



Emissions Performance Standard for Large Buildings

B

AGENDA

- Overview of the Building Emissions Performance Standard - 15 Minutes
- Landlord Tenant Leasing Process and Interaction With Performance Standard - 15 Minutes
- Discussion - 45 Minutes

BUILDING A RESILIENT & CARBON NEUTRAL CITY.



City of Boston
Mayor Martin J. Walsh

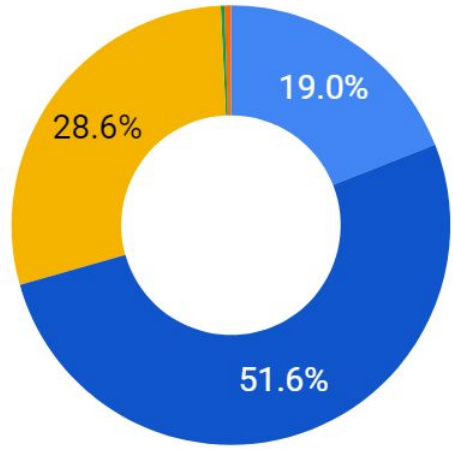


ICA

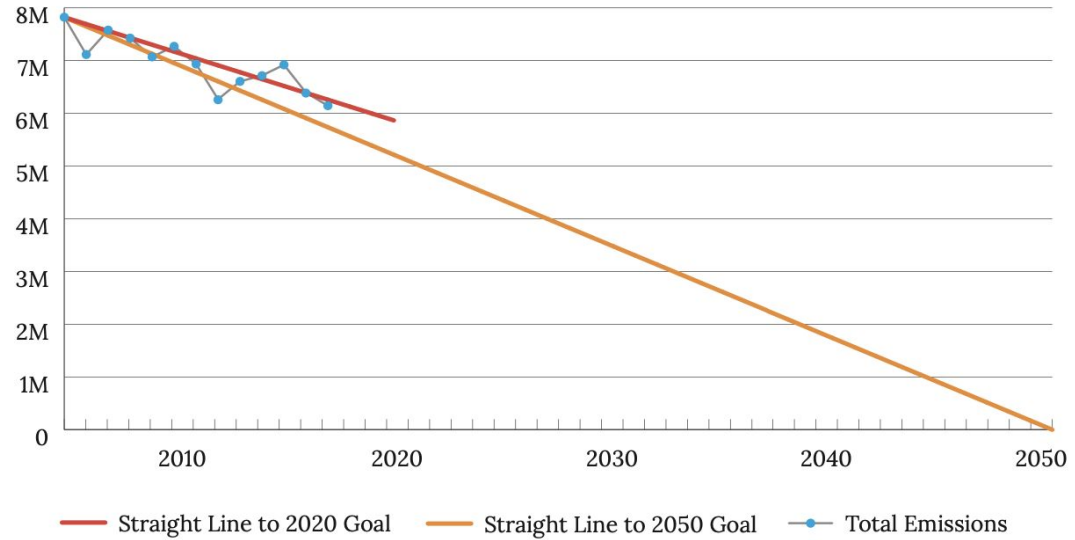
BOSTON'S CARBON FOOTPRINT



GHG Emissions by Source, 2017

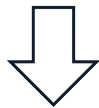


- Small Residential
- Commercial, Industrial and Institutional
- Transportation
- Wastewater Treatment
- Fugitive emissions



WHAT DOES IT TAKE TO GET TO CARBON NEUTRALITY?

Boston needs to pursue 3 strategies **simultaneously**:



Reduce demand for energy by increasing **efficiency**;



Convert nearly everything that runs on fossil fuels to run on **electricity** or other renewable sources;

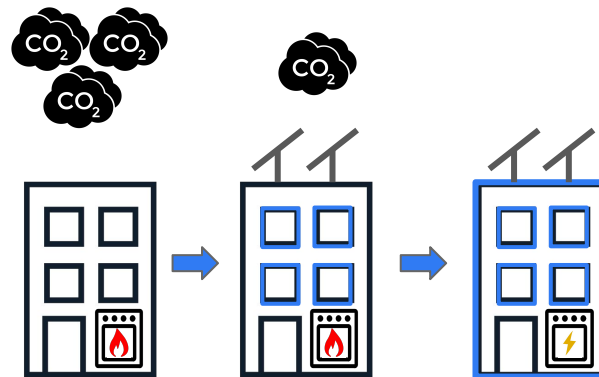


Buy **100% clean energy**

Carbon neutrality can be achieved with the technologies of today and is essential to a healthy, thriving and resilient Boston.

WHY A BUILDING PERFORMANCE STANDARD?

- Directly targets our largest source of emissions
- Long planning horizons
- Flexibility in how buildings meet targets and when they make investments



POTENTIAL BENEFITS



LIVING AND WORKING IN HEALTHIER BUILDINGS

Cutting carbon pollution in large buildings can improve indoor air quality and improve comfort.



LOWER ENERGY USE AND UTILITY BILLS

Energy efficiency measures help reduce energy use.



CONSTRUCTION AND ENERGY JOB OPPORTUNITIES

The work to make our buildings healthier and efficient will create new, green job opportunities.

CURRENT POLICY CONTEXT

Building Energy Reporting and Disclosure Ordinance (BERDO)

1. Buildings over 35,000 square feet or 35 units are required to report their annual energy and water usage to the City each year. Carbon emissions are calculated by Energy Star Portfolio Manager. The City then discloses the energy, water and emissions data publicly.
2. After five years of being covered under BERDO, buildings must show that they have reduced their energy usage, are certified as a highly efficient building, or have performed an energy audit.

There are also statewide programs to support energy efficiency, including Mass Save.

BERDO Annual Reporting Requirement

A)
Maintain

Energy Action & Assessment Requirement

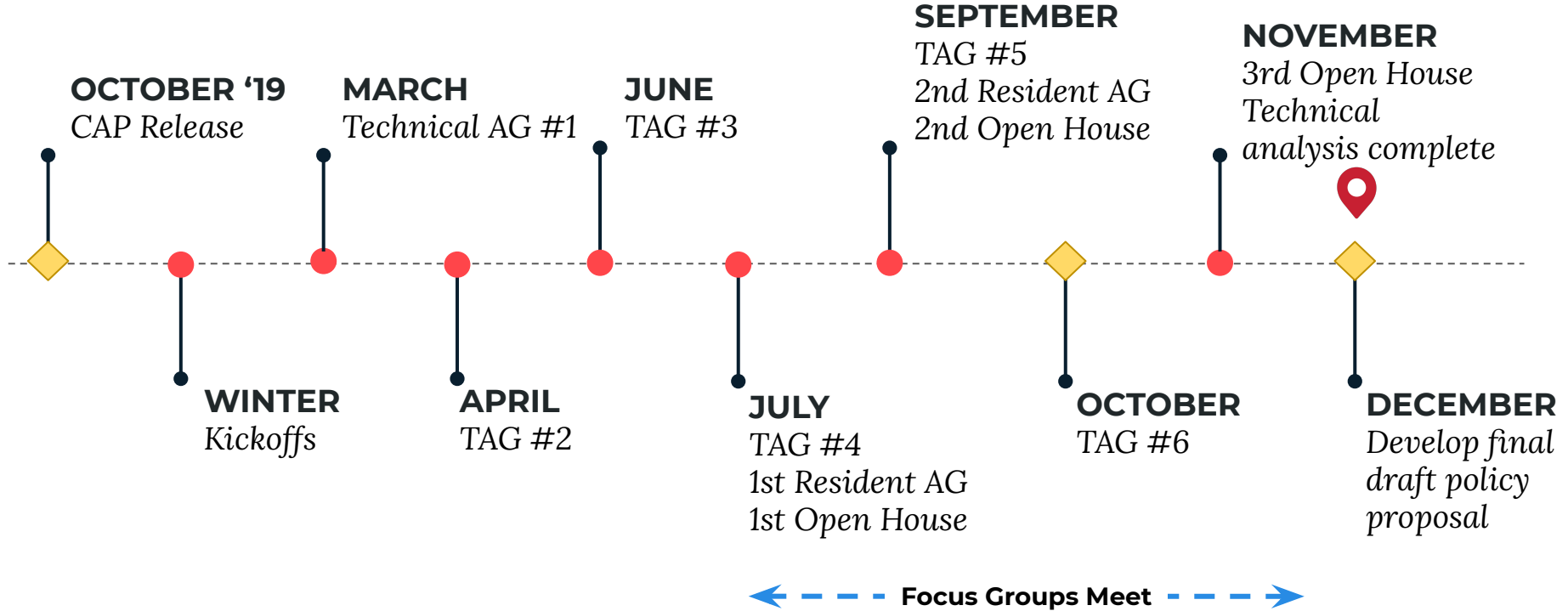
- Staggered timelines
- 15% reduction or energy audit or REC purchase, or high performance certification

B)
Update

Building Emissions Performance Standard

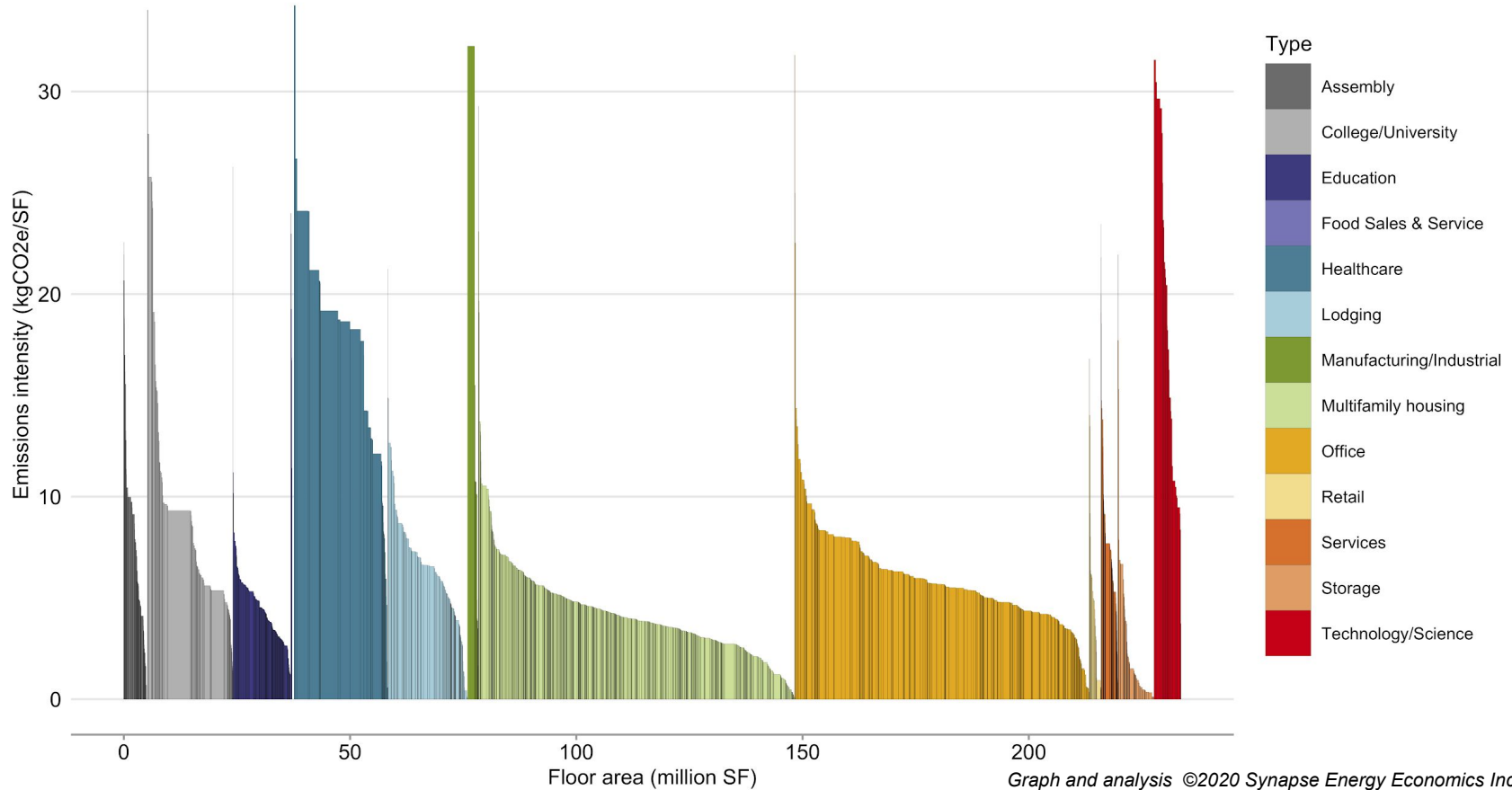
- Carbon targets by building type that decrease over time
- Equity focus
- Rules for off-site renewable purchases

PROJECT TIMELINE



Digging into the BERDO data

BERDO EMISSIONS BY SECTOR



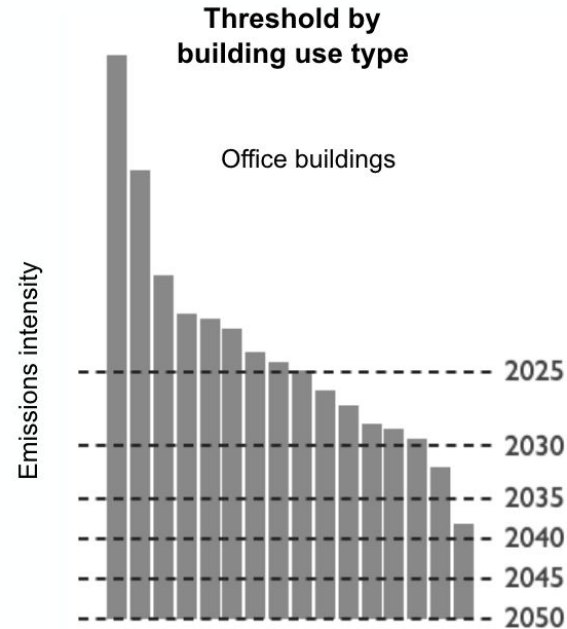
DRAFT

Calculating emissions targets

Preliminary analysis, subject to change

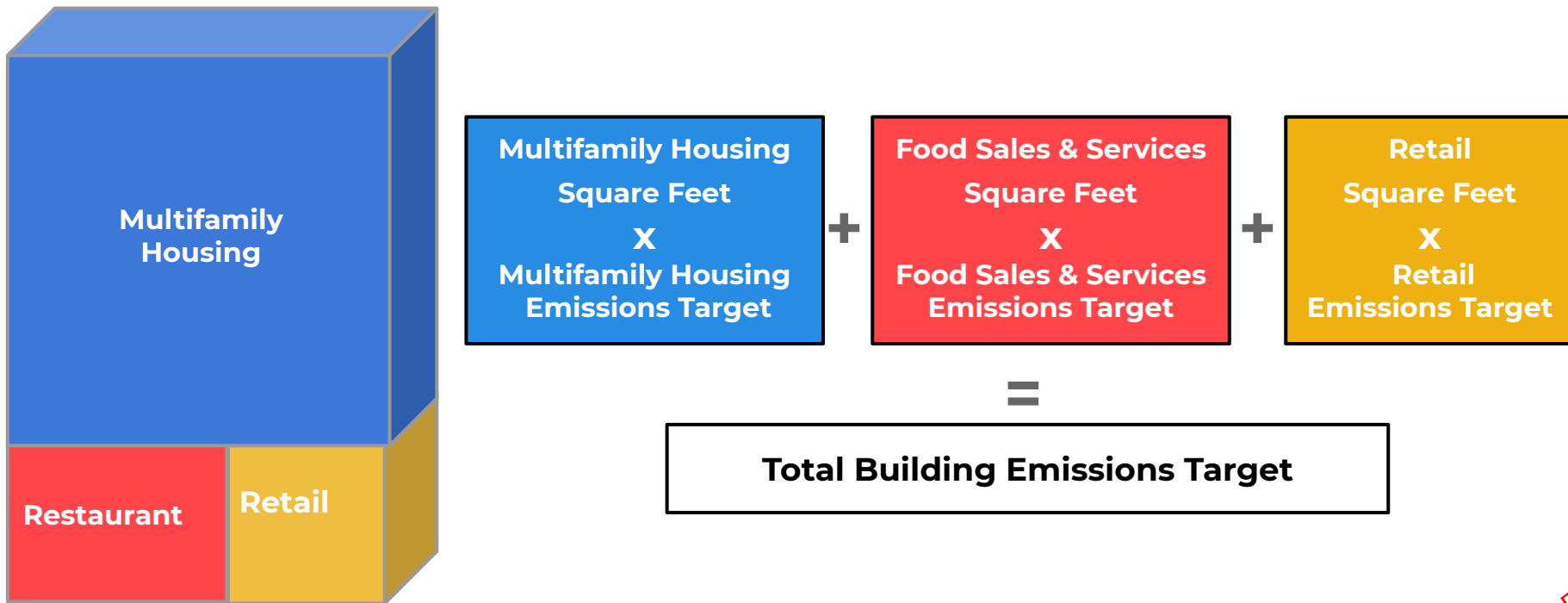
SETTING EMISSIONS TARGETS

- Developed through the technical analysis process, using Boston and regional data, including BERDO and data from TAG members
- Emissions targets are aligned with citywide goals:
 - -50% by 2030
 - *Carbon neutrality by 2050*
- Carbon targets are set by building type with 5-year increments



NOTE: If you are a building owner or manager and wish to see how the standards might apply to your building(s), please reach out!

WEIGHTED TARGETS FOR MIXED USE BUILDINGS THRESHOLD APPROACH



THRESHOLD METHOD OR SELF-IMPROVEMENT

Model design and results do not necessarily represent final policy design.

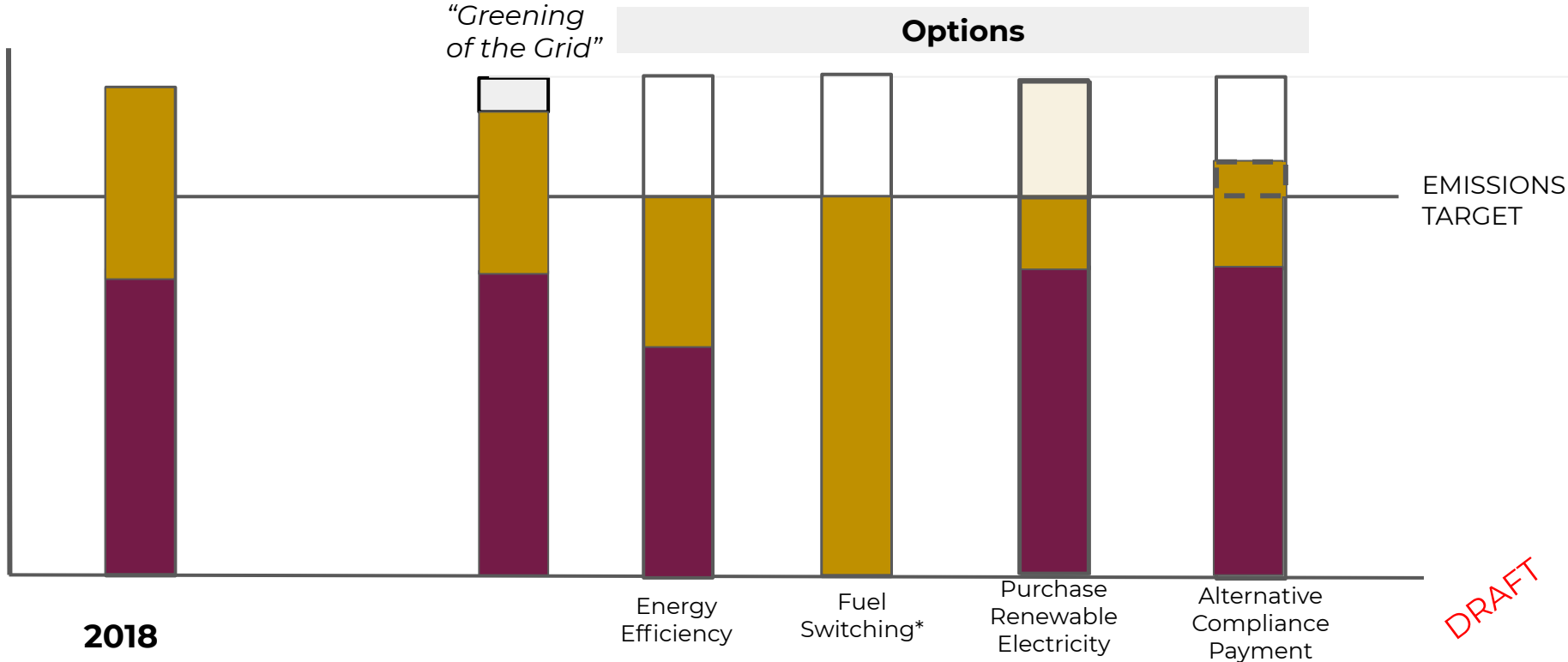
Each property must either meet the emission threshold or reduce emissions to a fixed percentage relative to its baseline emissions, including electric grid improvements

Building type	Emissions threshold (kgCO ₂ e/SF)						OR	Emissions target relative to 2018 baseline*	
	2025	2030	2035	2040	2045	2050		2025	2030
Assembly	7.8	4.6	3.3	2.1	1.1	0.0	2025	76%	
College/University	10.2	5.3	3.8	2.5	1.2	0.0	2030	52%	
Education	3.9	2.4	1.8	1.2	0.6	0.0	2035	39%	
Food Sales & Service	17.4	10.9	8.0	5.4	2.7	0.0	2040	26%	
Healthcare	15.4	10.0	7.4	4.9	2.4	0.0	2045	13%	
Lodging	5.8	3.7	2.7	1.8	0.9	0.0	2050	0.0%	
Manufacturing/Industrial	23.9	15.3	10.9	6.7	3.2	0.0			
Multifamily housing	4.1	2.4	1.8	1.1	0.6	0.0			
Office	5.3	3.2	2.4	1.6	0.8	0.0			
Retail	7.1	3.4	2.4	1.5	0.7	0.0			
Services	7.5	4.5	3.3	2.2	1.1	0.0			
Storage	5.4	2.8	1.8	1.0	0.4	0.0			
Technology/Science	19.2	11.1	7.8	5.1	2.5	0.0			

*Targets may be adjusted if a different baseline year is selected

Source: Synapse model

OPTIONS TO ACHIEVE TARGETS



* Fuel switching often best when combined with efficiency **For illustrative purposes only

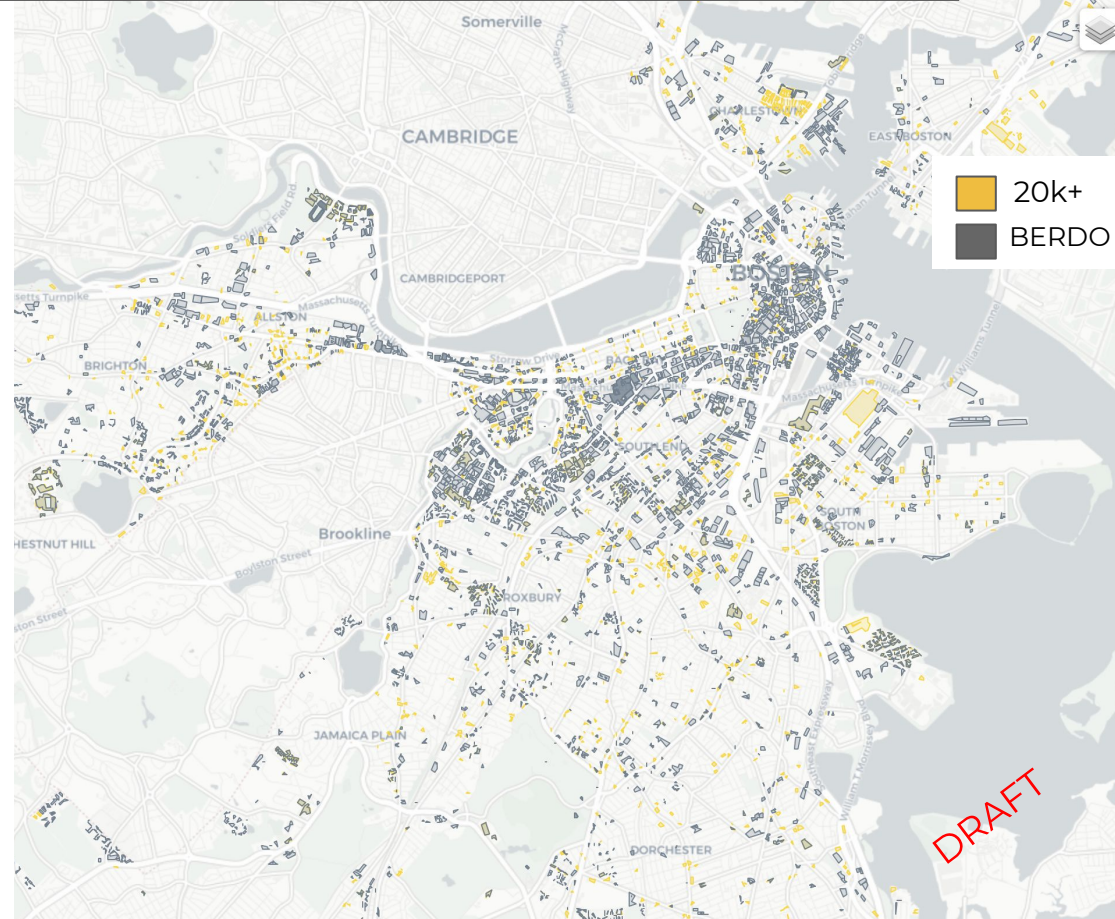
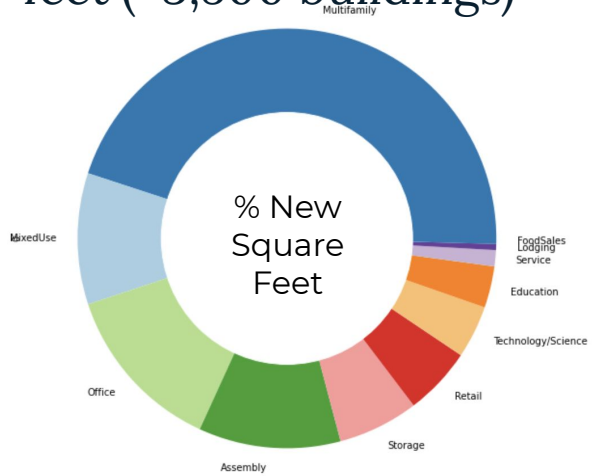
Electricity Natural Gas

DRAFT

Size Threshold

SIZE THRESHOLD

- **Current policy:** 35,000+ square feet or 35+ units (~2,200 buildings)
- **Considering:** Lower the threshold to 20,000 square feet (~3,500 buildings)



DRAFT

Tenants and Owners

QUESTIONS FOR TENANTS AND OWNERS

- Collaboration between tenants and owners will be required to achieve the the emissions standards set by this policy.
 - *What energy efficiency measures have tenants considered in their spaces?*
 - *What kind of coordination has occurred between tenants and owners on energy efficiency to date?*
 - *How, if at all is it reflected in your leases?*
 - *How can communication and coordination be best enhanced between tenant and owner?*

Supportive Actions

ADDITIONAL STRATEGIES

Resource Hub:

The City is developing a one-stop support program for building owners and for residents:

- Connect building owners with appropriate incentives and financing mechanisms (MassSave, LIHEAP, WAP, tax credits, PACE, etc.) and provide one-on-one support
- Educate and support residents seeking to improve building health
- Integration with other City support programs (e.g., Boston Home Center, Breathe Easy at Home from BPHC)
- Guidance and case studies (historic, resilience)



Thank You!