

DOEE BEPS GHG Study



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**DCEN Stakeholder Meeting
January 20, 2023**

National BPS Coalition



- **38 participating governments** (including DC, Prince Georges and Montgomery Counties and Annapolis) have committed to passing building retrofit policies like BPS by **Earth Day 2024**
- Federal agencies have committed to align **federal resources with policy design and implementation**
- **www.nationalbpscoalition.org**

National Building Performance Standards Coalition

June 28, 2022



The image features a background of wooden blocks and a graduation cap on the left side, set against a warm, brownish-gold gradient. On the right side, there is a solid red gradient background containing a list of ten principles. The text is white and clearly legible against the red background.

Principles

1. Align with goals/commitments
2. Social and racial equity
3. Regulatory fairness
4. Jobs and economic growth
5. Maximize certainty
6. Transparency
7. Drive early action
8. Accommodate building life cycle events
9. Simplicity
10. Ease of compliance/ implementation

BPS Type 1: Standards recalculated every 4-5 years



DC BEPS

Covers Comm, MF \geq 10,000 sf

Metric: ENERGY STAR Score; source and site EUIs for certain buildings

Performance, “prescriptive,” and alternative compliance paths



St. Louis BEPS

Covers Comm, MF \geq 50,000 sf

Metric: Site EUI

Performance and custom compliance paths



Washington Clean Buildings Standard

Covers Comm \geq 50,000 sf

Metric: Site EUI

Performance path and custom compliance path based on life-cycle cost analysis

BPS Type 2: Long-term, GHG-based standards



New York City

Covers: Comm, MF \geq 25,000 sf
Metric: Annual GHG emissions
Standards deadlines: Begin in 2024 and get stricter every 5 years until 2050
Alt Compliance: Bldgs can get adjusted limits in certain conditions; certain bldgs have additional compliance options



Boston

Covers: Comm, MF \geq 20,000 sf
Metric: Annual GHG emissions
Standards deadlines: Begin in 2025 and get stricter every 5 years until 2050
Alt Compliance: Reduce GHGs 50% by 2030, 100% by 2050 from 2005 or later baseline

BPS Type 3: Trajectory Approach



IMT Model Ordinance

Compatible with any metric except ENERGY STAR Score

Sets final, long-term standards for each bldg type

Bldgs have individual trajectory with interim standards

Custom compliance path



Denver BPS

Comm, MF $\geq 25,000$ sf

Metric: Site EUI

Performance, prescriptive, and custom compliance paths



Montgomery County, MD

Comm, MF $\geq 25,000$ sf

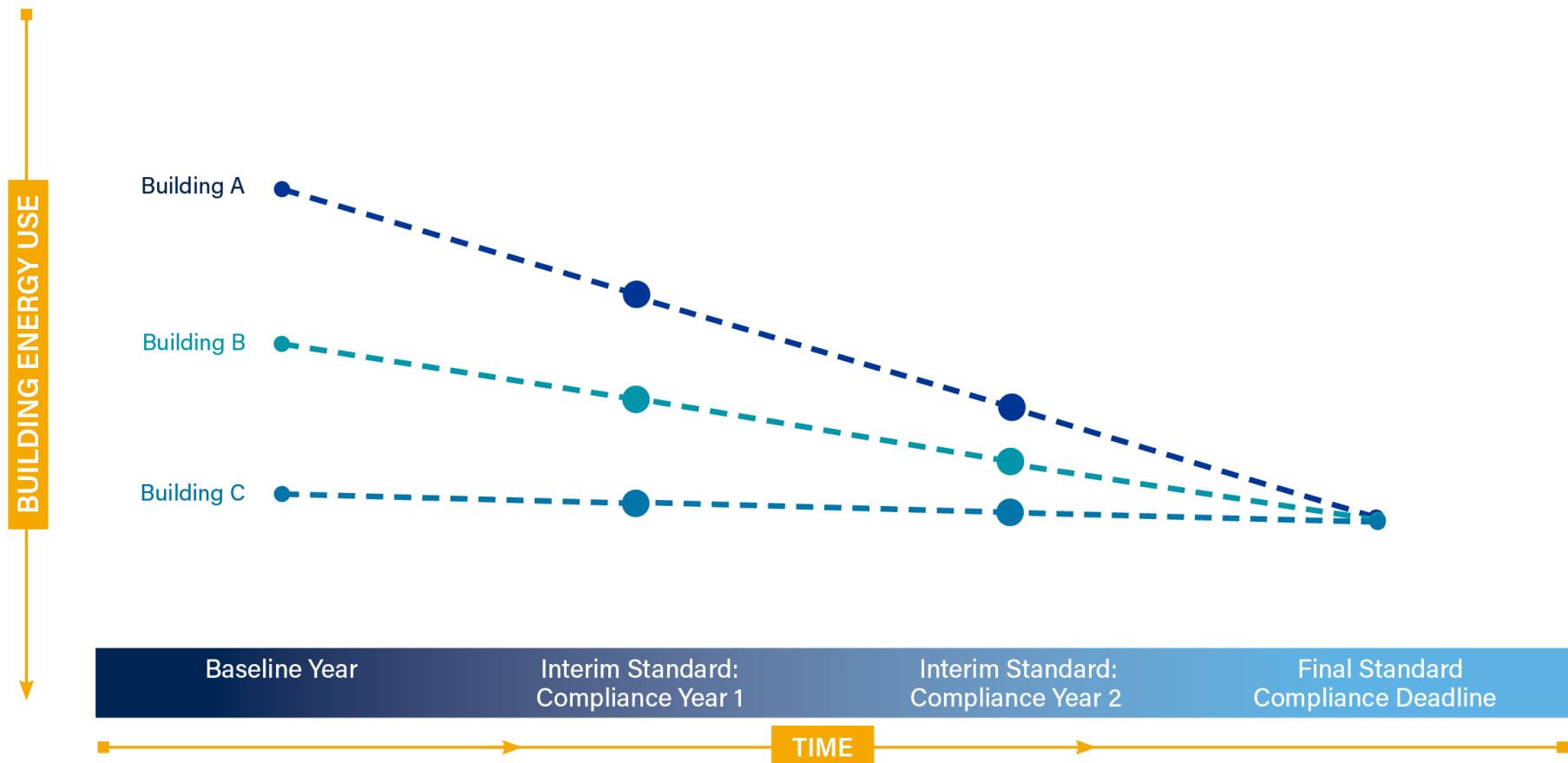
Metric: Site EUI

Performance and custom compliance paths

IMT's BPS Model Law

- IMT published the first model law for building performance standards in January 2021
- Incorporates lessons learned from adopted BPS
- Reviewed by expert stakeholders in real estate, social equity, building science, building performance policy
- www.imt.org/bps
 - [IMT Model BPS law](#)
 - [Summary presentation](#)
 - BPS Implementation Guide
 - Comparisons of Adopted BPS

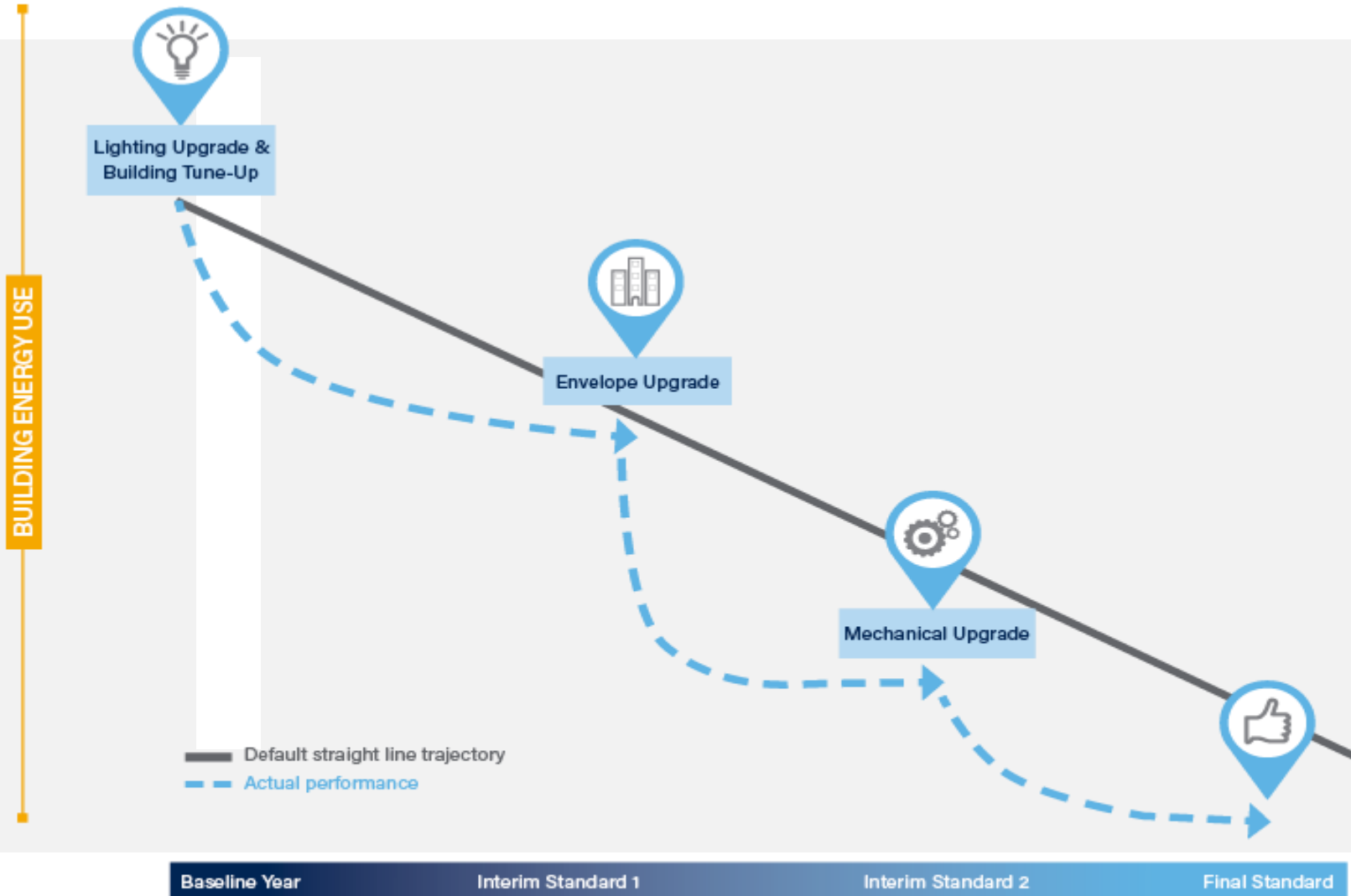
IMT's BPS Trajectory Approach: EUI Standards for Three Office Buildings



IMT's BPS Trajectory Approach: Onsite and District Thermal GHG Standards for Three Office Buildings



Compliance Example



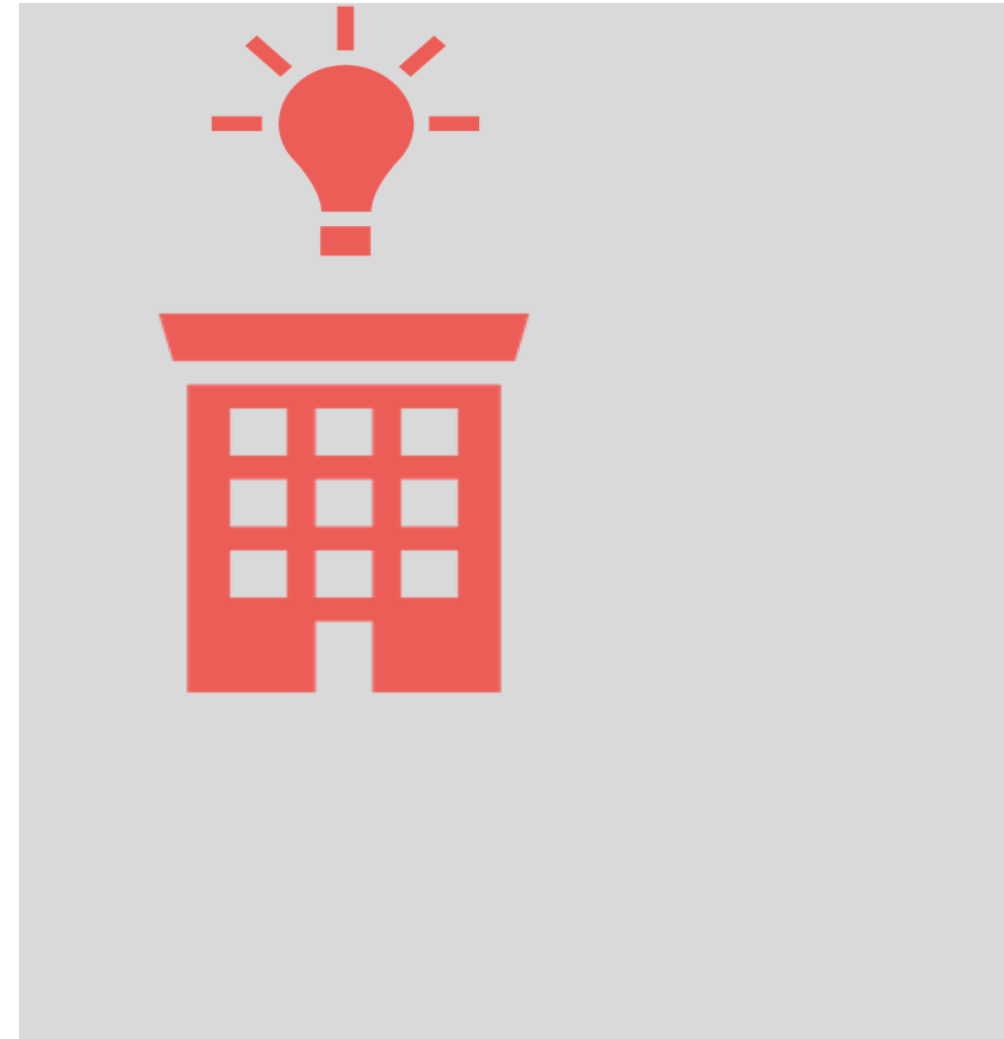


Recommended Metrics for Performance Standards

- Maximum Normalized Site Energy Use Intensity
- Maximum Onsite Greenhouse Gas Emissions
- Maximum Coincident Peak Electric Demand
- Maximum Coincident Peak Local Electric Demand
- Water Use Intensity

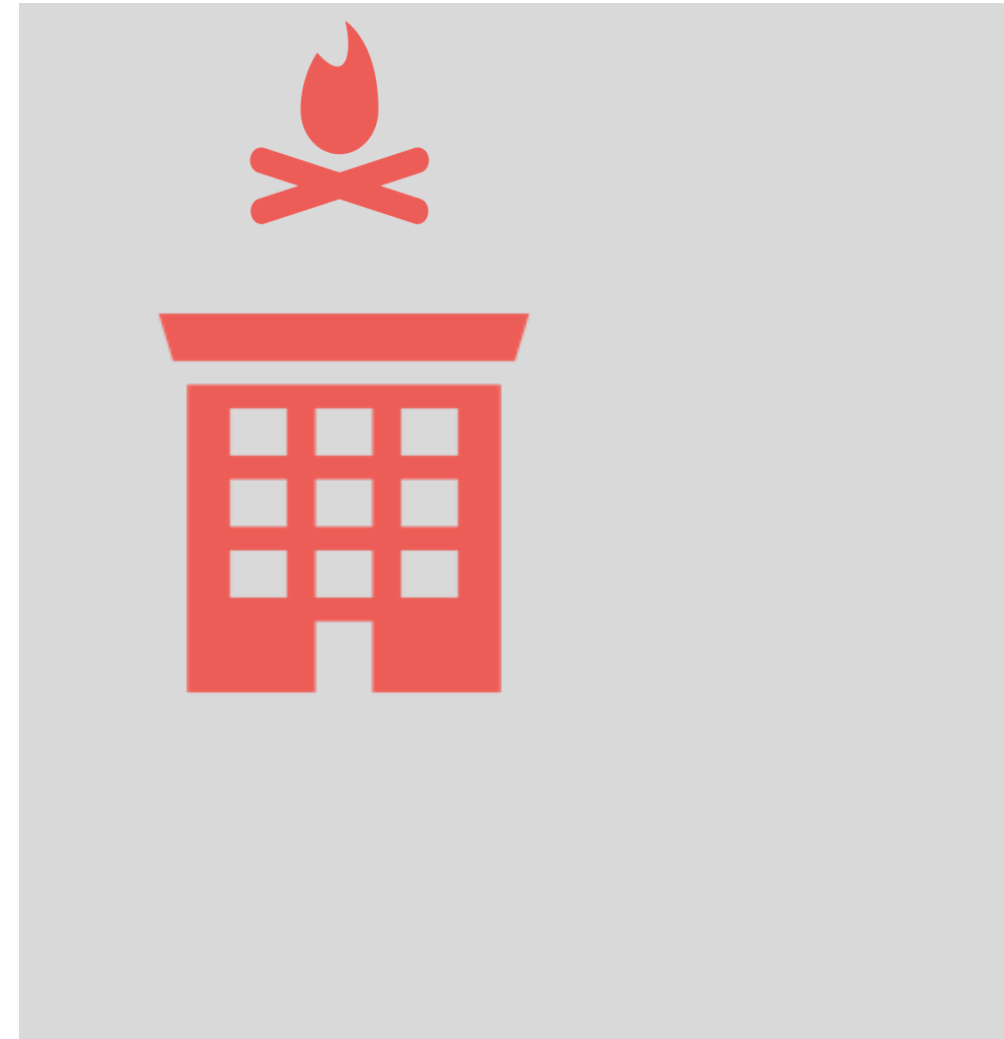
Maximum Normalized Site Energy Use Intensity (kBtu/sq. ft./year)

- Owners have more control over site EUI than source EUI
- Site EUI favors electrification because it is not adjusted for energy losses from transmission and distribution
- ENERGY STAR Portfolio Manager can normalize site EUI for weather for all properties. IMT is collaborating with building owners, state and local governments, trade organizations, and the EPA to determine the feasibility of normalizing for other property use characteristics such as hours of operation and number of workers.



Maximum Onsite and District Thermal Greenhouse Gas Emissions

- Requires owners to reduce and ultimately phase-out use of fossil fuels such as gas
- Metric works with site EUI to encourage electrification and require the reduction of overall energy consumption
- Ordinance does not set a standard for GHGs attributable to electricity purchased from the grid in part because time of use data is not widely available





thanks!

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