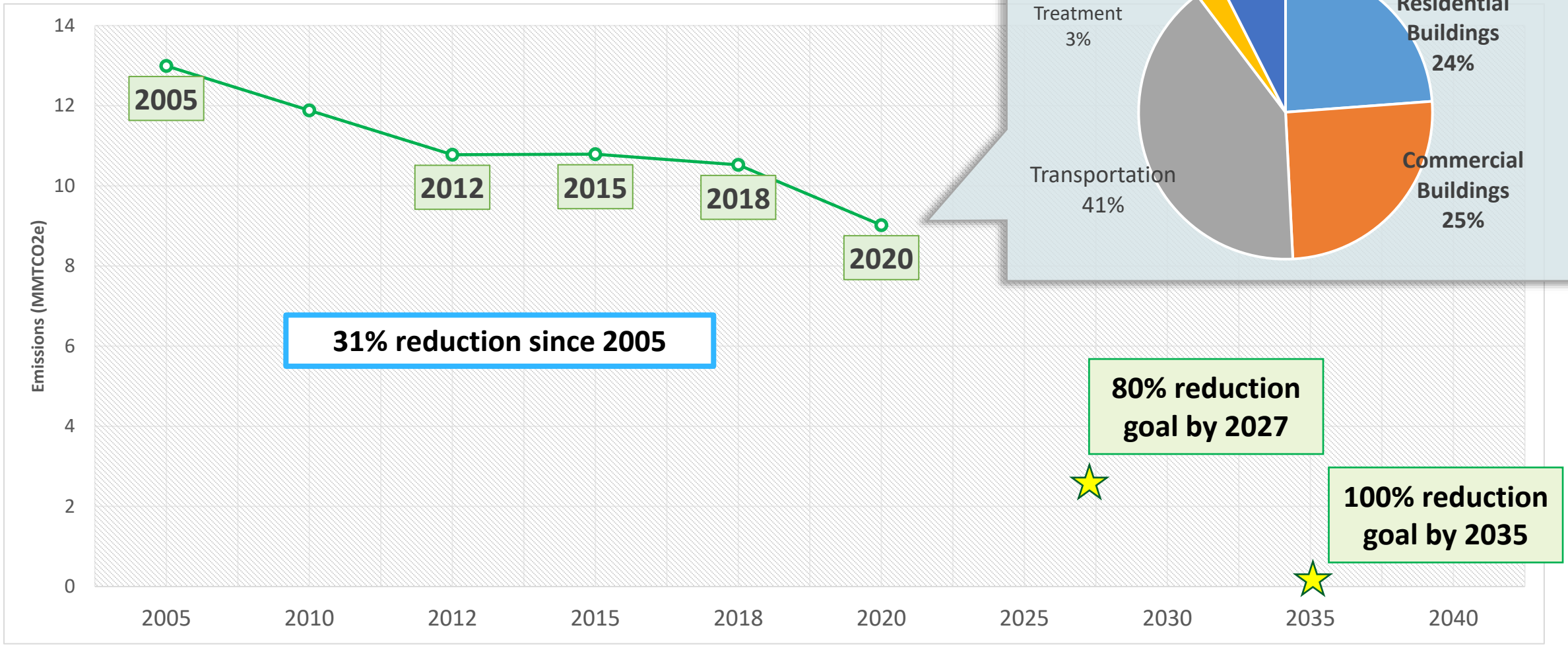
September 15, 2022

Montgomery County Building Energy Benchmarking & Performance Standards

Learn more at https://www.montgomerycountymd.gov/green/energy/beps.html

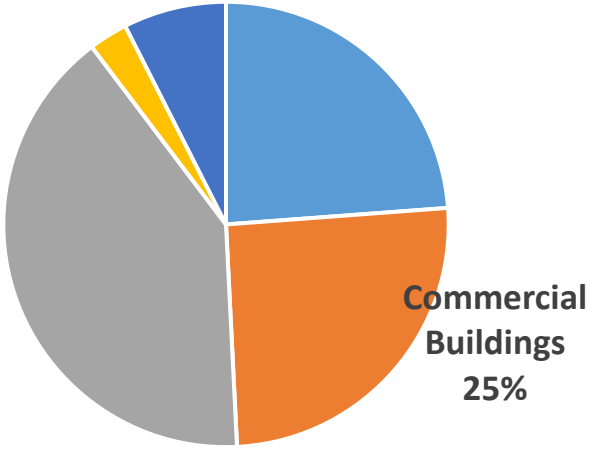
Montgomery County's Climate Goals

- Emissions reduction goals of 80% by 2027 and 100% by 2035
- BEPS address energy use and emissions in **existing** commercial buildings

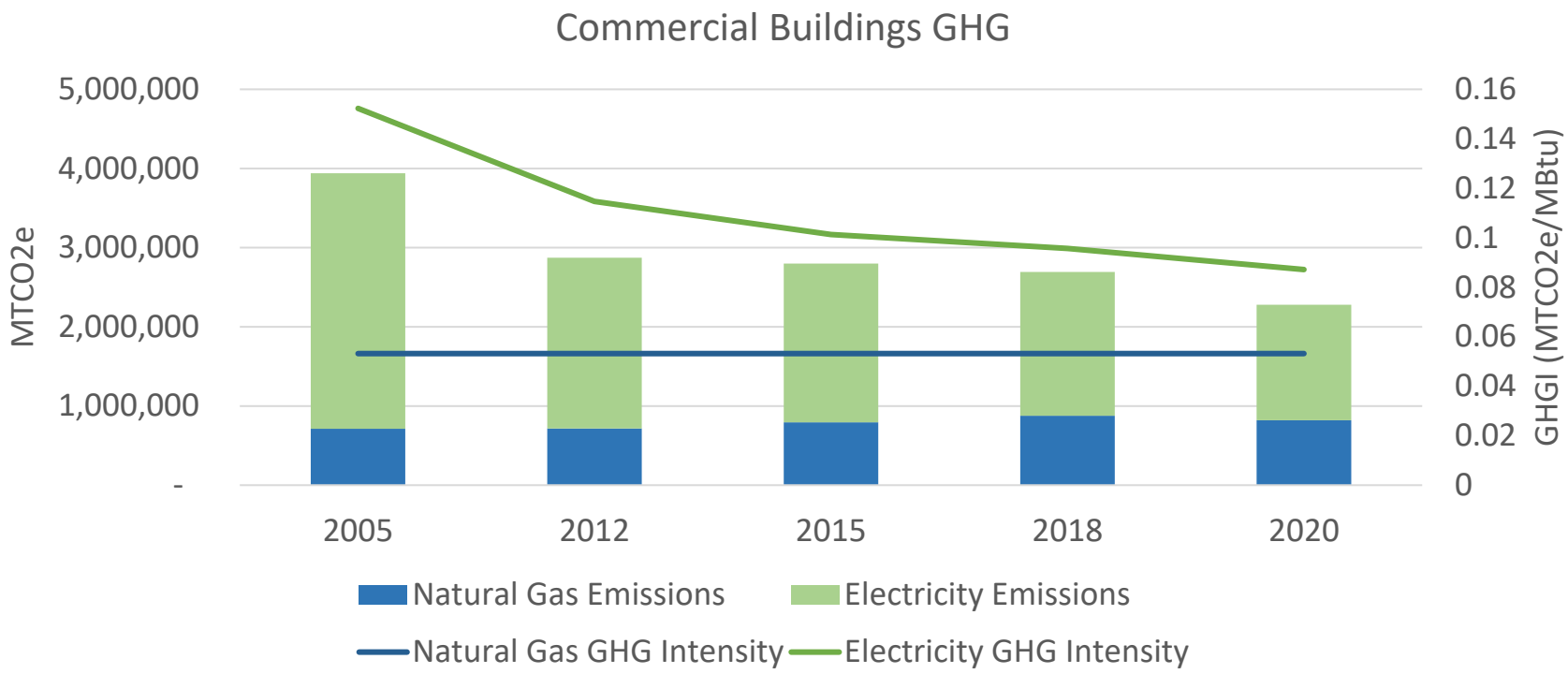


Source: Metropolitan Washington Council of Governments (MWCOG) Montgomery County GHG Inventory

Trends in Commercial Buildings



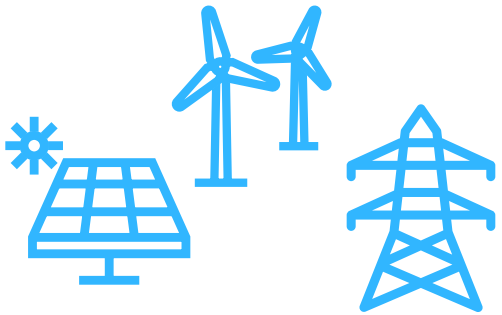
Change, 2005 to 2020	Electricity	Gas
GHG emissions	↓ 55%	↑ 15%
Energy Consumption	↓ 21%	↑ 15%
GHG intensity	↓ 43%	→ 0%



Source: Metropolitan Washington Council of Governments (MWCOG) Montgomery County GHG Inventory

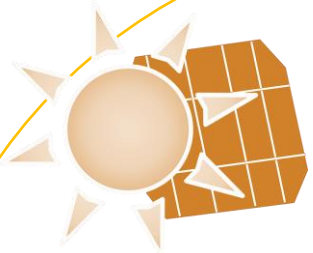
Buildings & Climate

- All-electric buildings supplied with 100% clean energy essentially operate at “net zero carbon” emissions
- Building Energy Performance Standards (BEPS) focus on elements within the building owner’s control



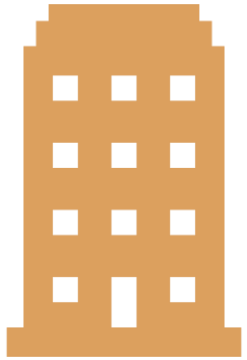
Produce renewable energy

BEPS

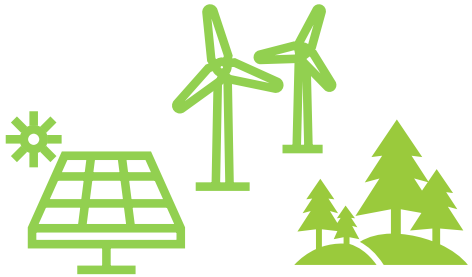


Incorporate renewable energy

Electrify building systems and end uses

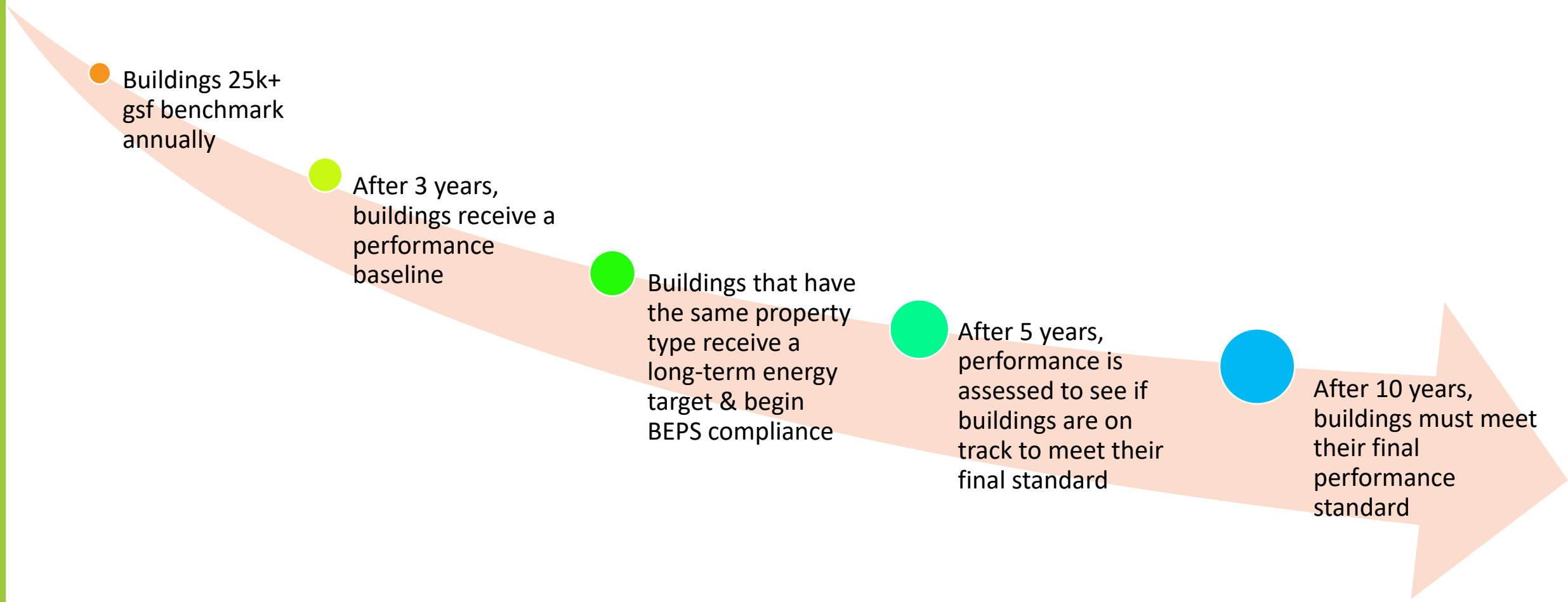


Use less energy via conservation & efficiency



Offset remaining emissions

Benchmarking and BEPS Program Overview



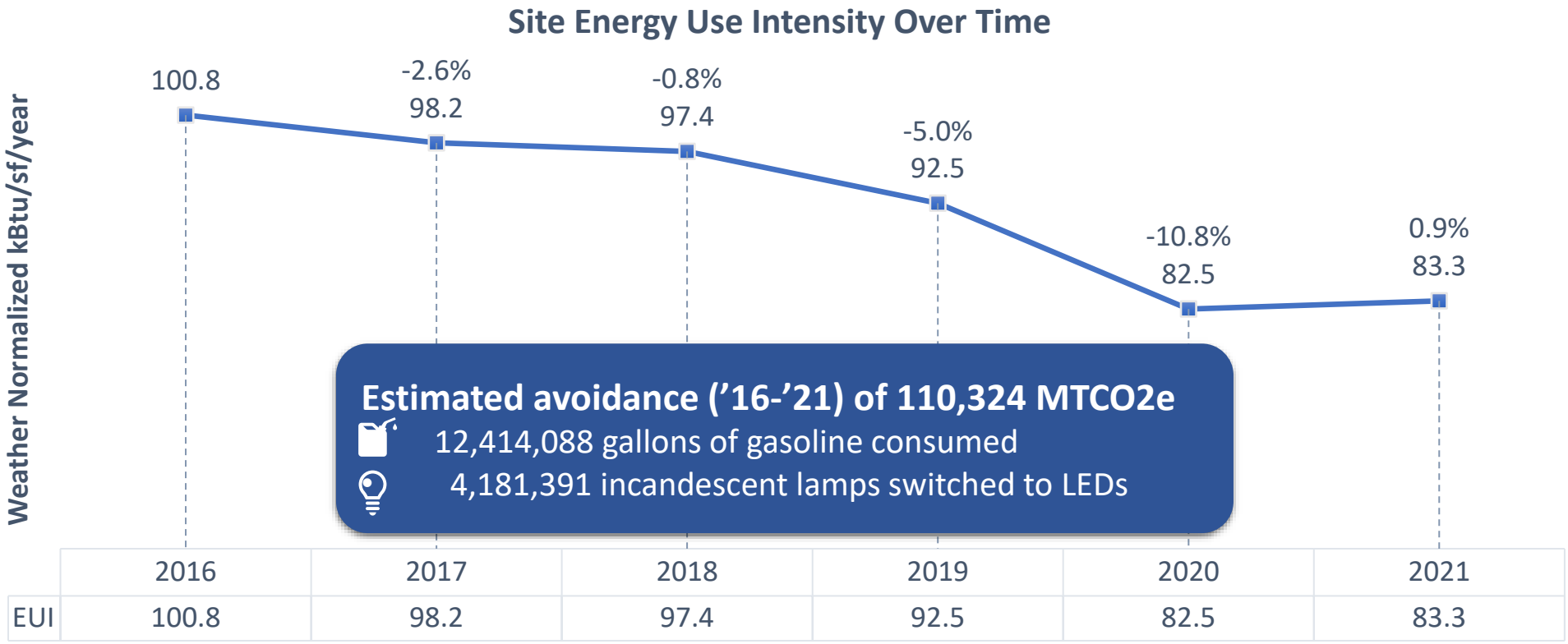
Energy Benchmarking

Process of tracking annual energy use to compare the measured performance of a building to itself, its peers, or established norms, with the goal of informing and motivating performance improvement.

- Benchmarking law in place since 2014, starting with public buildings
  - Non-residential buildings 50,000+ gross square feet reporting since 2016
- Building owners track energy consumption and building operations data in ENERGY STAR Portfolio Manager
- Data reported to DEP by June 1st of each year
- Data verification required first year of reporting and every 3 years thereafter

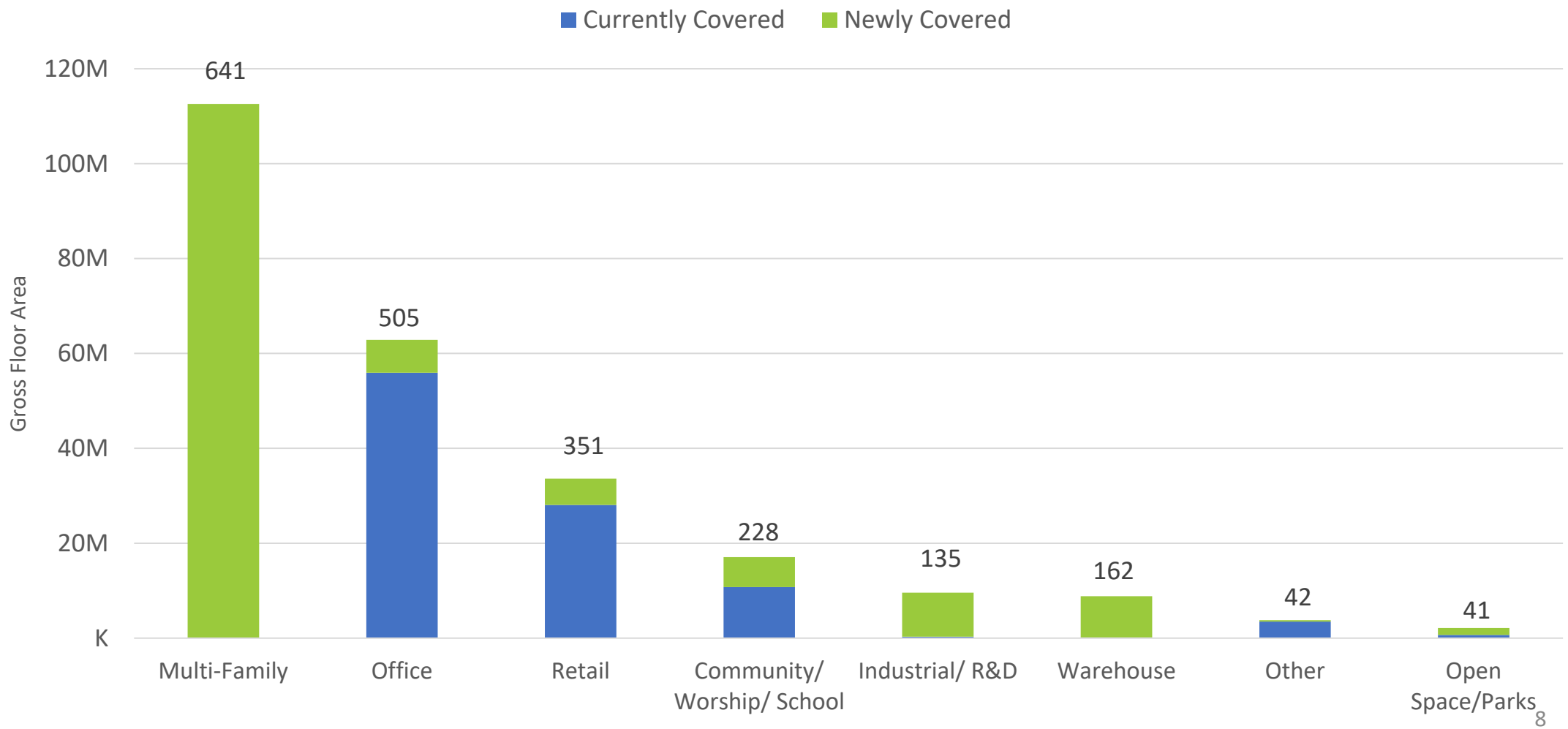
Benchmarking Results

- County results mirror EPA research that shows persistent energy savings in benchmarked properties
- Benchmarking data for consistently reported properties shows:
  - 17.3% decrease in site EUI between 2021 and 2016, or an average of 3.5% per year
  - 8.2% decrease in site EUI between 2019 and 2016 (pre-COVID), or an average of 2.7% per year

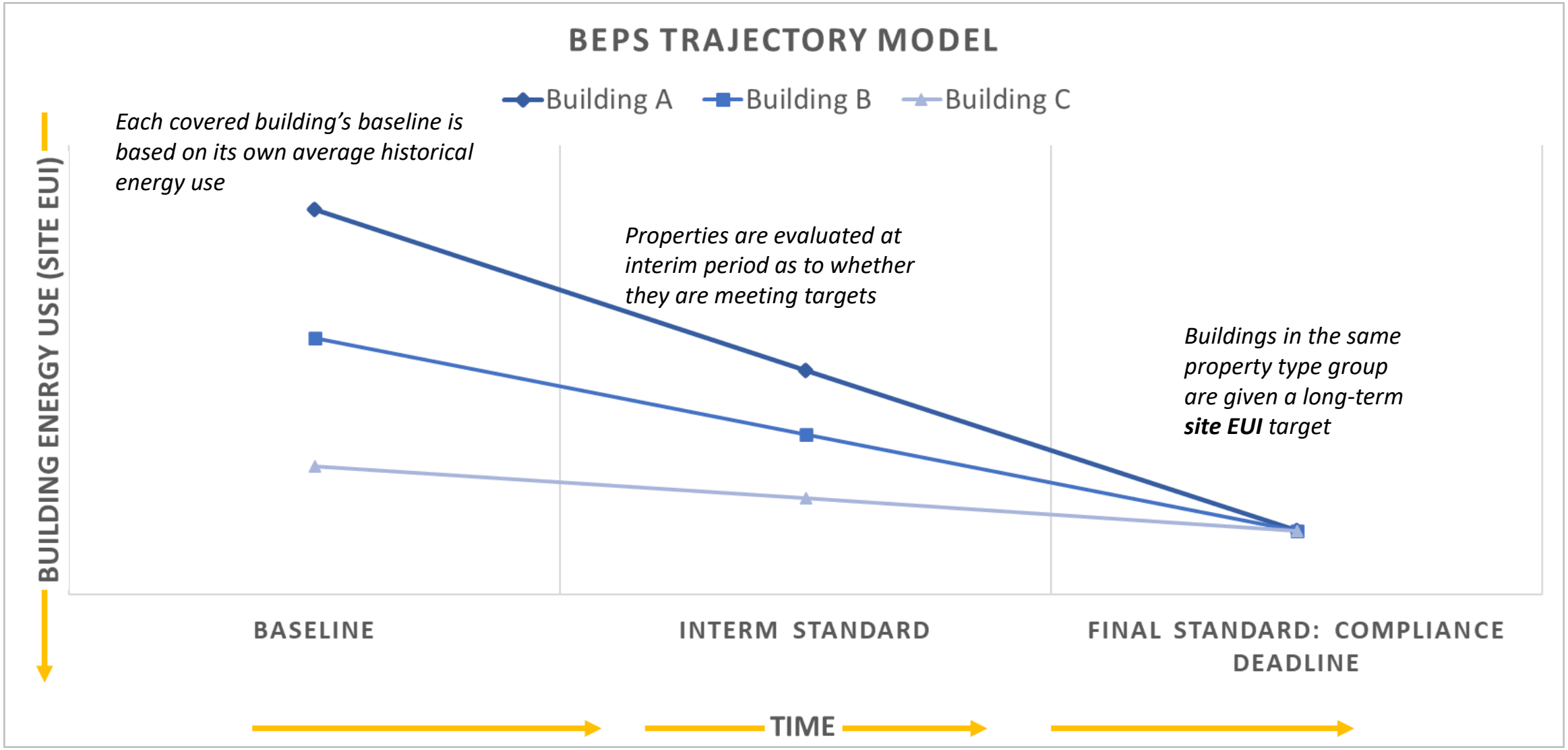


Building Coverage

- **Already benchmarking**: 110M sq ft, 795 buildings, ~40% of commercial floor area in county
- **Newly covered:** 250M sq ft, 2100 buildings, ~85% of commercial floor area



BEPS Policy Overview

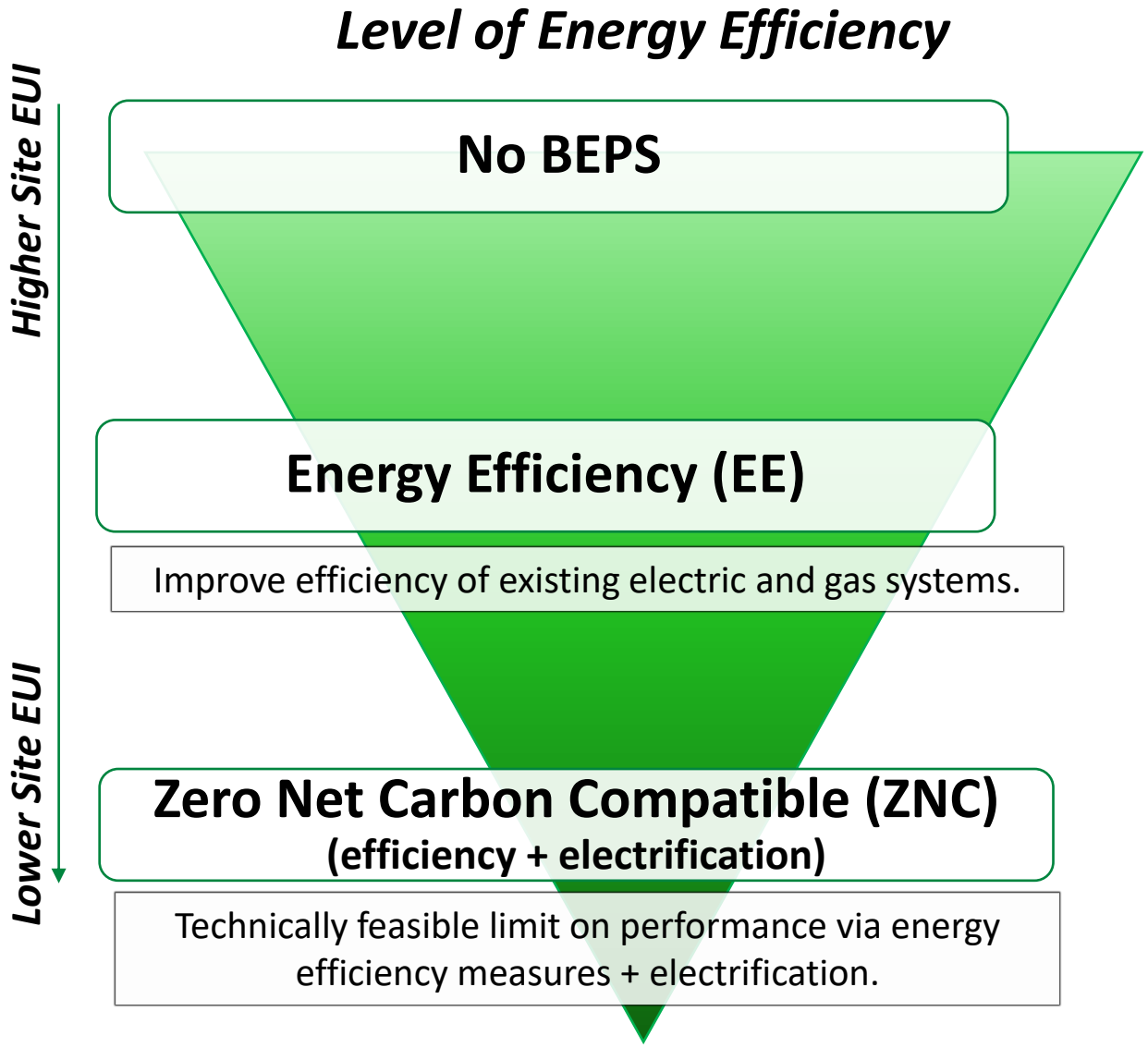


Future Regulations

	What we know…	To be further defined via regulations…
Building Coverage	Commercial & multifamily 25k+ gsf	
Performance Metric	• Site energy use intensity (EUI) • Mention of credit for renewable energy towards achieving BEPS targets	• Numerical site EUI performance standard for each building group *(BEPS Technical Report)* • Detailed guidance for renewable energy use as a consideration for credit towards BEPS *(Renewable Energy Allowance Report)*
Timeline	• 3 years of benchmarking data to inform a baseline • Long-term targets with interim check ins every 5 years	Extensions or adjustments for under-resourced buildings like affordable housing, non-profit owners
Advisory Board	Establishment of Advisory Board	
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

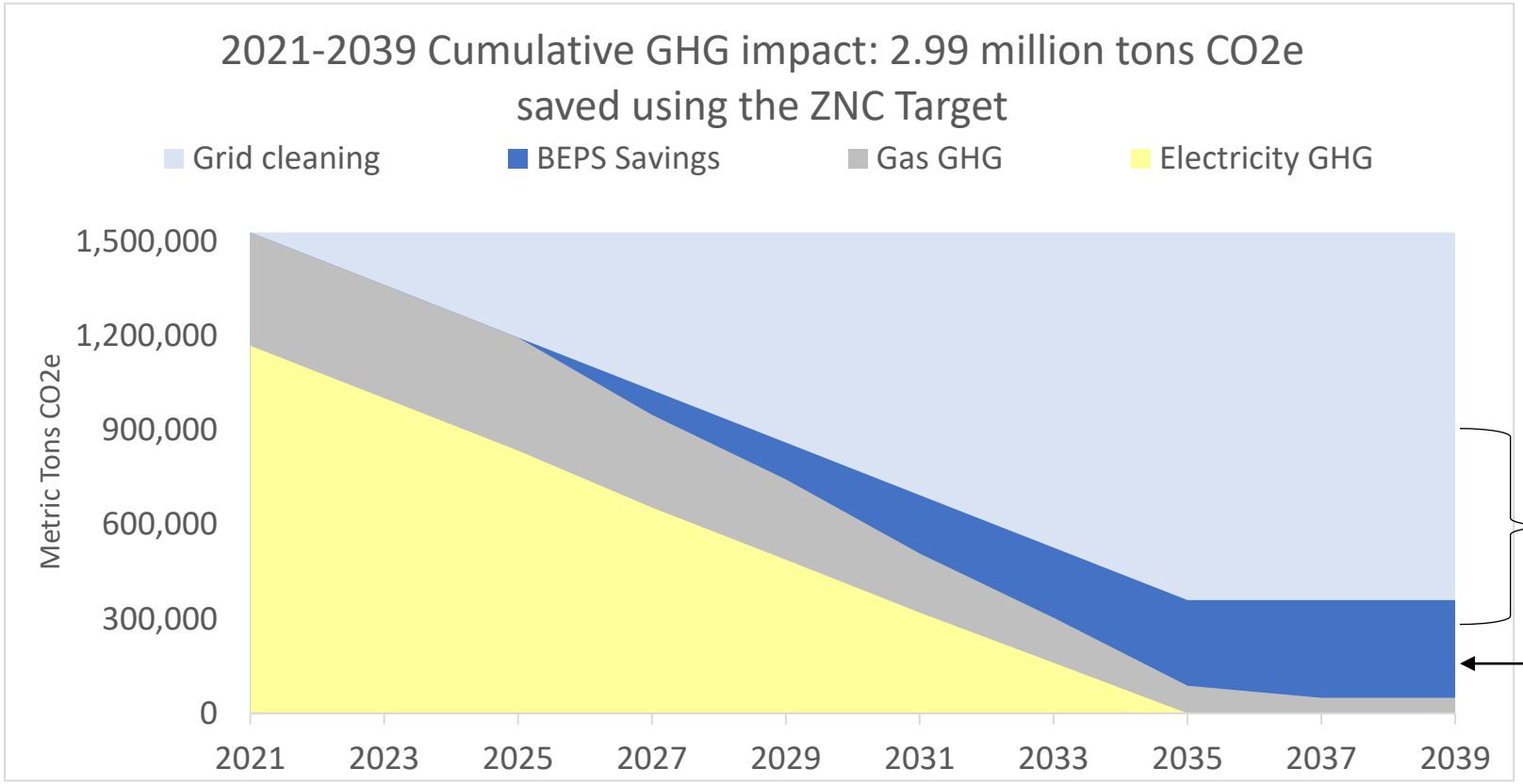
Regulations will be issued no later than **December 31, 2023**.

BEPS Technical Report Target Options



Potential Impact: County's Cumulative GHG Emissions

- The transition to a carbon-free electricity supply will provide the most carbon emissions savings in buildings.
- BEPS enables further emissions reductions by:
  - Reducing on-site emissions through fossil fuel efficiency and/or electrification
  - Improving electric energy efficiency and easing the burden on the supply side to provide electricity from carbon-free sources



	ZNC
ENERGY: Reduction in Site EUI vs baseline	35%
SCOPE 1: Reduction in On-site Fossil Fuel Emissions	86%
GHGS: Reduction in emissions (carbon free electric supply)	97%
GHGS: Reduction in emissions vs baseline (**NO** change from today's grid)	26%

Climate Solutions Now Act of 2022

- MD General Assembly recently passed Senate Bill 528 - Climate Solutions Now Act of 2022 with an effective date of June 1, 2022:
  - Commercial and multifamily buildings 35k+ GSF to begin benchmarking and reporting data by 2025
  - Statewide energy performance standards established through regulations
    - 20% reduction in net direct greenhouse gas emissions on or before January 1, 2030, as compared with 2025 levels for average buildings of similar construction
    - Net–zero direct greenhouse gas emissions on or before January 1, 2040
  - MDE to adopt regulations on or before June 1, 2023

Questions?

Emily Curley
Building Energy Performance Programs Manager
Emily.Curley@MontgomeryCountyMD.gov
240-777-7707

Stay Informed
Check BEPS website for real-time updates:
https://www.montgomerycountymd.gov/green/energy/beps.html

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