFO's, they understand the numbers, and (assuming the project meets their criteria, whether it is simple payback, hurdle rate, etc.), are eager to move forward.

In addition to the resources stating the financial case for energy efficiency from IMT and US EPA linked in the "Economic Impacts Categories" attachment to the "Economic Impact Statement," there are a multitude of others. To reference the IMT document, *"Increased NOI means increased property value, according to a widely applied valuation method called income capitalization. The arithmetic is simple—NOI is divided by a capitalization rate, which is market based and commonly lies between 5 and 10 percent. Thus, an upgrade that reduces energy costs by $10,000 per year, in turn raising NOI by the same amount, could increase the value of the property by $100,000 to $200,000. Considered through the lens of income capitalization, energy efficiency commonly yields incremental present value in the range of 1.5 to 4 times that of every dollar invested."*

The majority of projects that I developed throughout my career range from 0-5 years for a simple payback. Here are a few more resources:

Making the Business Case for Energy Efficiency in Commercial Buildings | Better Buildings Initiative

The Business Case for Operating an Energy-Efficient Portfolio of Buildings | ENERGY STAR Buildings and Plants | ENERGY STAR

Business Case for Energy Efficient Building Retrofit and Renovation

Regarding the non-financial benefits of energy efficiency in buildings, I have the advantage of seeing many of them firsthand in our community. First, as a Montgomery County resident, my family and I have benefitted. I work at a Montgomery County based company that implements energy efficiency projects, and my salary pays for my family's needs as well as our taxes to the County. The projects I have been a part of have employed countless area workers with all ranges of skilled and unskilled labor. They require engineers, project managers, CAD and graphics designers, journeyman steamfitters, welders, warehouse employees, forklift drivers, accountants, administrative staff, IT professionals, and many more. These projects employ local area subcontractors ranging from professional engineering firms to equipment rental companies to electrical contractors. They purchase material from local area shops. And those of us who work on them eat at many many delicious area Montgomery County restaurants!

Our County has unique advantages over many of our area neighbors. Building owners can take advantage of the EmPOWER program to get rebates for energy efficiency projects, and we have financing resources (PACE, Montgomery County Green Bank) that can make projects cash neutral (or even cash flow positive).

As you all know from the "Economic Impact Categories" attachment referenced earlier in this letter, there are many other benefits to energy efficient buildings. I highlighted primarily financial ones since I assume that is what many area business owners will be concerned about. Bottom line, energy efficiency projects help business owners obtain the lowest life cycle cost of a building, higher asset value, support planned expenditures (it's in the budget – fewer surprises, lower risk), lower monthly operating costs, increased comfort and health for building occupants, improved reliability and ease of operating building systems, and contribute to the building and business's marketability.

I hope this letter shines a light on the fact that this legislation is a positive change financially for our County business owners – it ensures they are putting their dollars back into their businesses instead of giving them unnecessarily to utilities.

Thank you for your consideration.

Julie L. Wolfington

Julie Wolfington, CEM

Energy and Sustainability Leader

Boland

julie.wolfington@boland.com

AGRICULTURAL ADVISORY COMMITTEE

December 6, 2021

Tom Hucker, Chair of the T&E Committee
Montgomery County Council
100 Maryland Avenue
Rockville, MD 20850

Dear Council, T&E Chair Hucker:

T&E Committee Work Session # 2-Bill 16-21
Environmental Sustainability - Building Energy Use Benchmarking and Performance Standards - Amendments

On behalf of the Montgomery County Agricultural Advisory Committee, we would like to provide the following input regarding Bill 16-21: Environmental Sustainability – Building Energy Use Benchmarking.

In our previous letter dated June 15, 2021, we requested that you add an amendment to the bill to exclude all existing and new agricultural buildings from the bill. We hope the members of the Transportation and Environment T&E- Committee will consider these additional recommendations as part of your second work session on Bill 16-21 that is scheduled for Thursday December 9, 2021:

Other states have established a precedent for excluding agricultural buildings. For example, in 2019, Washington State, House Bill 1257, included an exemption for "agricultural structures". "Agricultural structure" means a structure designed and constructed to house farm implements, hay, grain, poultry, livestock, or other horticultural products, and that is not a place used by the public or a place of human habitation or employment where agricultural products are processed, treated, or packaged.

- Benchmarking measures efficiency by comparing a building's energy efficiency to buildings with similar functions. Its value relies heavily on access to comparable buildings to provide useful data. Two immediate problems arise with this strategy for agricultural buildings:

    - The Energystar Portfolio manager, used for most benchmarking in the United States, has 18 broad categories of buildings and over 80 subcategories. Not one of them is appropriate for agricultural buildings. Including agricultural buildings in this national standard would require development of a new modeling category not previously contemplated. Without an adequate sample size of buildings with

similar energy footprints for comparative purposes, benchmarking is not useful. Currently, there is no national standard for collecting this data.

- In Montgomery County, there approximately 11 buildings with agricultural use designations that exceed 25,000 square feet. Most if not all of those are substantially unconditioned space. If only the percentage of the building with conditioned space was taken into consideration, it is likely that none of those buildings would reach the 25,000 thresholds. Additionally, 11 buildings of diverse use (as agriculture tends to be) do not provide an adequate sample size for any relevant data analysis and comparison.

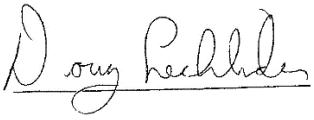
- The last readily available Commercial Building Energy Consumption Survey is 2018. In that report, published by the US Energy Information Administration, of the 5,918 buildings listed in Table B15, there is NO "principal building activity (expanded)" category that shows agricultural buildings so effective benchmarking cannot be done until each unique agricultural building is modeled.

- Agriculture consumed only 1.74% of total US primary energy consumption in 2014 (and that includes all agricultural processes, not just buildings). The county's focus on commercial and multi-family buildings that produce the most demand and provide the best comparative data set is the best practice nationally.

- Looking at the energy use of one of the 11 buildings on the Montgomery County list of agricultural buildings over 25,000, the average use, because of the very limited energy demands of the building, is approximately $402 per month so there is little savings value that could be generated from a complicated benchmarking effort that would cost more for data collection and presentation than savings that could be generated.

We thank the County Council for this opportunity to present our views and we will participate in the December 9, 2021, Transportation, and the Environment Council Committee Work Session #2 on this Bill 16-21.

Sincerely,



Doug Lechlider, Chairman

Cc: Marc Elrich, County Executive

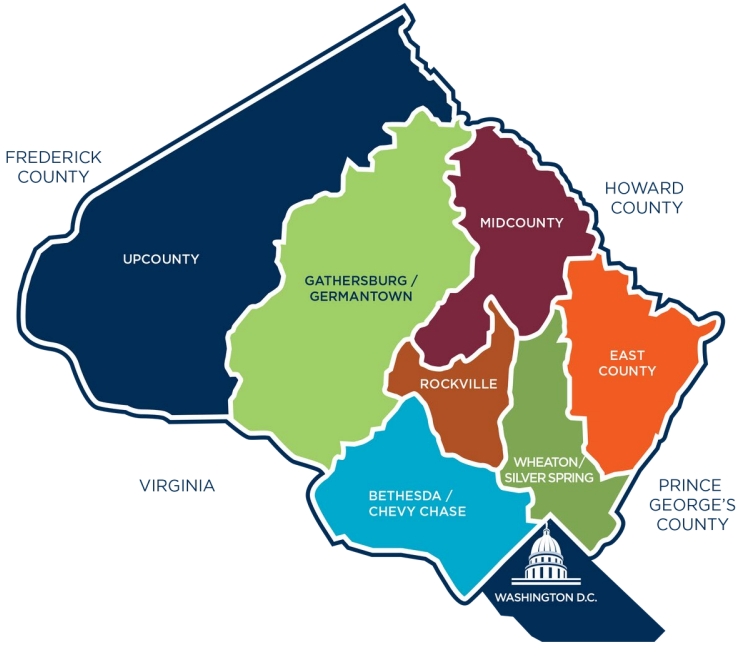
T&E Committee members

Ludeen McCartney-Green

October 28, 2021

Bill 16-21: Building Energy Performance Standards

Overview



Learn more at https://www.montgomerycountymd.gov/green/energy/beps.html

Proposed Agenda for BEPS Work Sessions

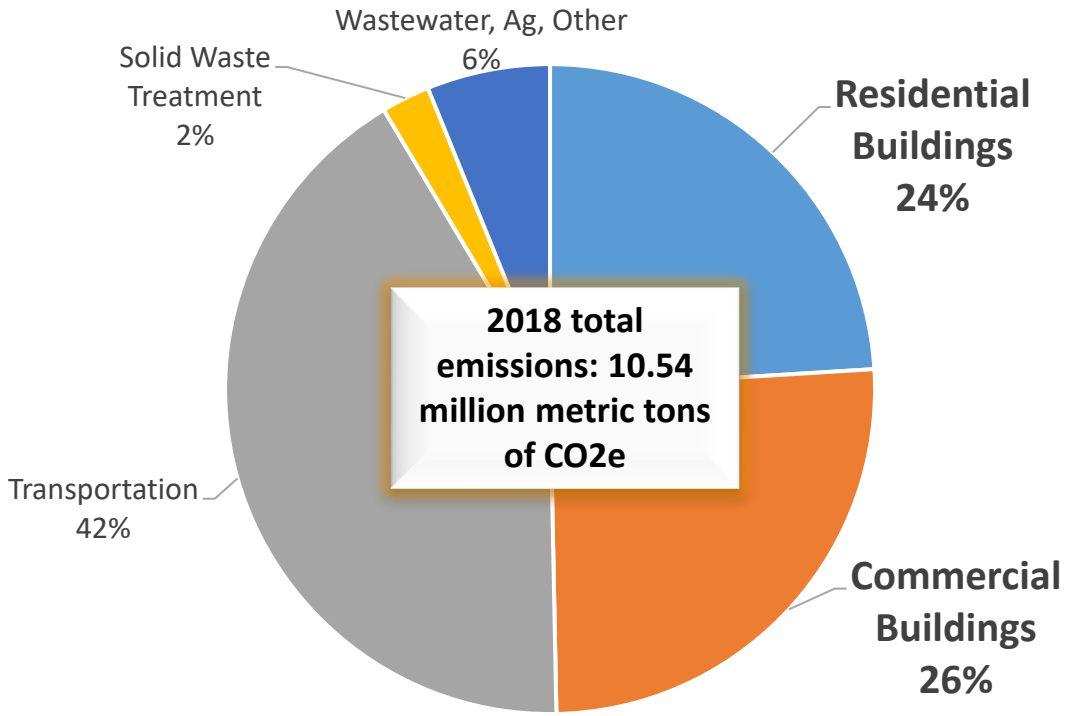
- **Today:** Overview of Bill 16-21
- **Today:** Buildings Covered by BEPS
- **Today:** Performance Metric
- Future Work Session: Approach to Setting the BEPS Standards
- Future Work Session: Compliance with BEPS
- Future Work Session: Tools and Resources for Meeting BEPS
- Future Work Session: Regulations Preview

Bill 16-21 Highlights

- **Developed with stakeholder input**, BEPS sets long-term performance targets based on energy use within the owners' control
- Covers the **largest buildings and biggest carbon emitters** in the County, but not all buildings will be covered or required to take action
- BEPS will create more resilient, **higher-value buildings,** increased economic activity and **local green jobs** from building upgrades, and better indoor air quality for tenants
- Tools and resources are **available now** to give building owners a head start, but additional technical and financial assistance will be needed, especially for affordable housing
- By passing Bill 16-21, **Montgomery County will become the first county to join a leading-edge group of jurisdictions** using BEPS to tackle climate impacts from buildings

Why Building Energy Performance Standards (BEPS)?

- Building codes only address newly constructed buildings or those doing major renovations
- Per the CAP, BEPS is one of the most powerful policy tools available to address emissions from **existing** commercial and multifamily buildings by improving performance through energy efficiency
- Using electricity more efficiently "right-sizes" the amount of carbon-free energy needed to be supplied by the grid
- Reducing and eventually eliminating fossil-fuel use from buildings via BEPS is the most direct way to achieve carbon neutrality for existing buildings

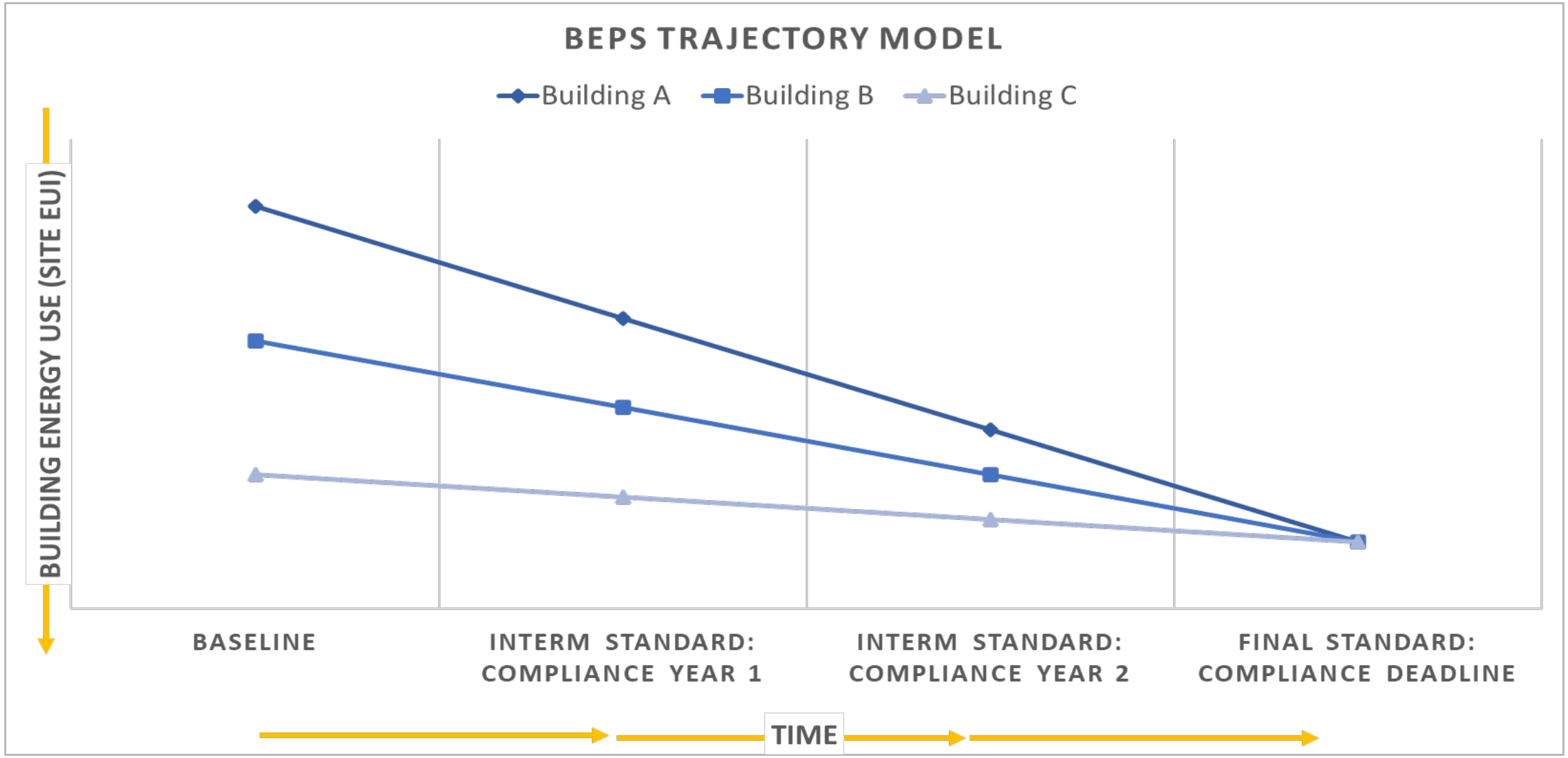


General Approach on Bill 16-21

- Builds on the foundation of the Benchmarking Law
- Create framework to establish a building energy performance standard (BEPS)
- Similar to other jurisdictions with BEPS, numerical standards will be defined via regulation
- Incorporate stakeholder voices on policy recommendations
- **Balance flexibility and certainty for building owners and immediate climate action**

- **Approach to Developing Legislation:** Amends the Benchmarking Law to expand the number of buildings covered by the Benchmarking Law, add a performance requirement, and establish an Advisory Board for BEPS implementation.

BEPS Policy Overview



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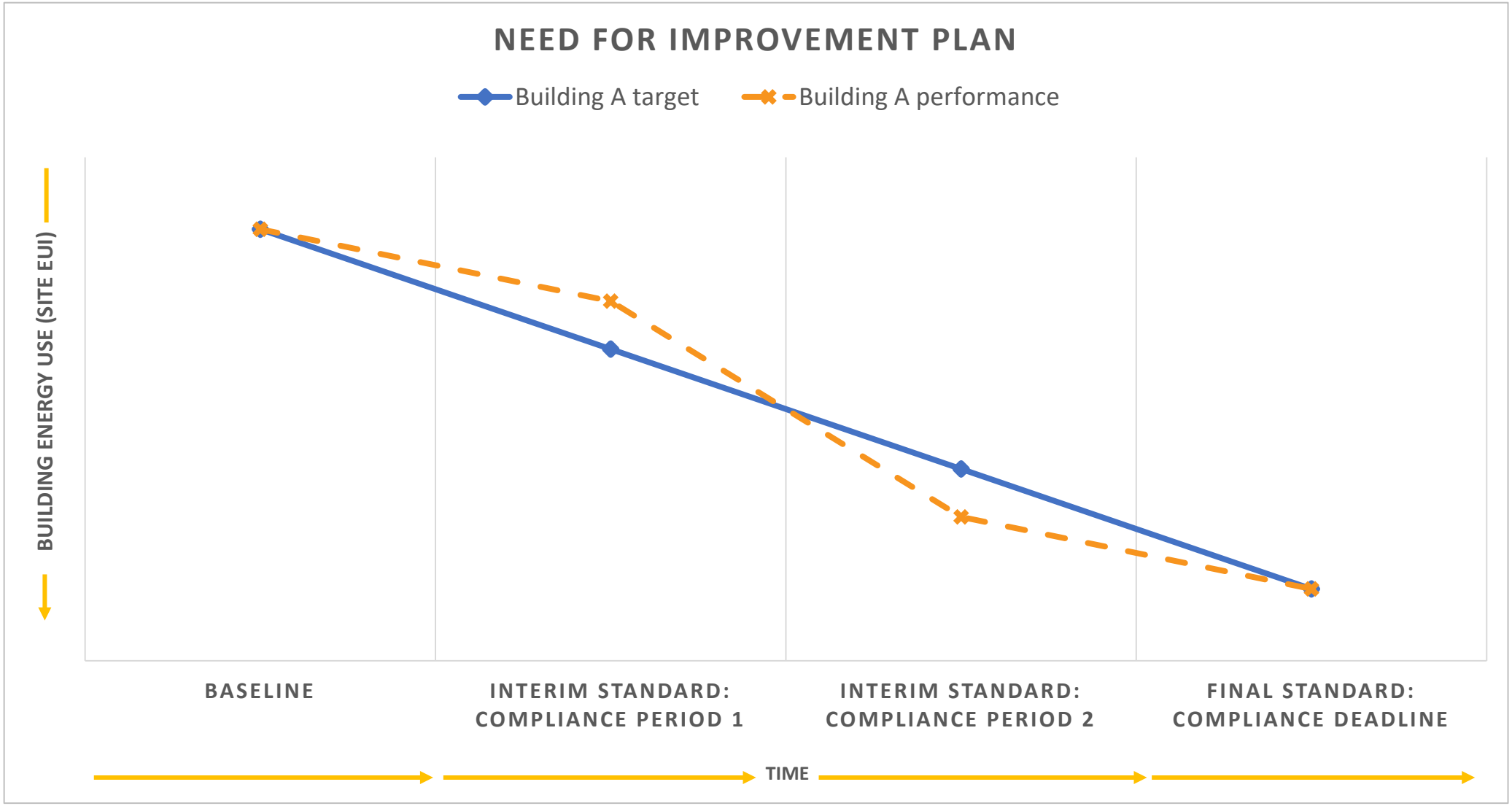
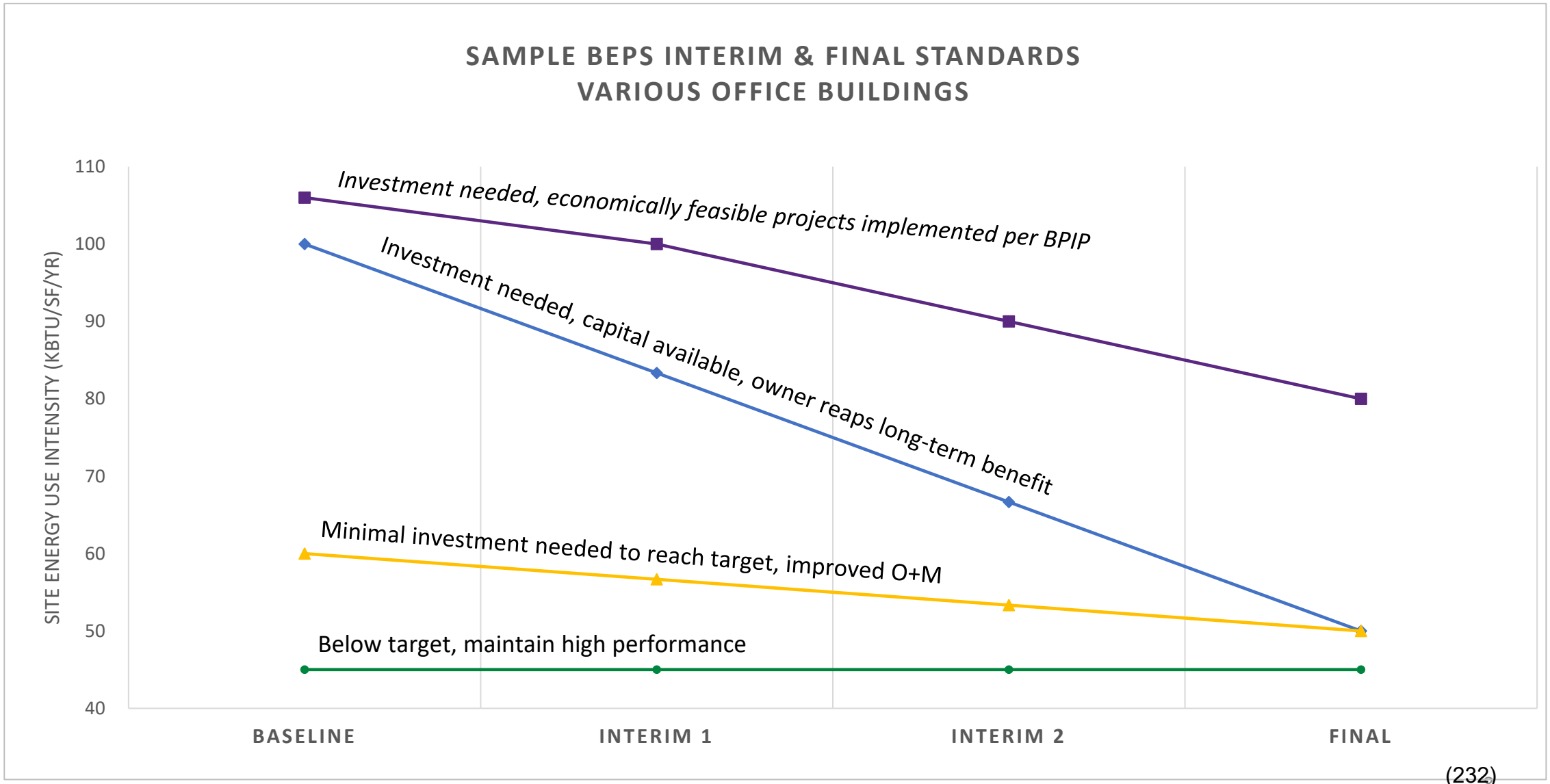
Building Performance Improvement Plans (BPIPs)



Flexibility in Compliance Strategies



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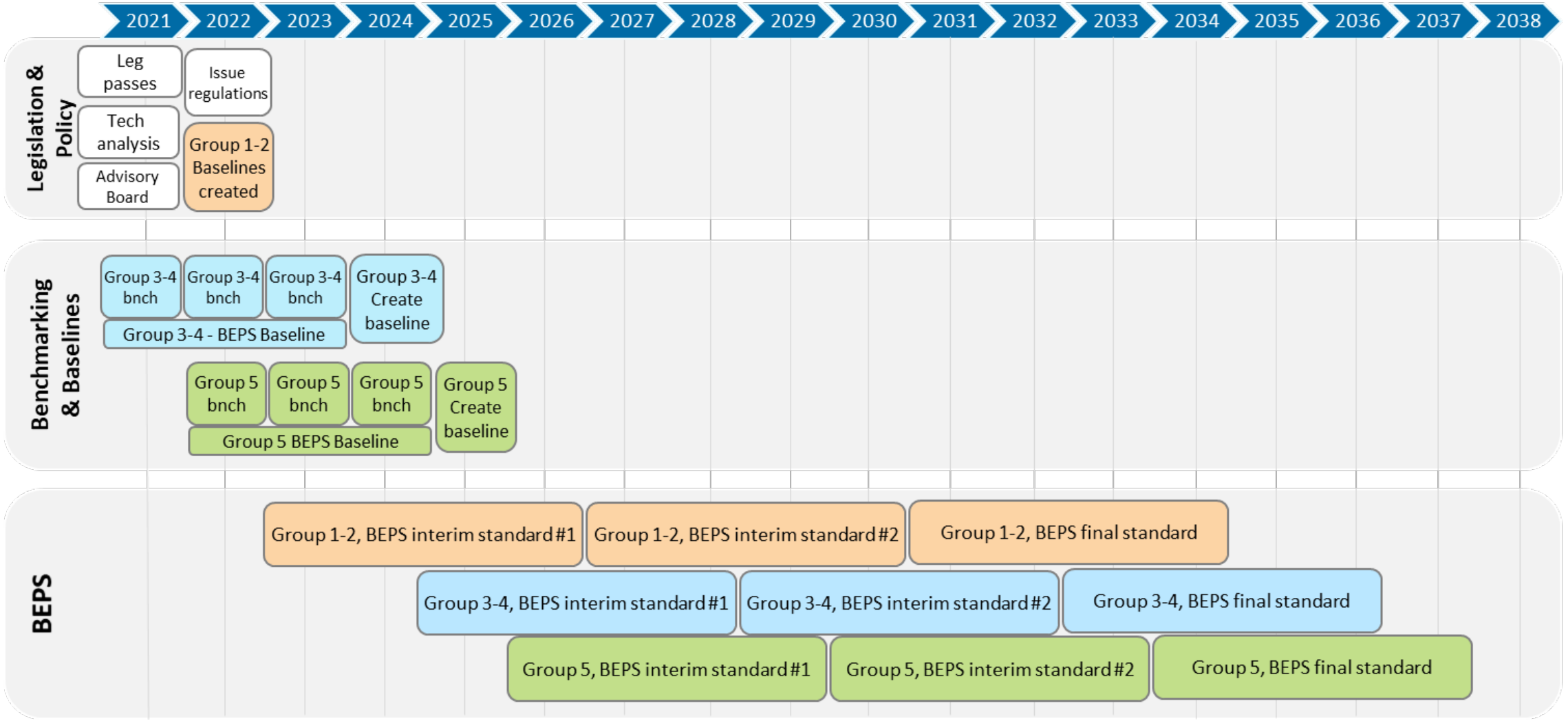
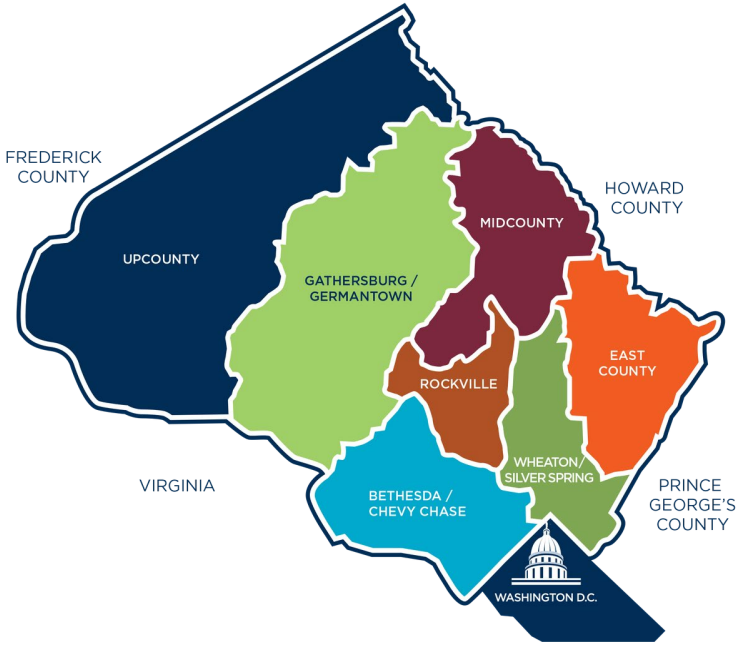
BEPS Timeline in Bill 16-21



Bill 16-21: Building Energy Performance Standards

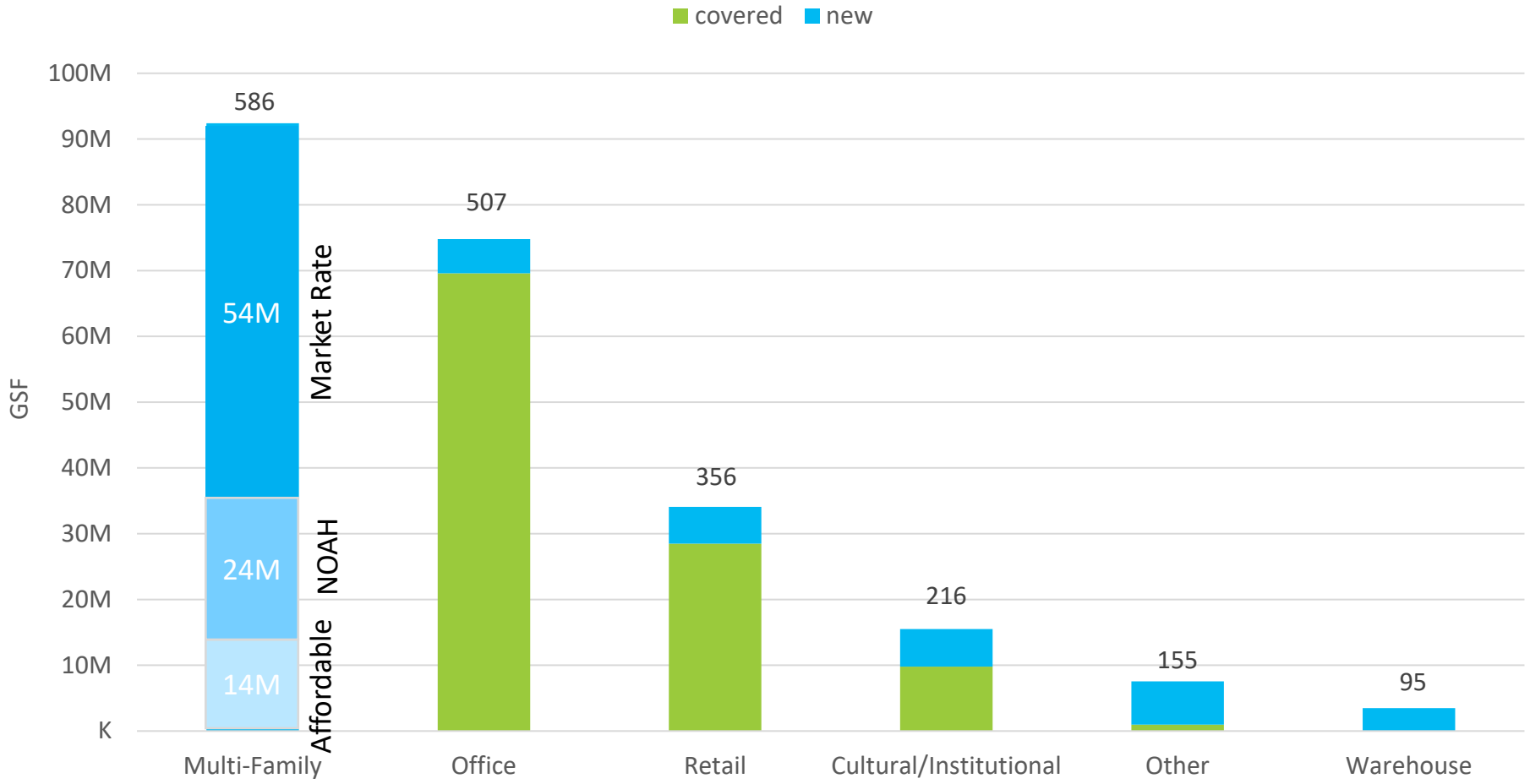
Buildings Coverage



Learn more at https://www.montgomerycountymd.gov/green/energy/beps.html

Benchmarking Amendments Covered Building Impacts

- **Currently covered**: 110M sq ft, 795 buildings, 40% of commercial floor area
- **Bill 16-21:** Increase covered buildings to ~220M sq ft, 1,900+ buildings, 80% of commercial floor area



Comparison of BEPS Building Coverage

	Washington, DC	New York City	Boston	WA State	St. Louis, MO	Montgomery County
Square Footage Threshold	Commercial and multifamily **> 10K ft²**	Commercial and multifamily **> 25K ft²**	Commercial and multifamily **> 20K ft²**	Commercial **> 50K ft²**	Commercial and multifamily **> 50K ft²**	Commercial and multifamily **> 25K ft²**
Affordable Housing	Yes	Prescriptive measures	Yes	No	Yes, 2 extra years	Yes
Houses of Worship	Yes	Prescriptive measures	Yes	Yes	Yes	Yes
Agricultural Use	Yes	Yes	Yes	No	Yes	Yes

See IMT's Comparison of U.S. Building Performance Standards: https://www.imt.org/resources/comparison-of-u-s-building-performance-standards/

Updating Definition of a Covered Building

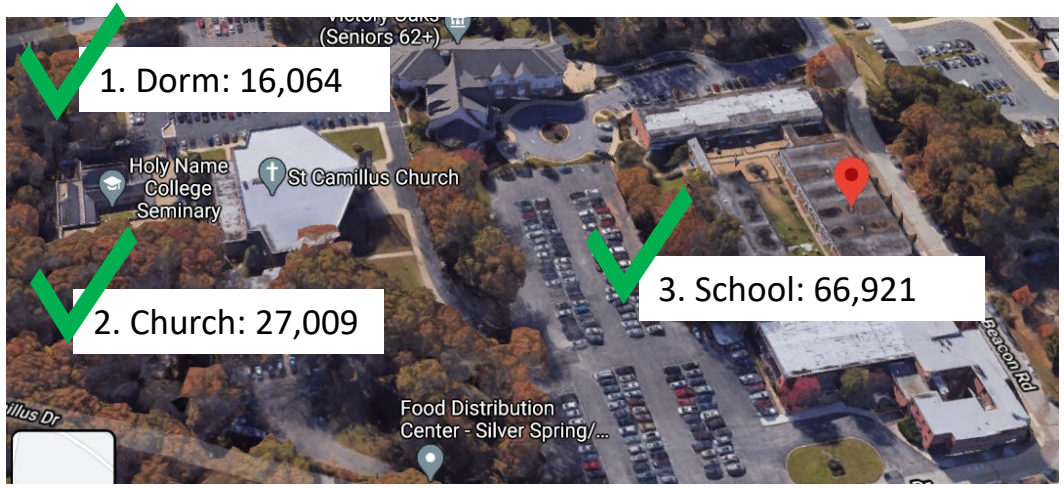
Current Covered Building Definition:

- Building, or any group of buildings that have the same parcel/property identification number, that meet the square footage threshold

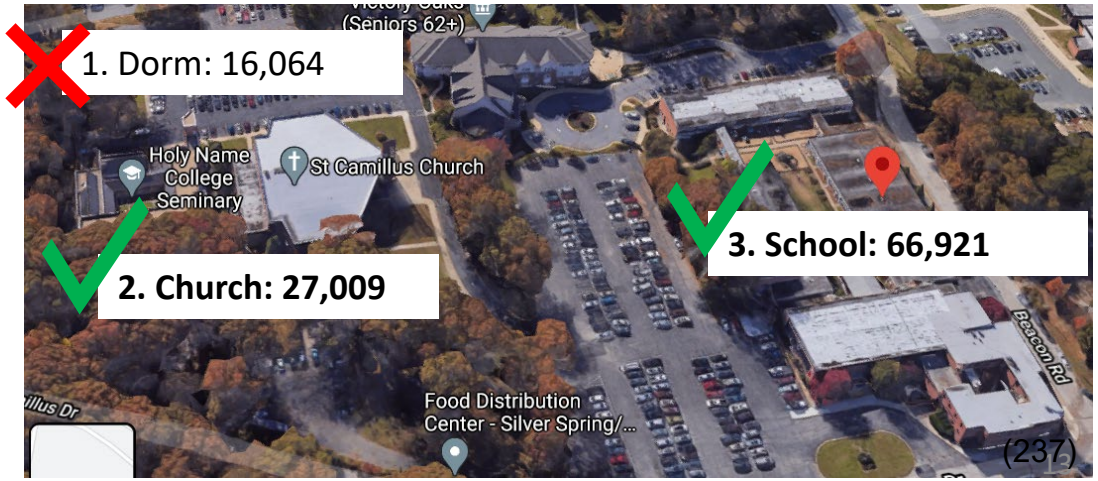
Bill 16-21 Amended Covered Building Definition:

- Single building that can be individually metered and share no interior common area;
- A group of buildings that share an energy meter, have a common heating or cooling system, share interior common areas, or otherwise cannot attribute energy use to a single building.

Parcel: All buildings on tax parcel must benchmark



Building: Only single buildings 25k+ gsf must benchmark and are subject to BEPS



Building Coverage Examples: Multifamily

Covered

Highrise & mid-rise apartments/ condos

Garden apartments where buildings with shared systems/space are >25k gsf

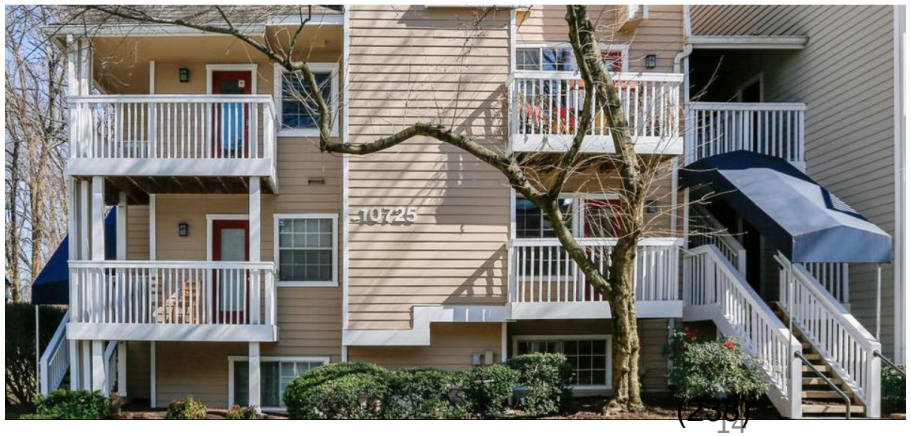
Retirement homes & assisted living

Not Covered

Townhomes with no shared systems or interior area

Apartments where each building on the parcel is <25k gsf

Units with no shared systems or interior area



Building Coverage Examples: Retail

Not Covered

Individual tenants within strip malls with separate energy systems, no shared interior space, and <25k gsf

Covered

Individual tenants within strip malls with separate energy systems, no shared interior space, and >25k gsf

Covered

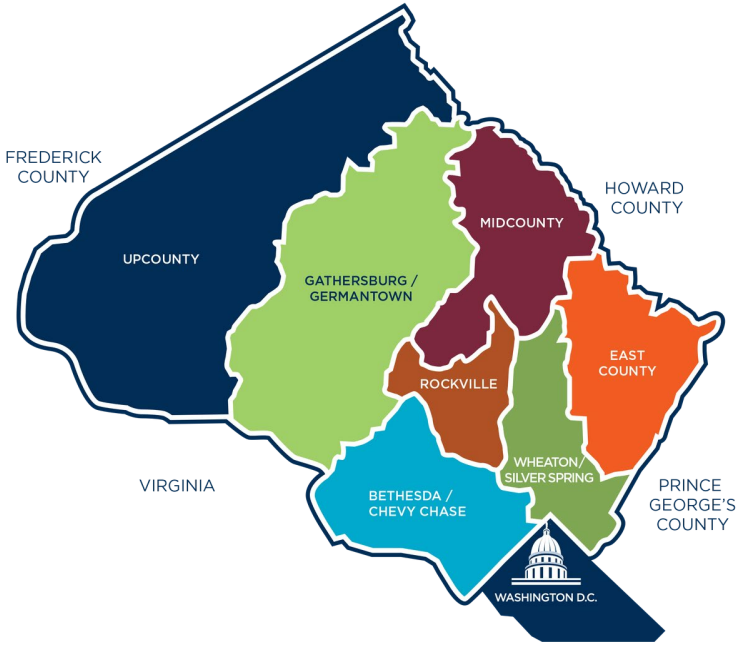
Individual tenants within strip malls with separate energy systems, no shared interior space, and >25k gsf

Not Covered

Individual tenants within strip malls with separate energy systems, no shared interior space, and <25k gsf

December 9, 2021

Bill 16-21: Building Energy Performance Standards



Learn more at https://www.montgomerycountymd.gov/green/energy/beps.html

Proposed Agenda for BEPS Work Sessions

- **First Work Session:**
  - Overview of Bill 16-21
  - Buildings Covered by BEPS
- **Today:**
  - **Updates Since Last Work Session**
  - **Bill 16-21 vs. Regulations**
  - **Timeline & Advisory Board**
  - **Performance Metric and Electrification**
  - **BEPS Technical Analyses Purpose and Methodology**
- **Future Work Session Topics Can Include:**
  - Compliance Pathways for BEPS
  - Under-resourced Sectors and Compliance Considerations
  - Tools and Resources for Meeting BEPS
  - Regulations and BEPS Standard-setting Decision Points

Updates Since Last Work Session

- **Nov. 1, 2021**: MD Commission on Climate Change approved Building Energy Transition Plan
  - Identifies low-cost pathways for decarbonizing/electrifying residential and commercial building sectors
- **Nov. 18, 2021**: Delivered 2020 Montgomery County Benchmarking Report to Council
  - 92% reporting rate in 2020; citations have been issued to non-reporters
- **Nov. 22, 2021:** City and County of Denver BEPS Legislation
  - Passed legislation unanimously
  - Rules and regulations including first interim targets by May 1, 2022
  - Utilizes the "trajectory" model developed with Montgomery County stakeholders and IMT
  - Site EUI metric with renewable energy credit
- DEP continues technical research on EUI targets and solar credit to inform Montgomery County regulations

Bill 16-21 and Future Regulations

	In Bill 16-21	To be further defined via regulations
Building Coverage	Commercial & multifamily 25k+ gsf	
Timeline	• 3 years of benchmarking data to inform a baseline • Long-term targets with interim check ins every 4 years	Extensions or adjustments for under-resourced buildings like affordable housing, non-profit owners
Advisory Board	Establishment of Advisory Board	
Performance Metric	• Site energy use intensity (EUI) • Mention of credit for onsite solar generation towards achieving BEPS targets	• Numerical site EUI performance standard for each building group *(BEPS Technical Report)* • Detailed guidance for onsite solar generation as a consideration for credit towards BEPS *(Solar Credit Report)*
Alternative Compliance Path	Building Performance Improvement Plan (BPIP) for circumstances outside of building owners' control	• Format and elements required in BPIP • Definition of "economic feasibility" and other parameters that would necessitate a BPIP • Extensions or adjustments for under resourced buildings like affordable housing, non-profit owners

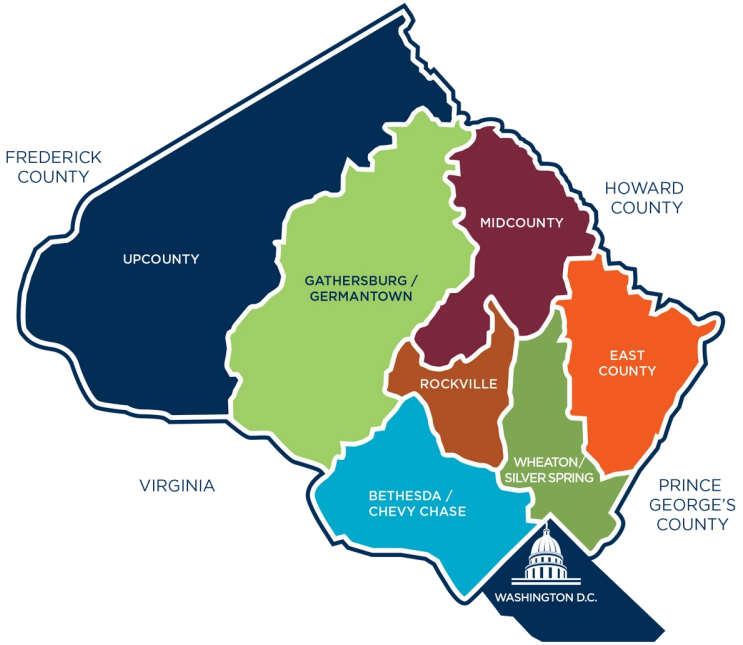
Regulations will be issued no later than **June 1, 2022** as written in current bill.

Comparison of BEPS Legislative Processes

	Montgomery County	Denver, CO	WA State	St. Louis, MO	Washington, DC	New York City	Boston
Building Coverage	**Legislation**	**Legislation**	**Legislation**	**Legislation**	**Legislation**	**Legislation**	**Legislation**
Advisory Board	**Legislation**	N/A	N/A	**Legislation**	**Legislation**	**Legislation**	**Legislation**
Performance Metric	**Legislation**	**Legislation**	**Legislation**	**Legislation**	**Legislation**	**Legislation**	**Legislation**
Performance Targets	Regulation	Regulation	Regulation	Regulation	Regulation	**Legislation**	**Legislation**
Timeline	**Legislation**	**Legislation**	**Legislation**	**Legislation**	**Legislation**	**Legislation**	**Legislation**
Alternative Compliance Pathways / Consideration for Specific Sectors	Regulation	Regulation	Regulation	Regulation	**2 paths legislated;** others in Regulation	Regulation	Regulation
BEPS-Specific Penalties	N/A, Pending State Legislation	**Legislation**	**Legislation**	N/A	Regulation	**Legislation**	**Legislation**

Bill 16-21:
Building Energy Performance Standards

Timeline & Advisory Board



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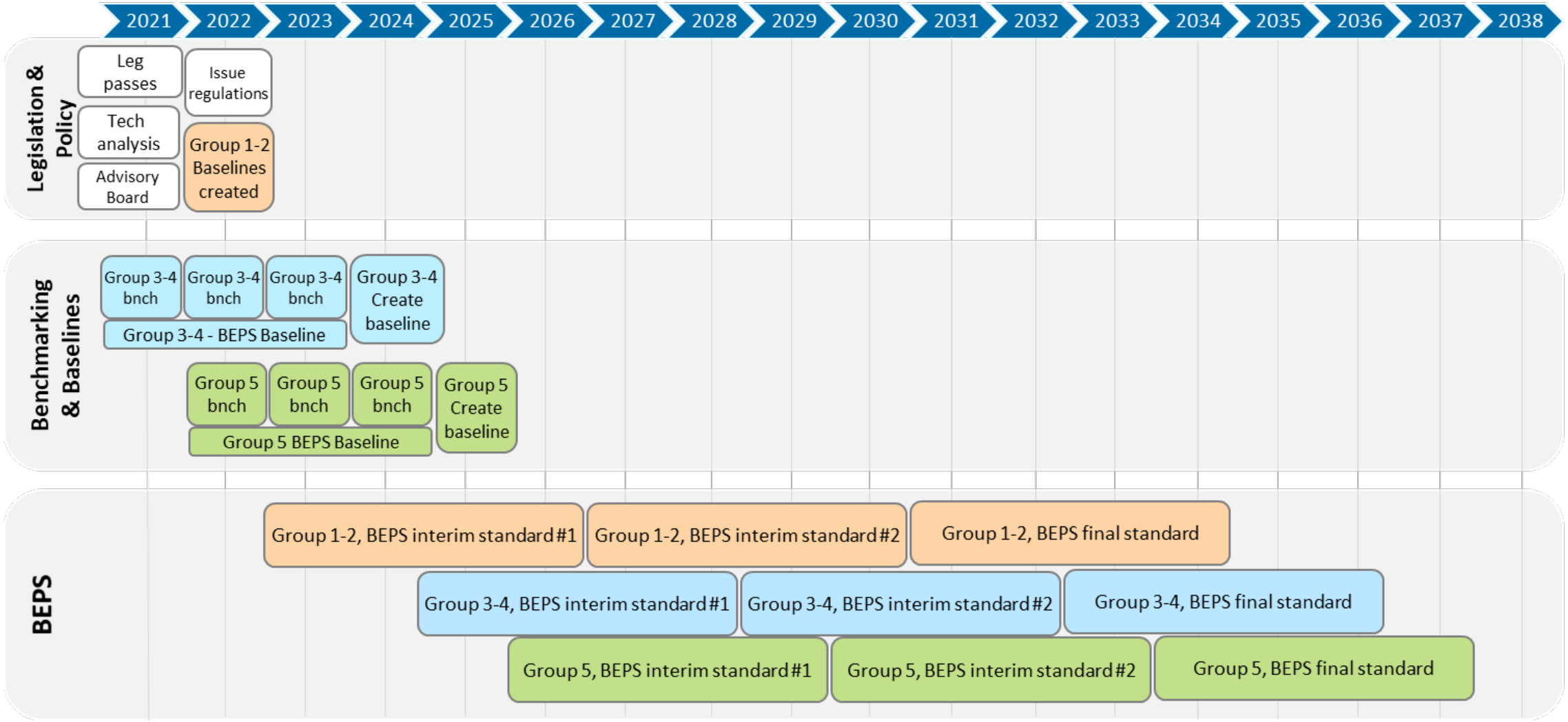
BEPS Timeline in Bill 16-21



Comparison of BEPS Timelines

	Montgomery County	Denver, CO	WA State	St. Louis, MO	Washington, DC	New York City	Boston
Compliance Cycle	Long-term target with 4-year interim check ins	Long-term target with 3-year interim check ins	Every 5 years	Every 4 years	Every 5 years	Annually	Annually
Standard Resetting	Long-term targets 2034-2037. Standard reset TBD.	Long-term EUI target in 2030 with interim targets in 2024 and 2027. Maintain target indefinitely.	TBD	Standard resets every 5 years based on new 35th percentile by building type (so 65% of buildings must improve)	Standard resets every 6 years based on new median	Limits get stricter every ~5 years	Limits get stricter every ~5 years

See IMT's Comparison of U.S. Building Performance Standards: https://www.imt.org/resources/comparison-of-u-s-building-performance-standards/

Building Advisory Board

- Provide recommendations to the County on BEPS implementation
- Members recommended by County Executive, appointed by County Council
- 15 voting members serving two 3-year terms:
  - County leadership, building owners, utilities, energy/engineering services, finance, NGO and industry representatives
- Tasked with advising on items such as:
  - Draft regulations
  - Reviewing building performance improvement plans
  - Handling situations of change in building ownership or property use type
  - Developing guidance for unique building situations (e.g., campuses)
- Board creation pending passage of legislation

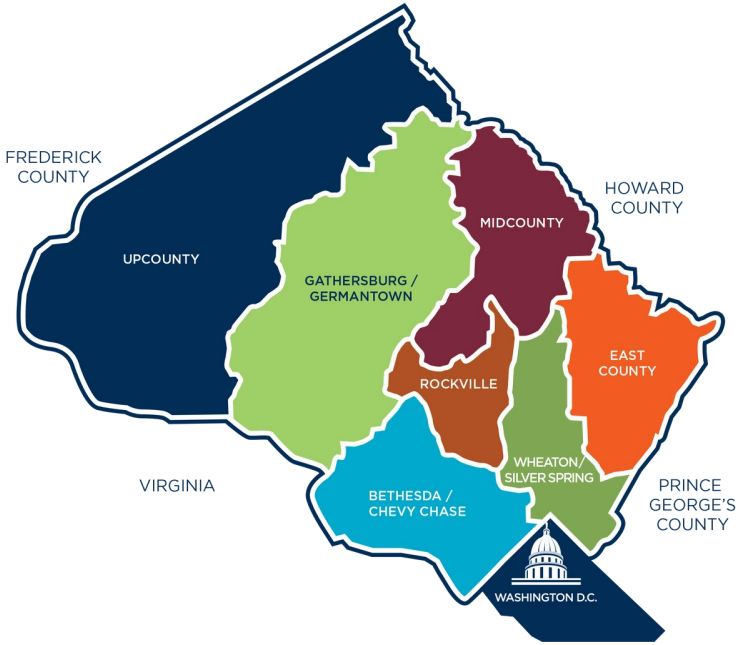
Comparison of Legislated BEPS Advisory Boards

	Montgomery County	Denver, CO	WA State	St. Louis, MO	Washington, DC	New York City	Boston
Advisory Board	Yes	No	No	Yes	Yes	Yes	Yes
Membership	15-member Advisory Board with specific representation in legislation	Task Force developed BEPS recommendations – no reference to Advisory Board in legislation	TBD	9-member Board with specific representation in legislation	BEPS Task Force to advise on implementation	16-member Advisory Board with specific representation in legislation	Advisory Committee of property owners consults with Commission on regulations and amendments
Authority	Advisory	N/A	N/A	Decision-making authority	Advisory	Advisory	Decision-making authority

See IMT's Comparison of U.S. Building Performance Standards: https://www.imt.org/resources/comparison-of-u-s-building-performance-standards/

Bill 16-21:
Building Energy Performance Standards

Performance Metric and Electrification



Performance Metrics Selection

- Stakeholders favored BEPS performance to be evaluated by **site energy use intensity** (EUI):
  - Measures energy used per gross square foot per year (kBtu/GSF)
  - “Net normalized” site EUI would account for weather normalization and onsite solar

- Benefits of a Site EUI performance metric include:
  - Simple calculation directly from utility bills and floor area
  - Available for all building types, able to compare different-sized buildings in one group
  - Measures actual energy use directly controlled by the building owner and tenants
  - Easily understood by building owners and managers
  - Readily available via benchmarking data
  - **Incentivizes efficient use of electricity and encourages electrification (especially if an aggressive BEPS target is selected)**

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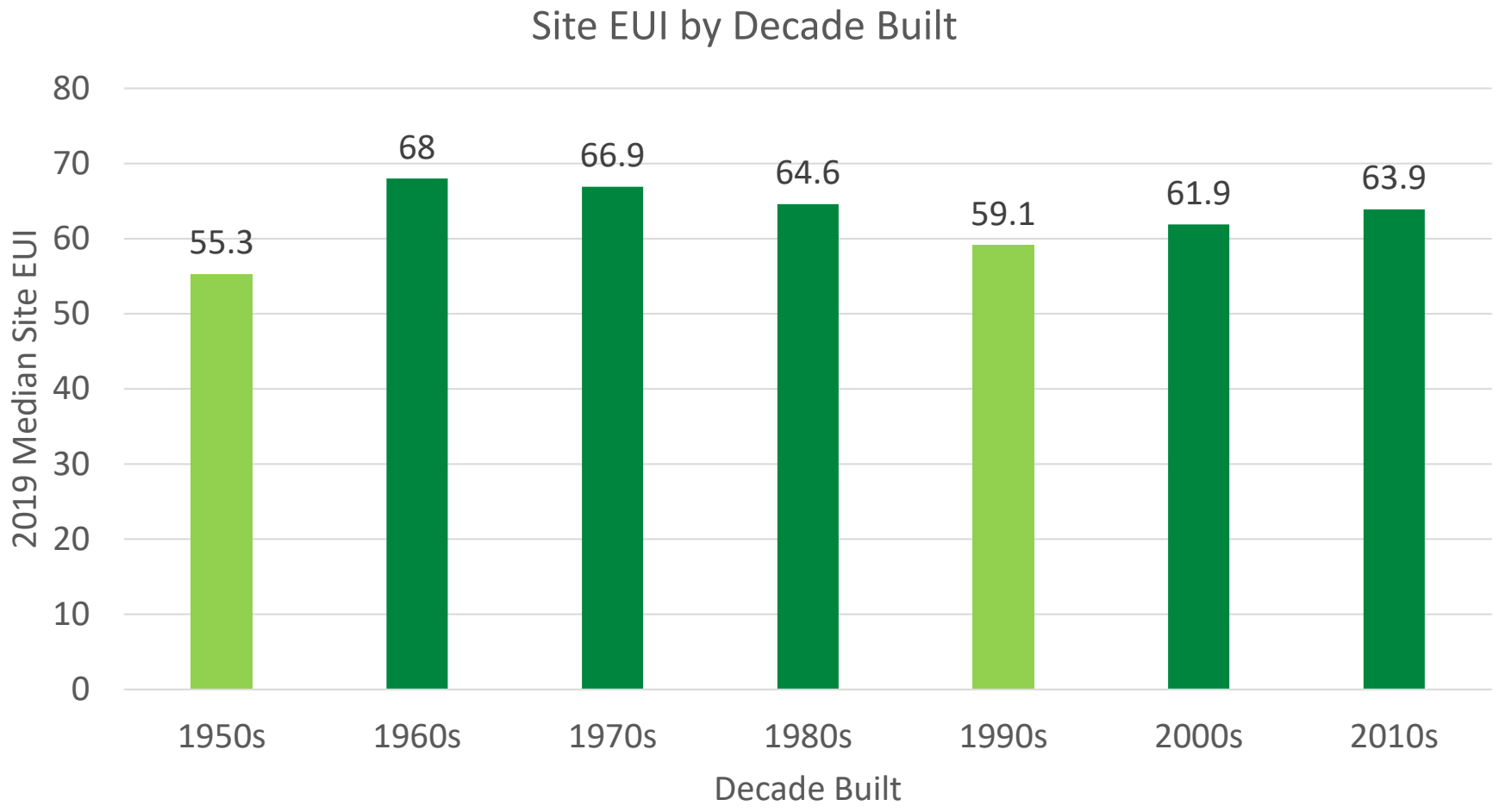
Site EUI and Age of Building

- Offices built in the 1950s have the lowest median Site EUI of reported offices, followed by those in built in the 1990s.
- Most offices benchmarked and reported in Montgomery County were built in the 1980s.



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Comparison of BEPS Metrics

	Montgomery County	Denver, CO	WA State	St. Louis, MO	Washington, DC	New York City	Boston
Metric	**Site EUI**	**Site EUI**	**Site EUI**	**Site EUI**	**ENERGY STAR score** (or equivalent)	**CO_2e** emissions	**CO_2e** emissions
Grouping	By building type	By building type	By building type	By building type	By building type	By building type	By building type
Minimum Threshold Performance	**Data-driven targets** in development, to be set in regulation. Based on site EUI by building type	Set in regulation such that that **30% total energy savings** across covered buildings is achieved	First target **15% below ASHRAE standard 100-2018** site EUI by building type	Standards set **no lower than 35th percentile** site EUI by building type (so 65% of buildings must improve)	Standards set no lower than **median ENERGY STAR score** (or equivalent)	CO_2e emissions **limits on a sq. ft. basis** by building type	CO_2e emissions **limits on a sq. ft. basis** by building type

See IMT's Comparison of U.S. Building Performance Standards: https://www.imt.org/resources/comparison-of-u-s-building-performance-standards/

Electrification Basics for Buildings

- Buildings use carbon-based fossil fuels for on-site heating, hot water heating, cooking, and back-up power.
- On-site combustion systems can be made more energy efficient, however those systems will still use fossil fuels, release CO_2, and worsen indoor air quality.
- **Electrification** = replacing on-site combustion systems with high-efficiency electric systems that can be powered by increasingly clean and renewable electricity.

	Fuel-Fired Systems		High-Efficiency Electric Systems
Heating	Furnaces and boilers	→	Ground-source, air-source, or air-to-water heat pumps
Water Heating	Gas-powered water heaters	→	Heat pump water heaters
Cooking	Gas-powered ovens and burners	→	Electric ranges and induction cooktops
Back-Up Power	Diesel-powered generators	→	Battery storage

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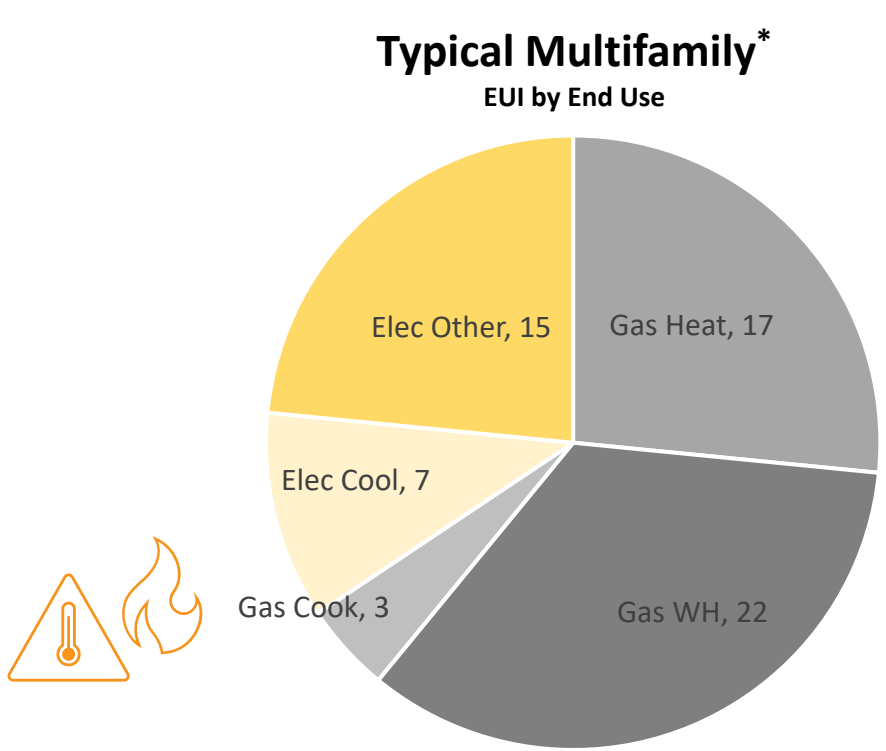
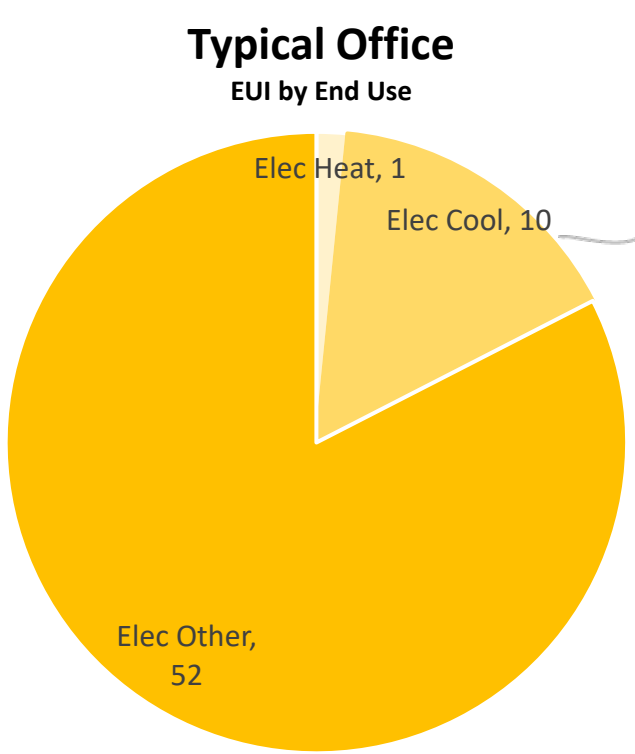
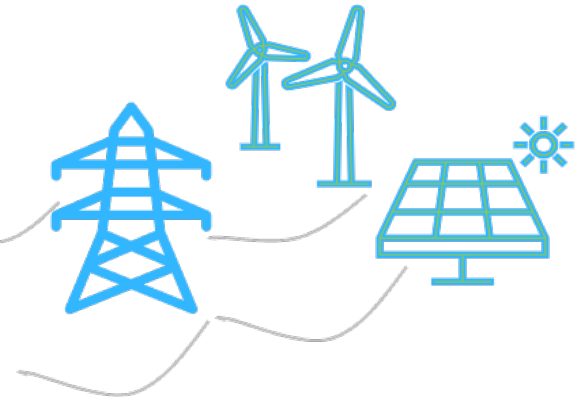
Electrification Basics and the Grid

- Some building types contain substantial amounts of on-site combustion and will be more challenged to reach net zero emissions (e.g., multifamily)
- Other building types within Montgomery County are already mostly electric and would have an easier time achieving carbon neutrality as the grid gets cleaner (e.g., offices)
- Further improving electric efficiency in eases the burden on the supply side to provide electricity from emissions-free sources







* MF, Old, Tall typology from DC benchmarking data

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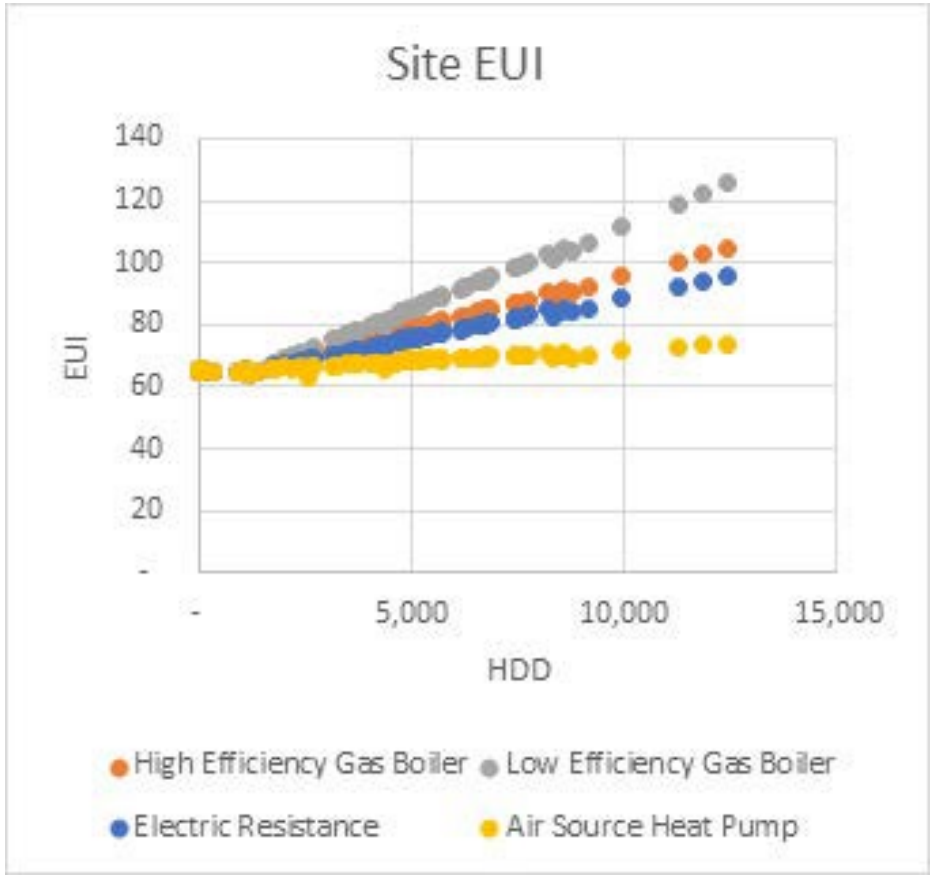
Electrification and Site EUI

- The Site EUI metric in Bill 16-21 favors electrification regardless of the efficiency of the electric technology.
- **Electrification is one of the deepest forms of energy efficiency because electric equipment operates at higher efficiency than fuel-fired equipment.**
- Setting a low BEPS site EUI target would require buildings to electrify end uses over time and improve electric efficiency.



Source: US EPA, Understanding and Choosing Metrics for Building Performance Standards and Zero-Carbon Recognition, May 2021

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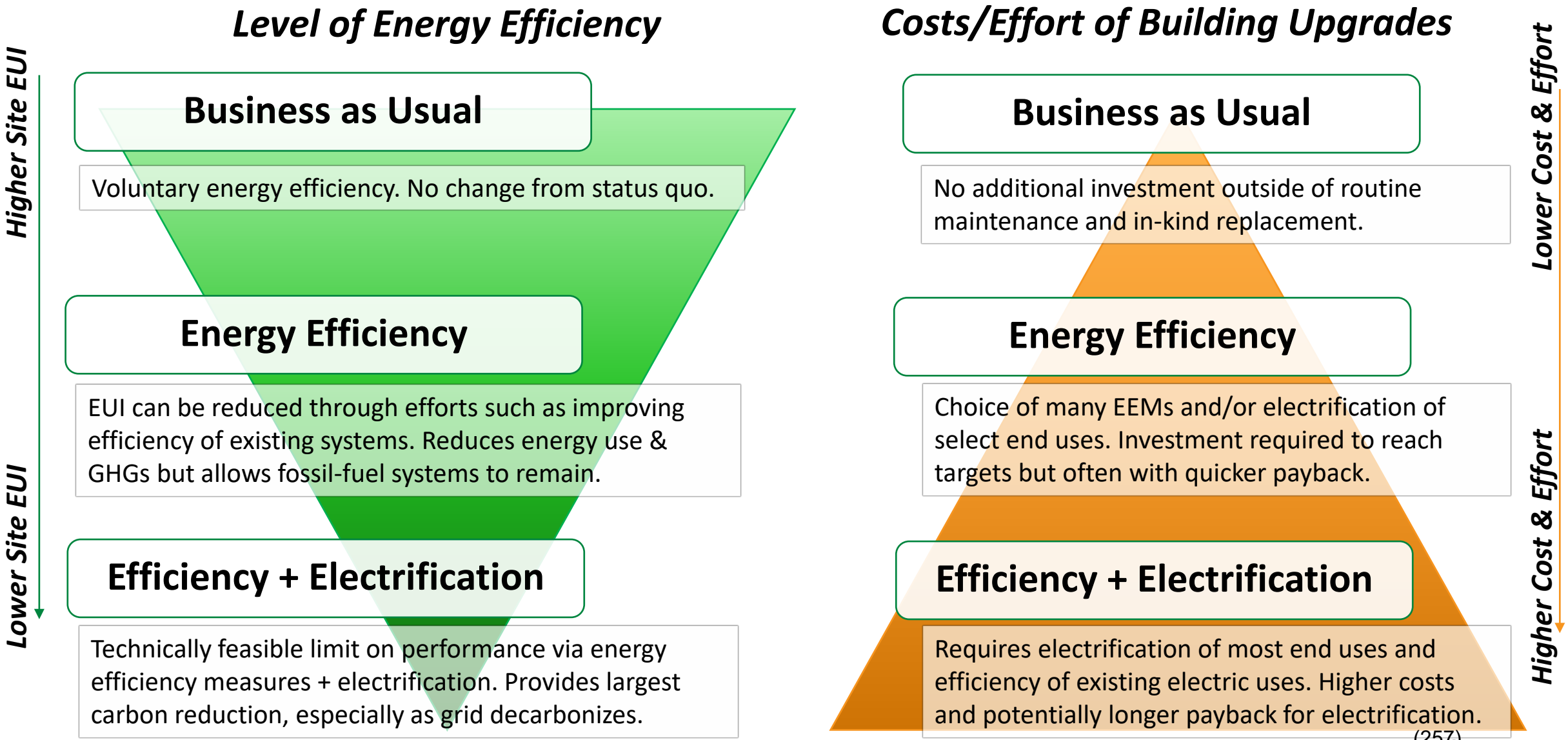
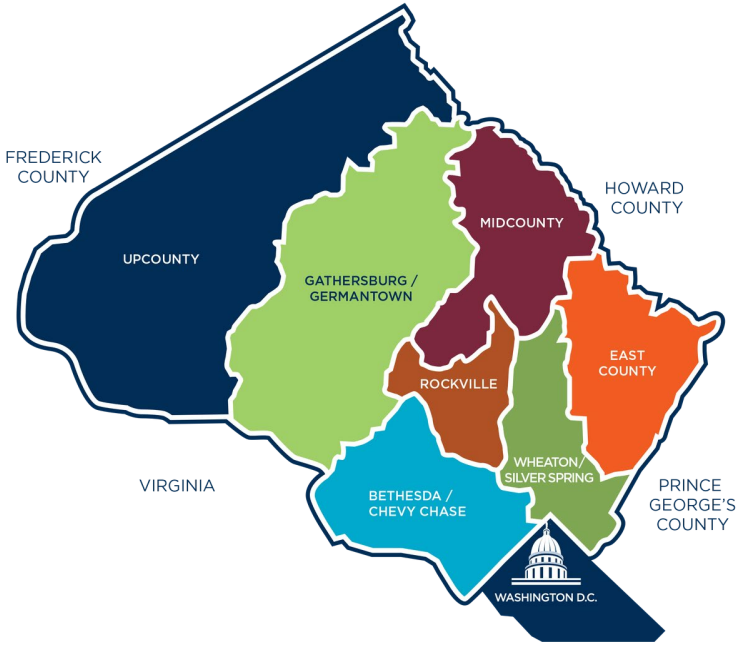
BEPS Standard-Setting Approach Options



Bill 16-21:
Building Energy Performance Standards

BEPS Technical Analyses
Purpose and Methodology



BEPS Technical Analyses

Purpose

- Identify potential BEPS performance target recommendations to evaluate technical feasibility, potential energy, GHG, and cost savings, and estimated costs in case-study buildings and county-wide covered buildings
- Develop recommendations for accounting for solar generation towards meeting BEPS targets as a policy tool to incentivize commercial solar installations

End Results: Two technical reports that will provide the County with guidance and recommendations on developing regulations following Bill 16-21.

High-Level Methodology of BEPS Technical Analysis

Covered Buildings

- Develop an approximate covered buildings list
- Group covered buildings into building types to evaluate a range of technically feasible site EUI targets

Standard Setting Options

- Establish a recommended method for setting building performance standards
  - Use typical energy use profiles in building types representative of buildings in Montgomery County
  - Assume retrofits using commercially available technology

County-Wide Impacts

- Model county-wide impacts of potential BEPS targets to estimate:
  - Energy savings
  - GHG reductions
  - Cost savings
  - Cost impacts

Case Studies

- Select buildings representative of primary building types that would have to meet a BEPS target
- Create retrofit packages via desk audits to:
  - Test technical feasibility of potential site EUI targets,
  - Estimate the total capital costs,
  - Estimate energy cost savings of meeting targets

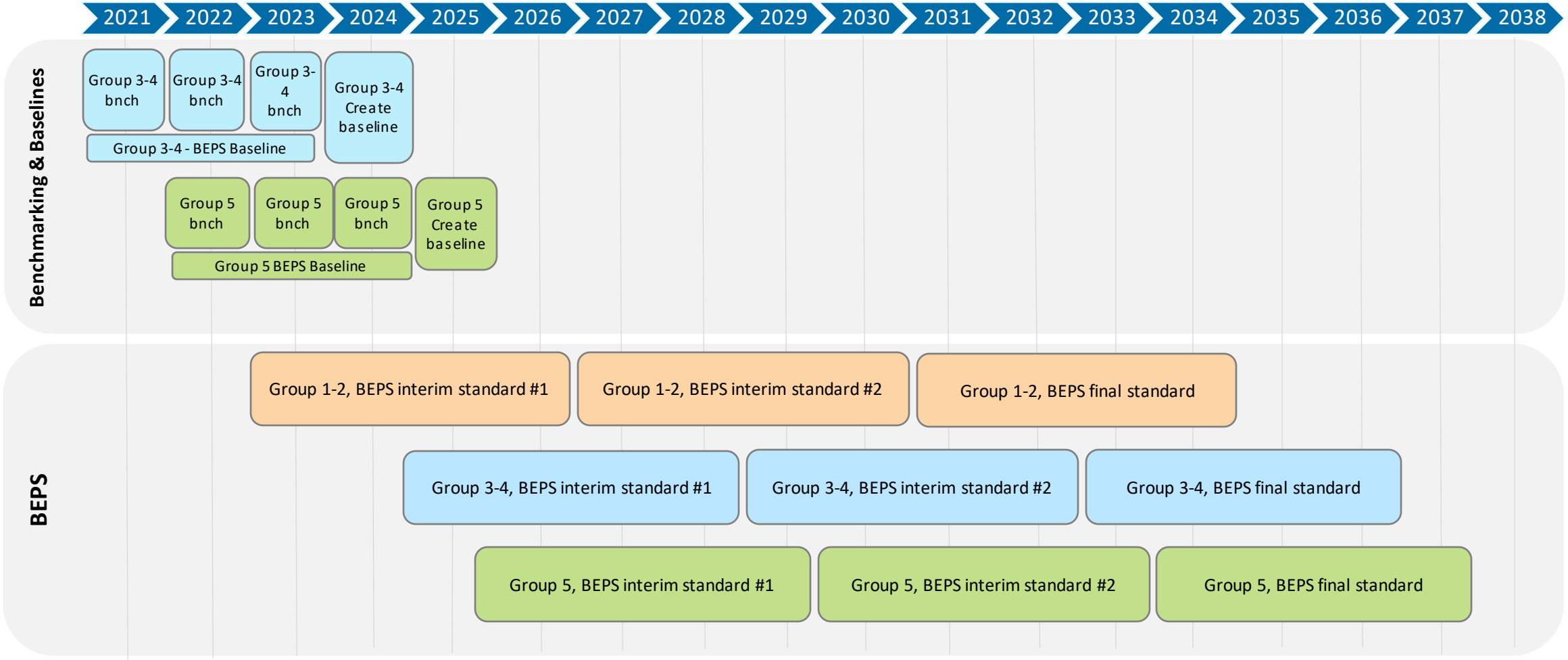
BEPS Solar Credit Report Approach

- Draft recommendations for “crediting” renewable energy in the BEPS
- Develop a range of technical approach options that consider:
  - Calculation process
  - Net metering
  - REC retention
  - Available data & reporting processes
  - Linkages between solar and energy efficiency investments
- Engage stakeholders
- Translate the technical approach into policy recommendations

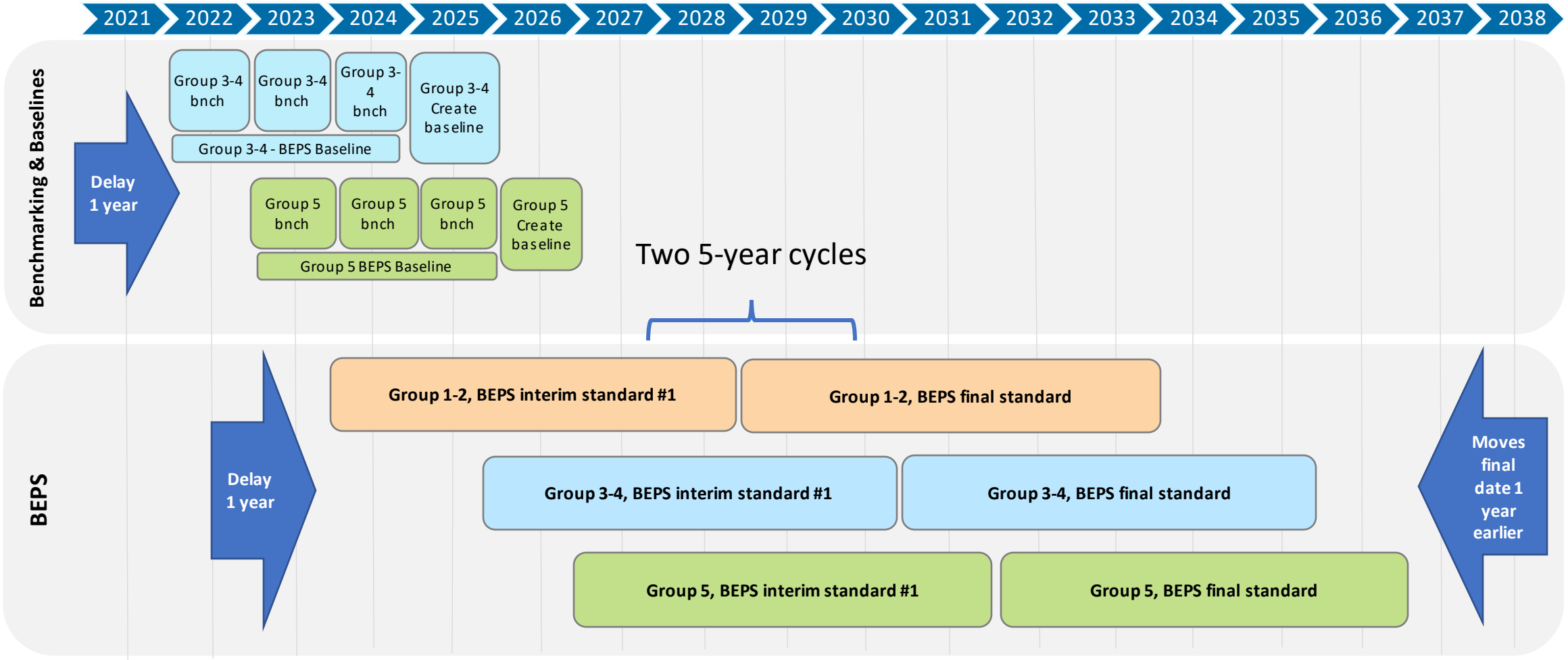
Proposed Topics to Cover at Future BEPS Work Sessions

- **Future Work Session Topics Can Include:**
  - Compliance Pathways for BEPS
  - Tools and Resources for Meeting BEPS
  - Regulations Preview and Decision Points
    - Under-resourced Sectors and Compliance Considerations
    - Approach to Setting the BEPS Standards (Technical Report highlights)
    - Solar Credit Recommendations

Timeline Options – Currently in Bill 16-21



Timeline Options – Earlier Final Deadline, extend cycle



Timeline Options – Earlier Final Deadline, extend cycle

Building Group	Begin Benchmarking	Baseline Years	Start BEPS	Interim BEPS	Final BEPS
County, Group 1 & 2 Commercial 50k+ gsf	-	**2018-2023**	2024	2028	2033
Group 3 & 4 Commercial 25-50k gsf Residential 250k+ gsf	**CY 2022 by June 1, 2023**	**2022-2024**	2026	2030	2035
Group 5 Residential 25-250k gsf	**CY 2023 by June 1, 2024**	**2023-2025**	2027	2031	2036