

Appendix H - BEPS Overview to Energy Service Companies – June 11, 2024



Maryland
Department of
the Environment

Maryland's Building Energy Performance Standards (BEPS)

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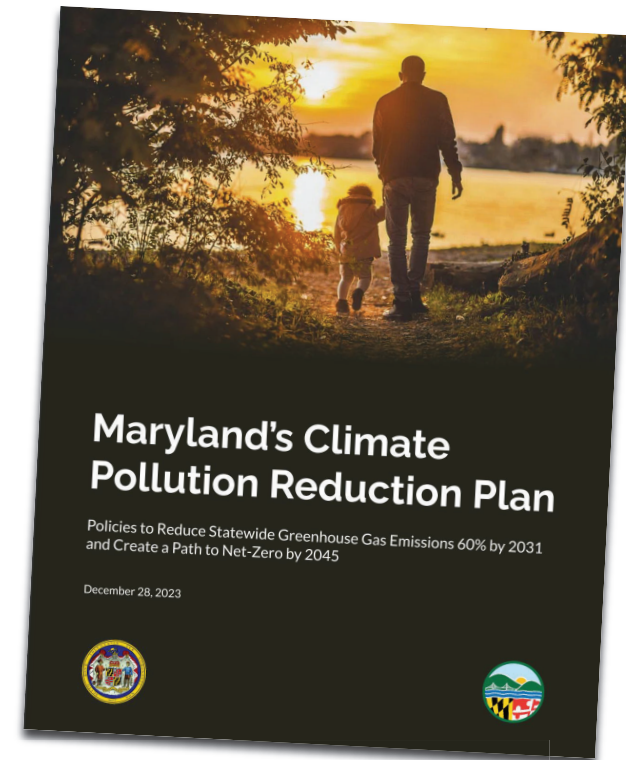
Agenda

- What are Building Energy Performance Standards (BEPS)?
- What buildings are covered?
- Where building owners are: Benchmarking
- Where building owners need to go: BEPS Compliance
- Where Energy Service Companies (ESCOs) come in:
 - Benchmarking and Third Party Verification
 - Audits
 - Energy Efficiency
 - Electrification



BEPS Policy in Maryland

- The Climate Solutions Now Act of 2022 (CSNA) requires the Maryland Department of the Environment (MDE) to develop BEPS regulations that cover most large buildings in the state.
- BEPS is a key part of fulfilling Maryland's CSNA required greenhouse gas reduction goals and subsequent Climate Pollution Reduction Plan.
- **GOALS:** 60% statewide GHG reduction by 2031, and net-zero by 2045 (compared to 2006 levels).



Read the plan @ mde.maryland.gov



Policy Current Status

MDE intends to adopt a Building Energy Performance Standards (BEPS) regulation in 2024. Building owners should prepare to report benchmarking data to MDE by **June 1, 2025**. After using the benchmarking tool, building owners should determine if their buildings already achieve the proposed standards or if work is needed to achieve the proposed standards.

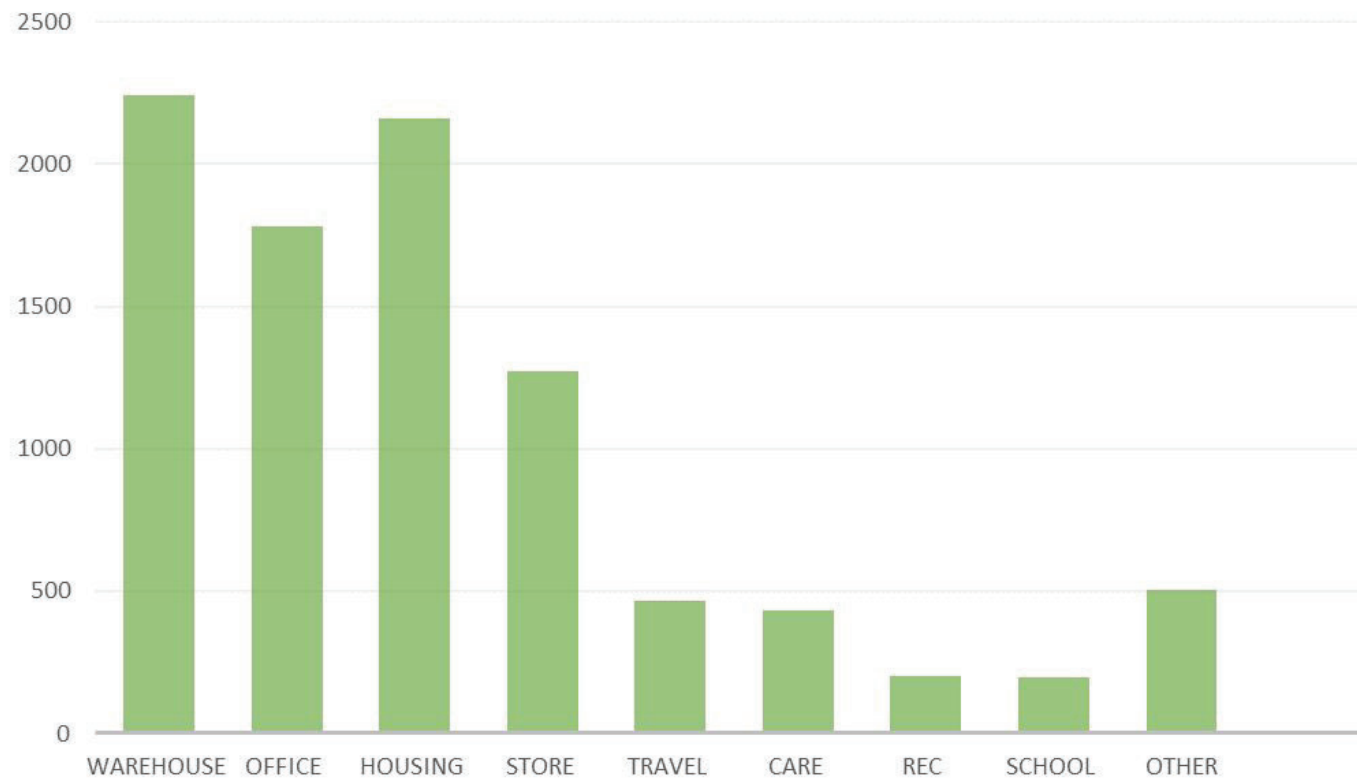


Covered Buildings

- A covered building is a building in Maryland that has a gross floor area of 35,000 square feet or more excluding the parking garage area.
- Exempt buildings:
 - Historic buildings (individually designated as historic property under law);
 - Public or nonpublic elementary and secondary school buildings;
 - Manufacturing buildings;
 - Agricultural buildings; and
 - Federally-owned Buildings



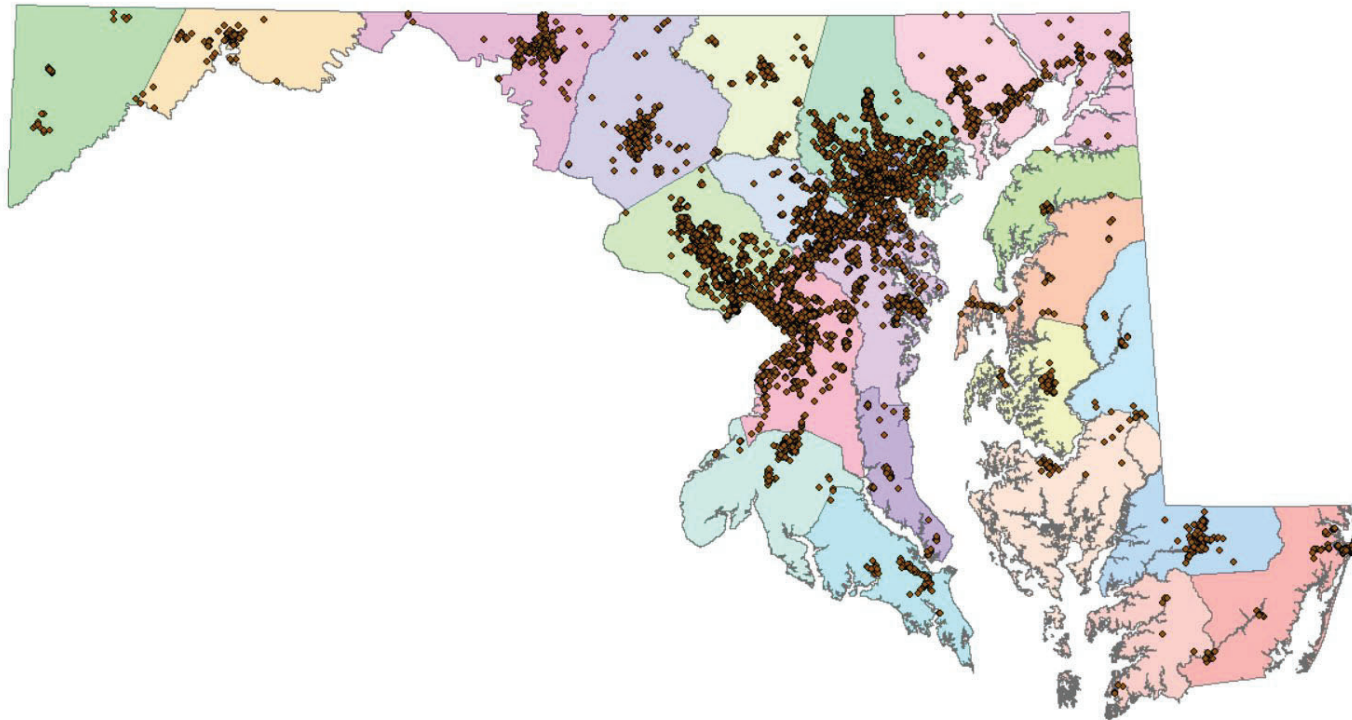
Covered Buildings in MD



Preliminary analysis



Location of Covered Buildings



Preliminary analysis



What Does a Building Owner Need to Do?

1. Determine if a building is covered under BEPS by calculating its square footage or evaluating exemption status
 - Building < 35,000 ft²: *No compliance necessary with State BEPS*
 - Building > 35,000 ft²: *Compliance with State BEPS is Required*
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



Where Are Building Owners Now?

Benchmarking

**Annually,
starting in 2025**

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



What's Next for Building Owners?

Benchmarking

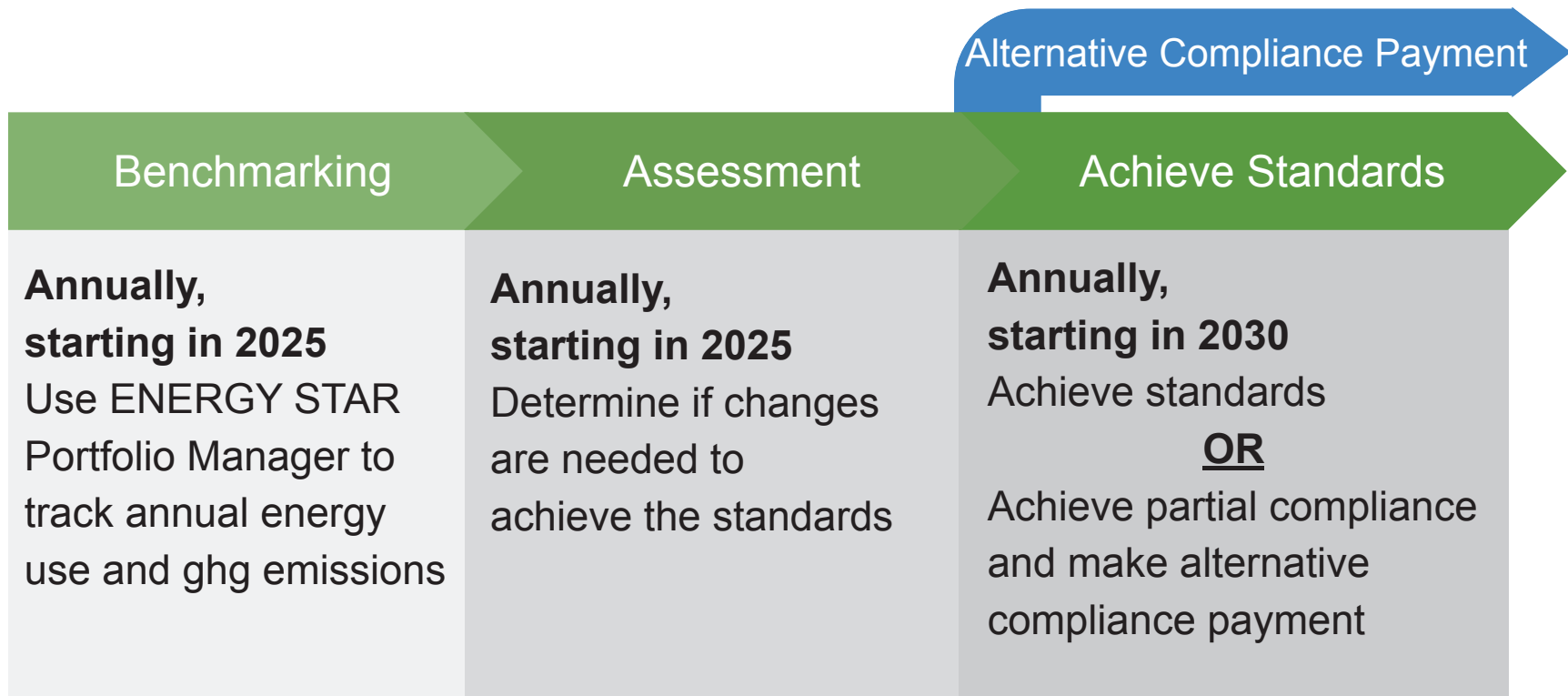
**Annually,
starting in 2025**
Use ENERGY STAR
Portfolio Manager to
track annual energy
use and ghg emissions

Assessment

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



What's Next for Building Owners?





Alternative Compliance Pathway

Alternative compliance is available for the proposed net direct emissions standard in the form of payments set at the EPA's social cost of greenhouse gas

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

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



Alternative Compliance Spectrum

Poor Financial Decision

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.

Expected

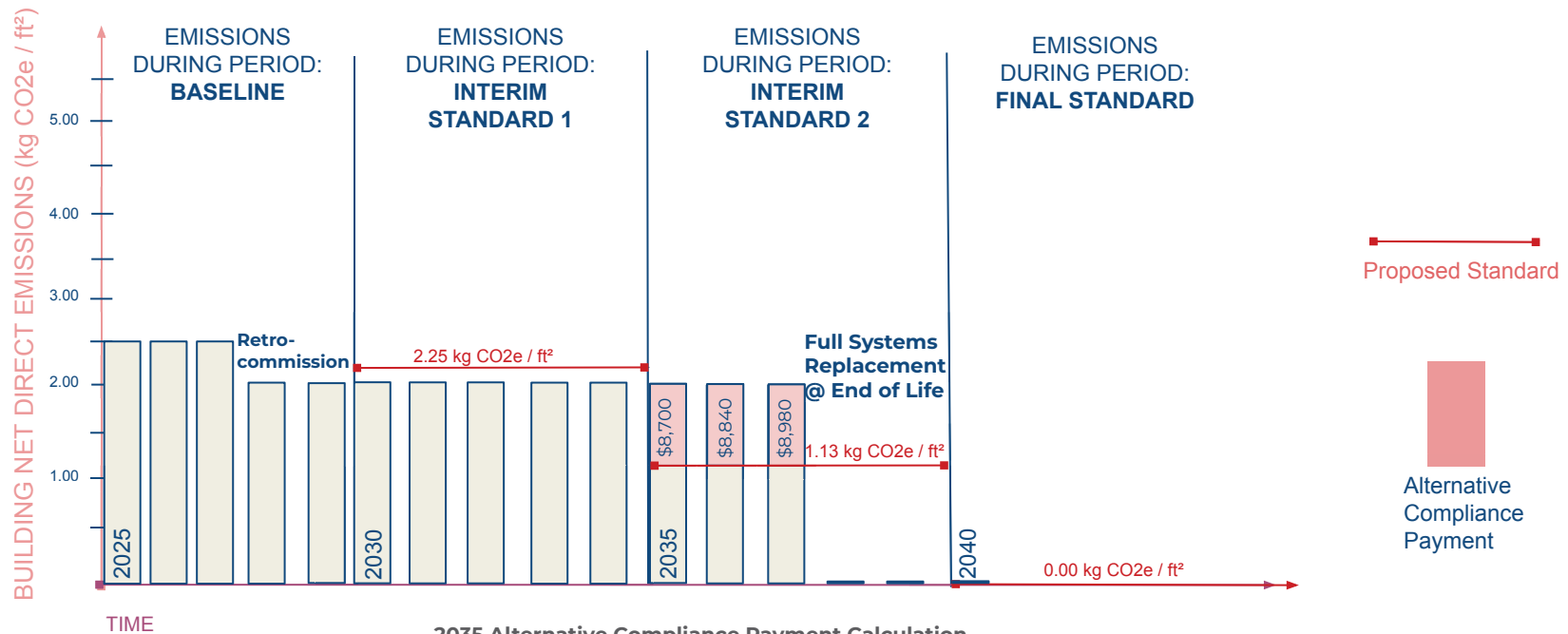
Building owner is already nearly in compliance and/or opts to make improvements to their property until they deem it is more cost-effective to make an Alternative Compliance Payment on remaining emissions over the proposed standard

Ideal

Building owner is already meeting or makes improvements to meet the standard



Alternative Compliance Payment 40k Square Foot Case Study



2035 Alternative Compliance Payment Calculation
 Emissions over standard: $2.00 - 1.13 \text{ kg CO}_2\text{e/ft}^2 = 0.87 \text{ kg CO}_2\text{e/ft}^2$
 $0.87 \text{ kg CO}_2\text{e/ft}^2 * 40,000 \text{ ft}^2 / 1000 \text{ kg/ton} = 34.8 \text{ tons CO}_2\text{e}$
 $34.8 \text{ tons CO}_2\text{e} * \$250/\text{ton CO}_2\text{e in 2035} = \mathbf{\$8,700}$
 $\mathbf{8700/12 = \$725/month}$



Where Do Energy Service Companies Come In?



Where Do Energy Services Companies Come In?



Everywhere!!



Alternative Compliance Payment

Benchmarking

Assessment

Achieve Standards

**Annually,
starting in 2025**

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

**Annually,
starting in 2025**

Determine if changes
are needed to
achieve the standards

**Annually,
starting in 2030**

Achieve standards

OR

Achieve partial compliance
and make alternative
compliance payment



Where Do Energy Service Companies Come In?

- Once building owners know where they are and where they need to get to, you'll help them get there
- Building owners will need assistance all the way through the BEPS process to achieve both proposed interim and final standards



Call to Action

WE NEED YOU



Join the fight against old, energy **inefficient** buildings

Clean Building Tech is here **NOW**

Heat Pumps for Water and Air



Induction Cooking



Heat Pump Dryer



We have the technology, but we need more **INSTALLERS**

YOUR efforts will enable the **clean energy transition**



With **YOU** those old buildings won't know what hit them



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Energy Service Company Services

- Benchmarking Support and Third Party Verification
- Energy Audits
- Energy Efficiency
- Electrification



Benchmarking Support and Third Party Verification

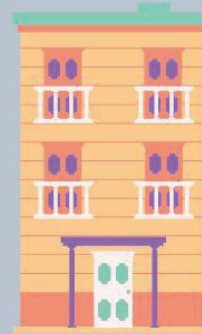
MAKE AN ENERGY STAR PORTFOLIO MANAGER (ESPM) ACCOUNT & TAKE FREE TRAININGS

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



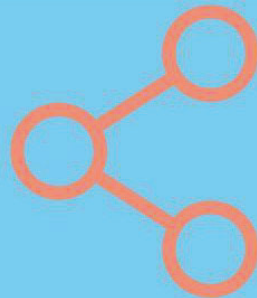
DETERMINE YOUR BUILDING CHARACTERISTICS

Set yourself up for benchmarking success by ensuring your building square footage and utility meter information is accurate



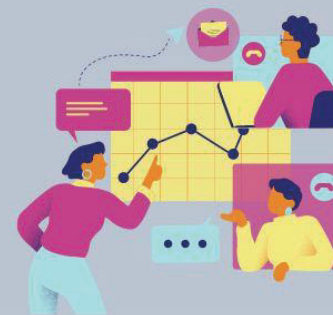
LINK YOUR BUILDING WITH YOUR UTILITY

The majority of your energy data will be provided by a utility. In addition to creating your ESPM account, research your utility providers' data sharing process to make sure the data you receive is timely and 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





Energy Audits

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

Most utility providers, like the ones below, offer ratepayer funded energy audits to customers. Research your options today and get your building back to health!



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Energy Efficiency



LIGHTING

Upgrade all lighting to LED's

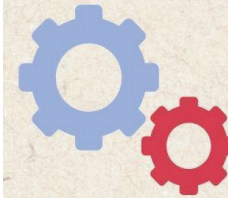
Reduce lighting power density



BUILDING ENVELOPE

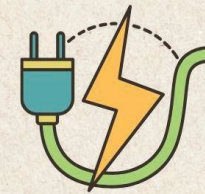
Reduce envelope leakage

Improve Insulation



RETRO - COMMISSIONING

Conduct stage 1, 2, and 3 commissioning



PLUG LOAD CONTROL

Smart plug load management tools



HVAC

Install residential controls

Adjust HVAC schedules



Electrification

1 MULTIFAMILY



Air to Water, Ground Source, Packaged Terminal or Air Source Heat Pump, and VRF



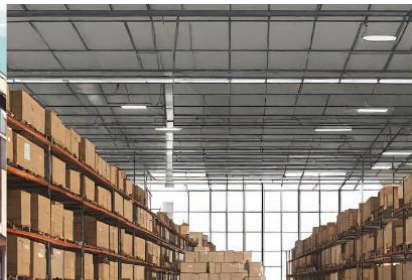
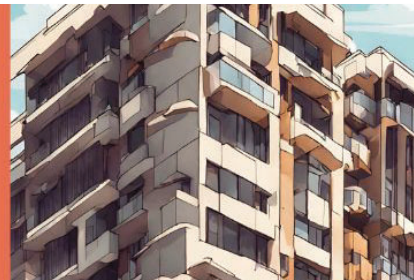
240V or Central Heat Pump Water Heater



Heat Pump or Condensing Dryer



Induction Range or Hob



2 SMALL COMMERCIAL



Heat Pump (Air to Water, Ground Source, Packaged Terminal, Air Source) and VRF



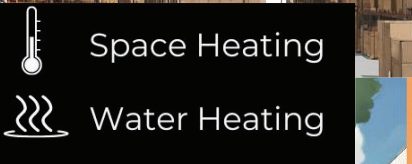
Point of Use, Distributed Tankless



Heat Pump or Condensing Dryer



Induction Range or Hob, Electric Oven/Fryer, Combo Oven, or Chain Broiler



Cooking



Space Heating



Laundry



Water Heating

3 LARGE COMMERCIAL



Heat Pump (Air to Water, Ground Source, Air Source), VRF, and HRC



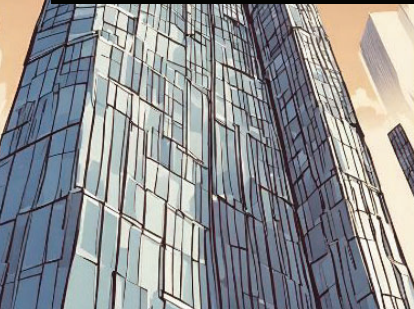
Point of Use, Distributed Tankless



CO2 Laundry (may result in net direct emissions)



Induction Range or Hob, Electric Oven/Fryer Combo Oven, or Chain Broiler



4 HIGHER EDUCATION



Heat Pump (Air to Water, Ground Source, Packaged Terminal, Air Source), VRF, and HRC



240V or Central Heat Pump Water Heater, and Point of Use Distributed Tankless



CO2 Laundry (may result in net direct emissions)



Induction Range or Hob, Electric Oven/Fryer, Combo Oven, or Chain Broiler

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Resources and Financial Support



Utility incentives: staff O&M training, building tune ups, equipment



Financing and technical assistance



Maryland
Energy
Administration

Clean Buildings Hub, grants, loans, rebates



Federal Incentives

Tax credits/ deductions (179-D, ITC, etc.)





Clean Buildings Hub



One-stop-shop clearinghouse of relevant information and resources to help stakeholders reduce energy use and emissions of their buildings, such as federal, state, local, and utility incentives. The Hub will catalyze and amplify resources (original and partner), peer learning networks, and educational programming.

Check out the HUB's website below for more information and to submit feedback on resources that would be useful to you!





Questions?

Building Decarbonization Team



beps.mde@maryland.gov



410-537-3183

BEPS Website



BEPS Email List

