

Appendix M – BEPS Informational Session 1: How to Get Started: Decarbonizing Large Buildings – August 6, 2024



Maryland's Building Energy
Performance Standards (BEPS)

How To Get Started: Decarbonizing Large Buildings

August 6, 2024

**Sam Furio - Outreach
Coordinator**

Visit Our Website
mde.maryland.gov



Agenda

- Meet Dr. Decarb and Ms. Price
- Building regulations overview
- How to get started
- Benchmarking
- Compliance
- Resources





Outreach Sessions

Aug. 6 – How to Get Started: Decarbonizing Large Buildings

Aug. 13 – Dr. Decarb Answers Questions About Building Standards

Aug. 22 – Clean Buildings for All: Leaving No One Behind

Sept. 10 – Benchmarking and Reporting Working Group





Dr. Decarb Diagnoses and Prescribes

BENCHMARK LIKE A PRO
Maryland Department of the Environment

MAKE AN ENERGY STAR PORTFOLIO MANAGER (ESPM) ACCOUNT & TAKE FREE TRAININGS
ESPM is the chosen energy benchmarking tool for compliance with Maryland's BEPS. Make a free account and start familiarizing yourself with the tool and its available trainings.

DETERMINE YOUR BUILDING CHARACTERISTICS
Set yourself up for benchmarking success by ensuring your building square footage and utility meter information is accurate.

PLAN AHEAD
Once you have access to your data in ESPM, determine how your building needs to perform to comply with BEPS and make a plan to get there.

More Tips?
Contact the Building Decarbonization Team at je@maryland.gov

SYMPTOMS THAT YOUR BUILDING IS SICK

HIGH UTILITY BILLS
Are those electric and gas bills not going down no matter what?

WEIRD NOISES
Creepy noises coming from your walls and air vents?

WHAT SHOULD YOU DO?

GET AN ENERGY AUDIT
An Energy Audit is a physical for a building. Energy Audits can identify major energy saving opportunities and safety concerns. Contact your utility provider about types of offered Energy Audits.

Maryland Department of the Environment

- Webinar series launches **August 13th @ 7 p.m.**
- Dr. Decarb and his team are here to help you better understand how to comply with the regulations
- Sign-up today for our newsletter to receive resources and helpful tips



Ms. Price is Your Resource Liaison

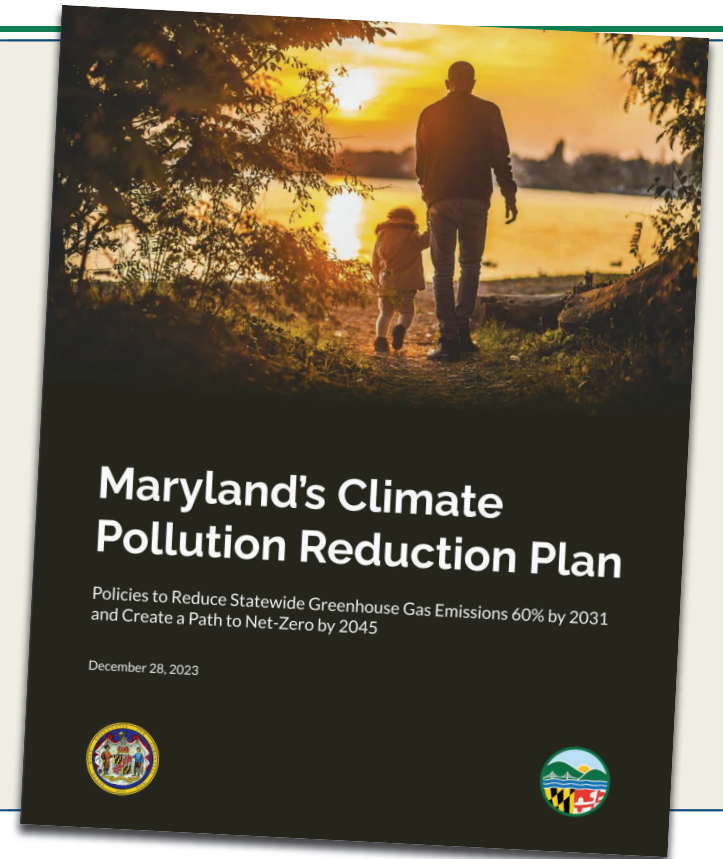
- Ms. Price from the Maryland Energy Administration is launching her webinar series on **August 22nd @ 7 p.m.**
- Ms. Price is here to help you get the **resources you need** to decarbonize buildings
- Sign-up today for the Clean Buildings For All webinar and The Hub newsletter





Climate Pollution Reduction Plan

- Climate Solutions Now Act of 2022 (CSNA) requires the Maryland Department of the Environment to develop Building Energy Performance Standards (BEPS)
- CSNA requires Maryland to reduce statewide greenhouse gas emissions 60% by 2031 (compared to 2006 levels) and reach net-zero emissions by 2045



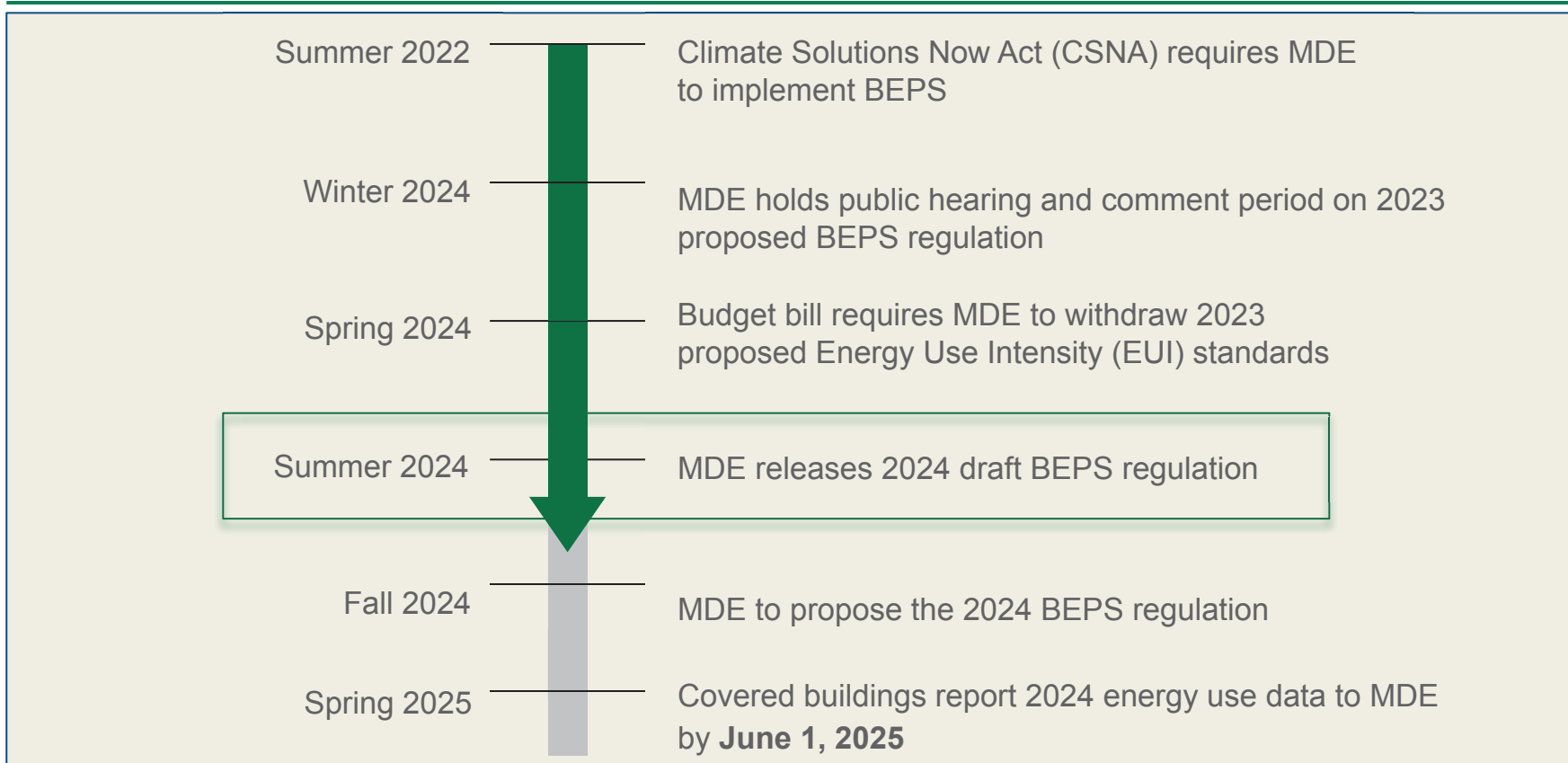


Overview of BEPS Regulation

- Most buildings 35,000 square feet or larger are covered
- Start benchmarking now - required by June 1, 2025
- Buildings over 35,000 square feet must meet interim standards in 2030, reach zero net direct emissions by 2040
- Building owners can make an alternative compliance payment in lieu of fully achieving the emissions standards

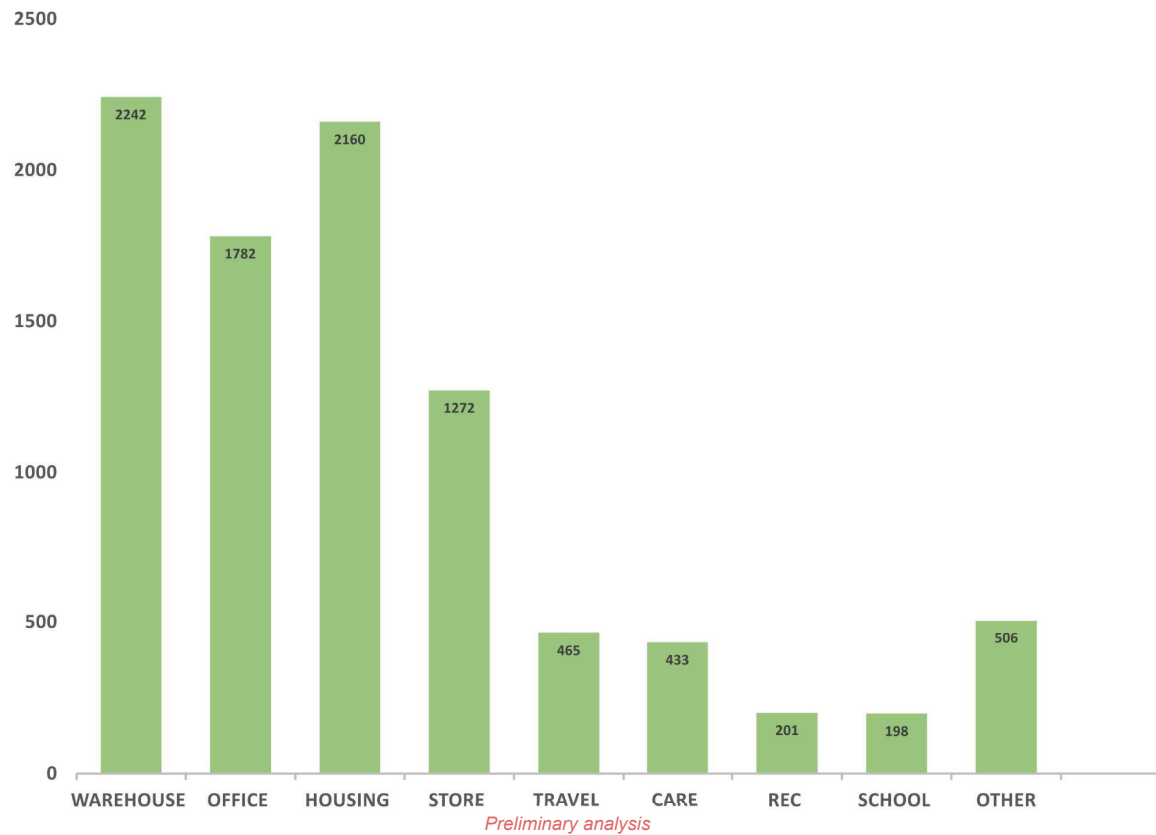


Regulation Timeline



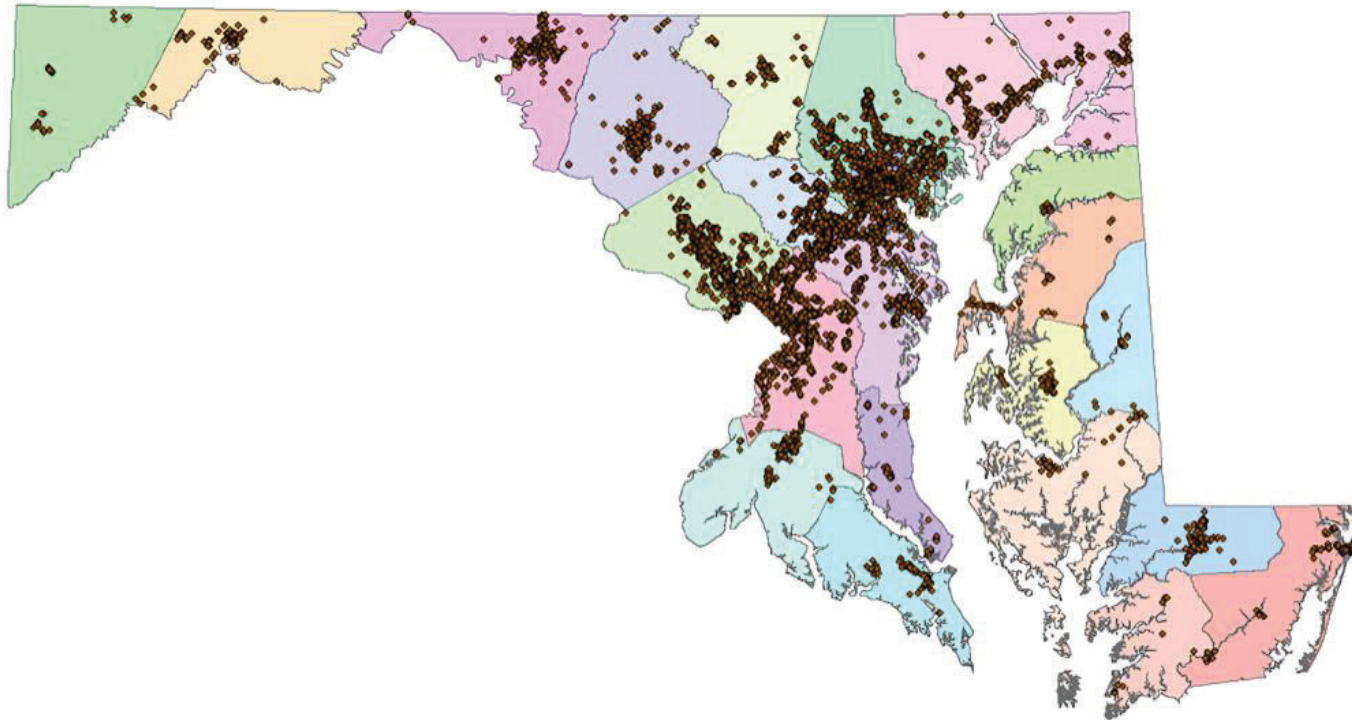


Covered Buildings: Property Types





Covered Buildings: Locations



Preliminary analysis



Exemptions: Buildings

- Historic buildings (designated as historic property under law);
- Public or nonpublic elementary and secondary school buildings;
- Manufacturing buildings;
- Agricultural buildings; and
- Federally-owned buildings



Photo courtesy of www.gwwoinc.com



Exemptions: Energy Use

- Food service facilities engaging in commercial cooking and water heating
- Electric vehicle charging
- Emissions from required combustion equipment if a federal or State regulation requires it
- Misc. (see TM) e.g. cell towers



Photo by [Jason Leung](#) on [Unsplash](#)



What Does a Building Owner Need to Do?

1. Determine if a building is covered by calculating its square footage and/or evaluating exemption status
2. **Start benchmarking**
3. Assess whether the building is already achieving the proposed standards
4. If not meeting the standards, plan to make improvements and determine when it's preferable to pay the alternative compliance fee
5. Prioritize **efficient** electrification projects, as MDE intends to bring back site energy use intensity.



Taking Steps Now

- Conduct an energy audit
- Install LED lighting
- Purchase ENERGY STAR certified electric equipment
- Make weatherization improvements to the building envelope, including air sealing and insulation
- Retro-commission building systems
- Install control systems for plug loads, lighting, and HVAC



How to Get Started

Benchmarking

**Annually,
starting in 2025**

Use ENERGY STAR
Portfolio Manager to
track annual energy
use and greenhouse
gas emissions



How to Get Started

Benchmarking

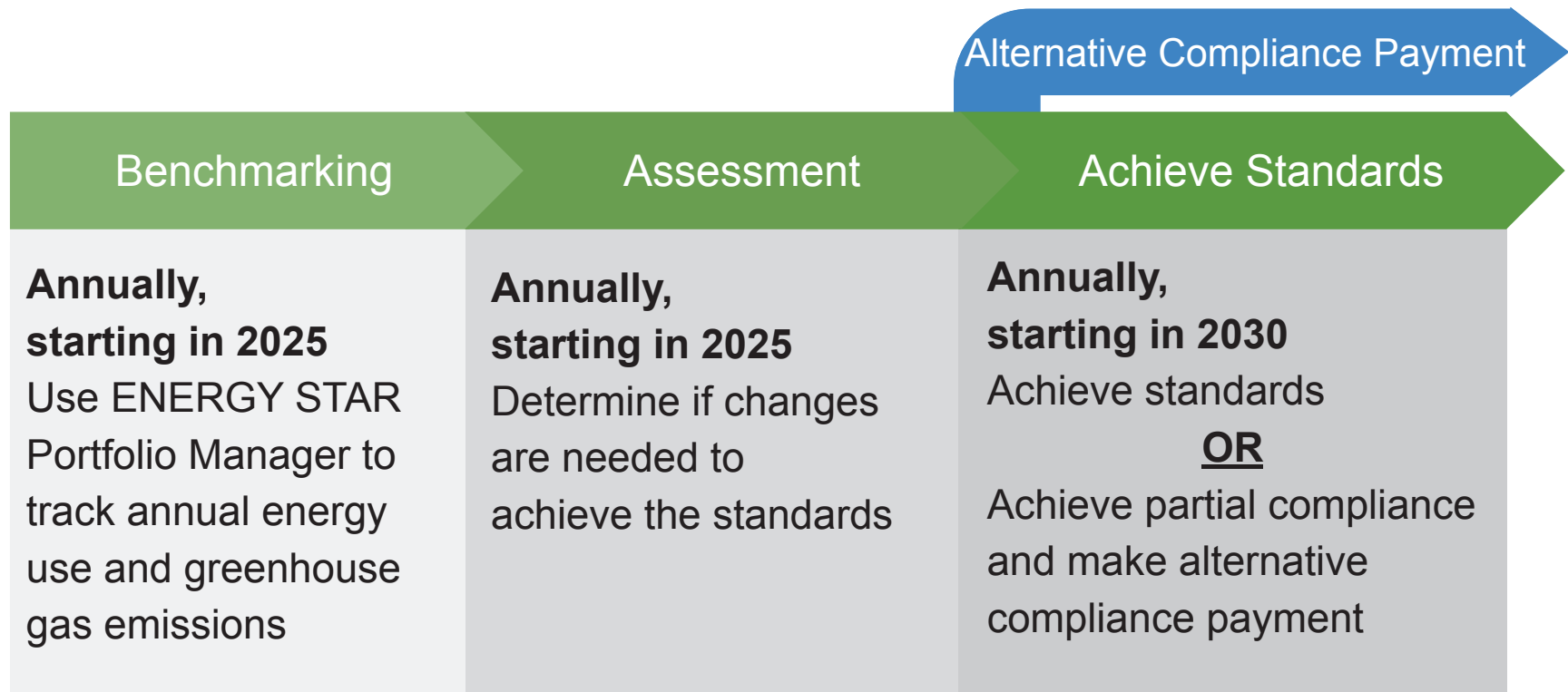
**Annually,
starting in 2025**
Use ENERGY STAR
Portfolio Manager to
track annual energy
use and greenhouse
gas emissions

Assessment

**Annually,
starting in 2025**
Determine if changes
are needed to
achieve the standards



How to Get Started





Alternative Compliance Payments

Alternative compliance is available for the proposed net direct emissions standard in the form of payments set at the US Environmental Protection Agency's (EPA) social cost of greenhouse gas. These rates are the lowest permitted by law.

Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2040+
Cost per metric ton of CO ₂ e	\$230	\$234	\$238	\$242	\$246	\$250	\$254	\$258	\$262	\$266	\$270	\$270 + \$4/yr

All figures are in 2020 dollars and will be adjusted for inflation to that year



Compliance Spectrum

Undesirable

Ideal

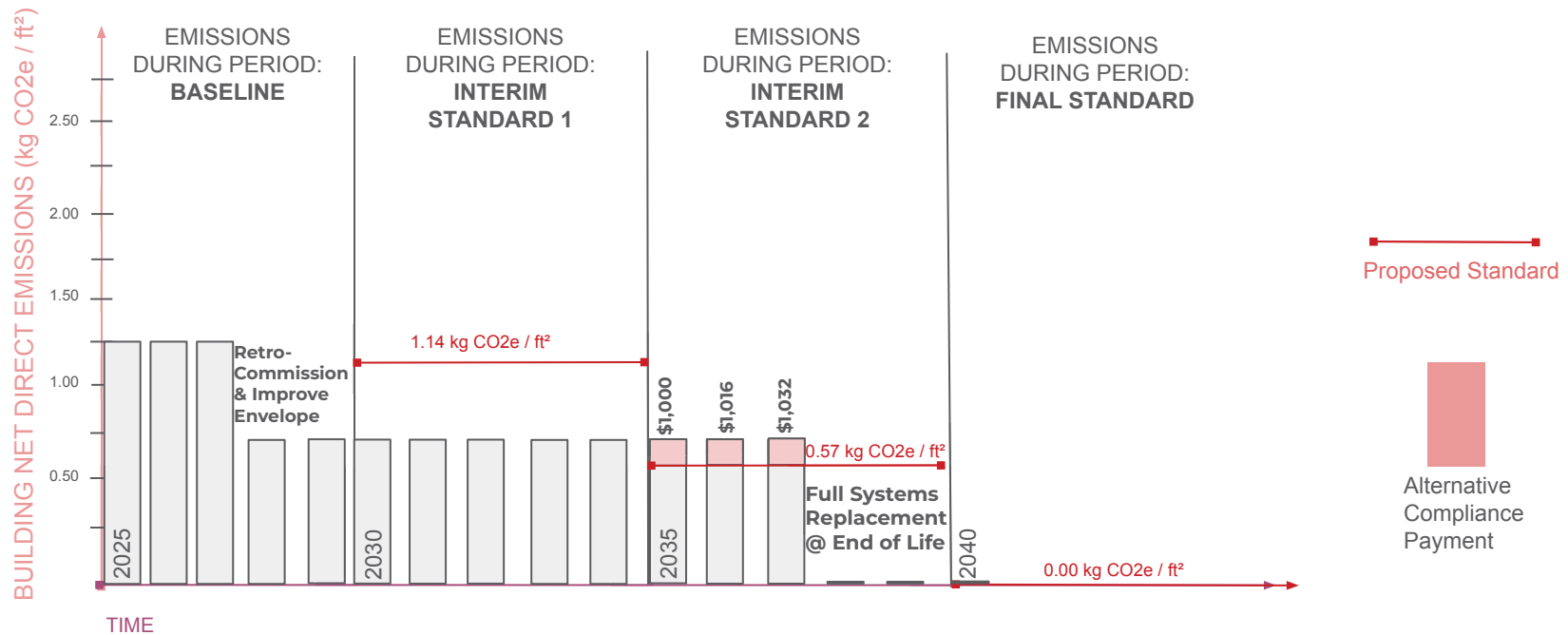
Building owner is not currently meeting the standard and makes no improvements to their property. They opt to meet compliance by making an Alternative Compliance Payment for the difference between the standard and their total emissions.

Building owner is already nearly in compliance and/or opts to make improvements to their property until they deem it is more cost-effective to make an Alternative Compliance Payment on remaining emissions over the proposed standard.

Building owner is already meeting or making improvements to meet the standard.



Example: Alternative Compliance Payment



2035 Alternative Compliance Payment Calculation
 Emissions over standard: $0.67 - 0.57 \text{ kg CO}_2\text{e/ft}^2 = 0.1 \text{ kg CO}_2\text{e/ft}^2$
 $0.1 \text{ kg CO}_2\text{e/ft}^2 * 40,000 \text{ ft}^2 / 1000 \text{ kg/ton} = 4 \text{ CO}_2\text{e}$
 $4 \text{ tons CO}_2\text{e} * \$250/\text{ton CO}_2\text{e in 2035} = \mathbf{\$1,000/\text{year}}$
 $\mathbf{\$1000/12 = \sim \$83/\text{mth}}$



Resources and Financial Support



**Utility incentives for training,
building tuneups, equipment**



**Financing and technical
assistance**



**Grants and loans for
energy efficiency**



**Federal Incentives, tax
credits and deductions**



**Turn-key, low cost, standardized
services to make buildings
energy efficient**



**Clean Buildings Hub,
grants, loans, rebates**



Clean Buildings Hub





Questions?



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410-537-3183

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