

Public Education Forum

BERDO

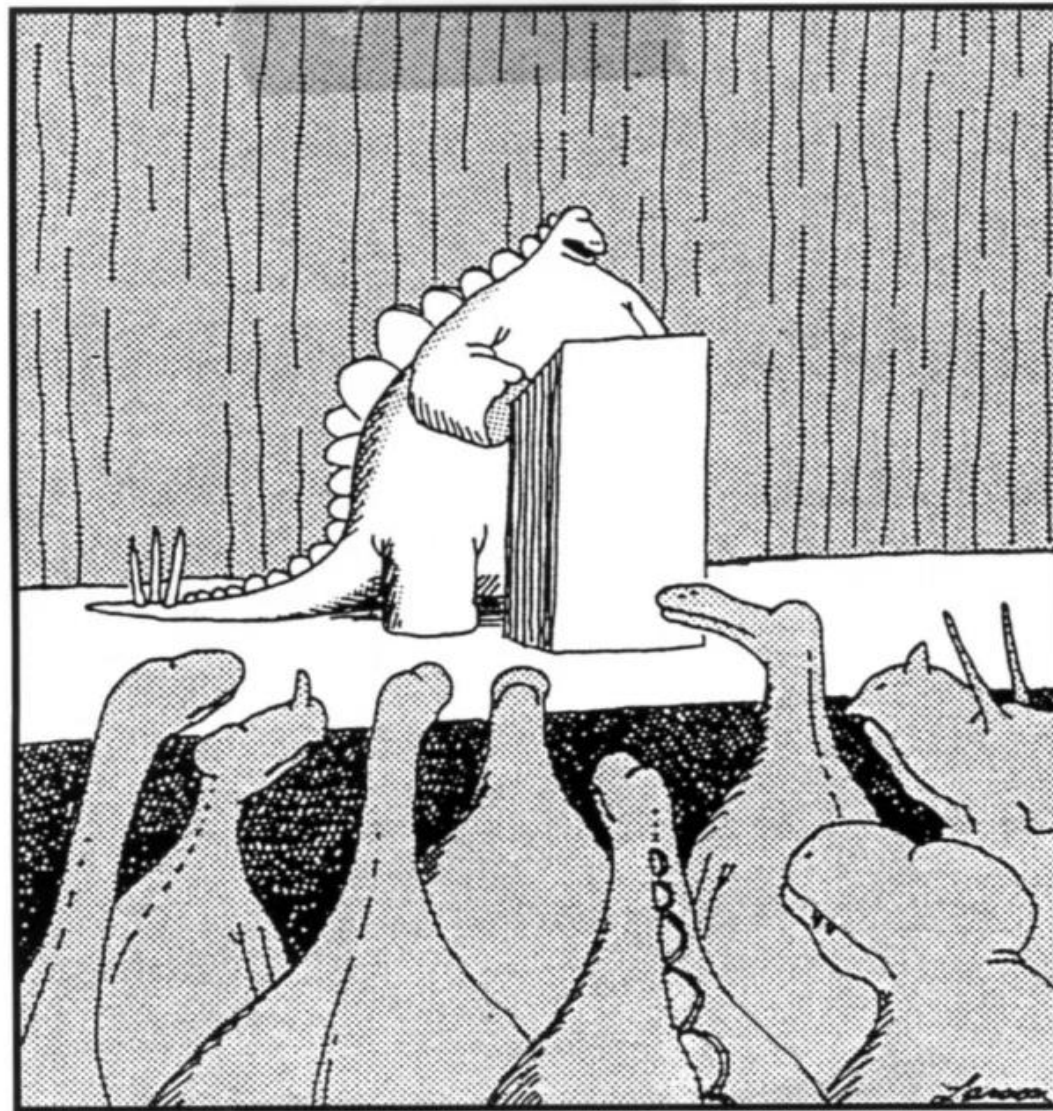
Building Emissions Reduction and Disclosure Ordinance

May 30, 2024

Sponsored by 350Mass, Mothers Out Front, Green Newton, Newton Citizens Commission on Energy, & FUUSN Climate Action Task Force

Agenda

1. Welcome from Organizing Team
2. BERDO Ordinance presented to Newton Zoning and Planning Committee on 5-28-24
3. Q & A
4. NCCE presentation on BERDO for Residential buildings
5. Q & A
6. Call to Action - attend Public Comment meeting of Zoning & Planning Committee on Monday, June 10th



“The picture’s pretty bleak, gentlemen. ...
The world’s climates are changing, the mammals
are taking over, and we all have a brain
about the size of a walnut.”

Massachusetts is Warming Fast

- New England is warming faster than the worldwide average.
- Since 1900, Massachusetts has seen its average temperature increase by 1.97°C.

City Council Resolution Calling for BERDO

- Resolution passed unanimously in April 2022
- “NOW, THEREFORE BE IT RESOLVED, That the City Council commits to developing an ordinance that will require large property owners to report energy use and emissions to the city annually, and in subsequent years demonstrate reductions in energy use and emissions to meet benchmarks established for their building type, with the goal of becoming carbon neutral by 2050.”

What is BERDO?

- BERDO is an ordinance that will require large buildings to report energy and emissions to the City.
- It requires large buildings to gradually reduce GHG emissions over time to zero by 2050.
- BERDO is necessary for the City to meet its Climate Action Plan target of zero emissions by 2050.

Discussion

- **BERDO Team**
- **Why BERDO**
- **Buildings Covered**
- **Compliance Timeline**
- **Electricity Excluded from Emission Standard**
- **Reporting Simplified**

Discussion

- **Boston as a Model**
- **Rate of Emissions Reduction**
- **Compliance Flexibility**
- **Example Compliance Pathways**
- **Enforcement**
- **Emissions Investment Fund**

Newton BERDO Team

Subject matter experts developing BERDO policy since March 2022

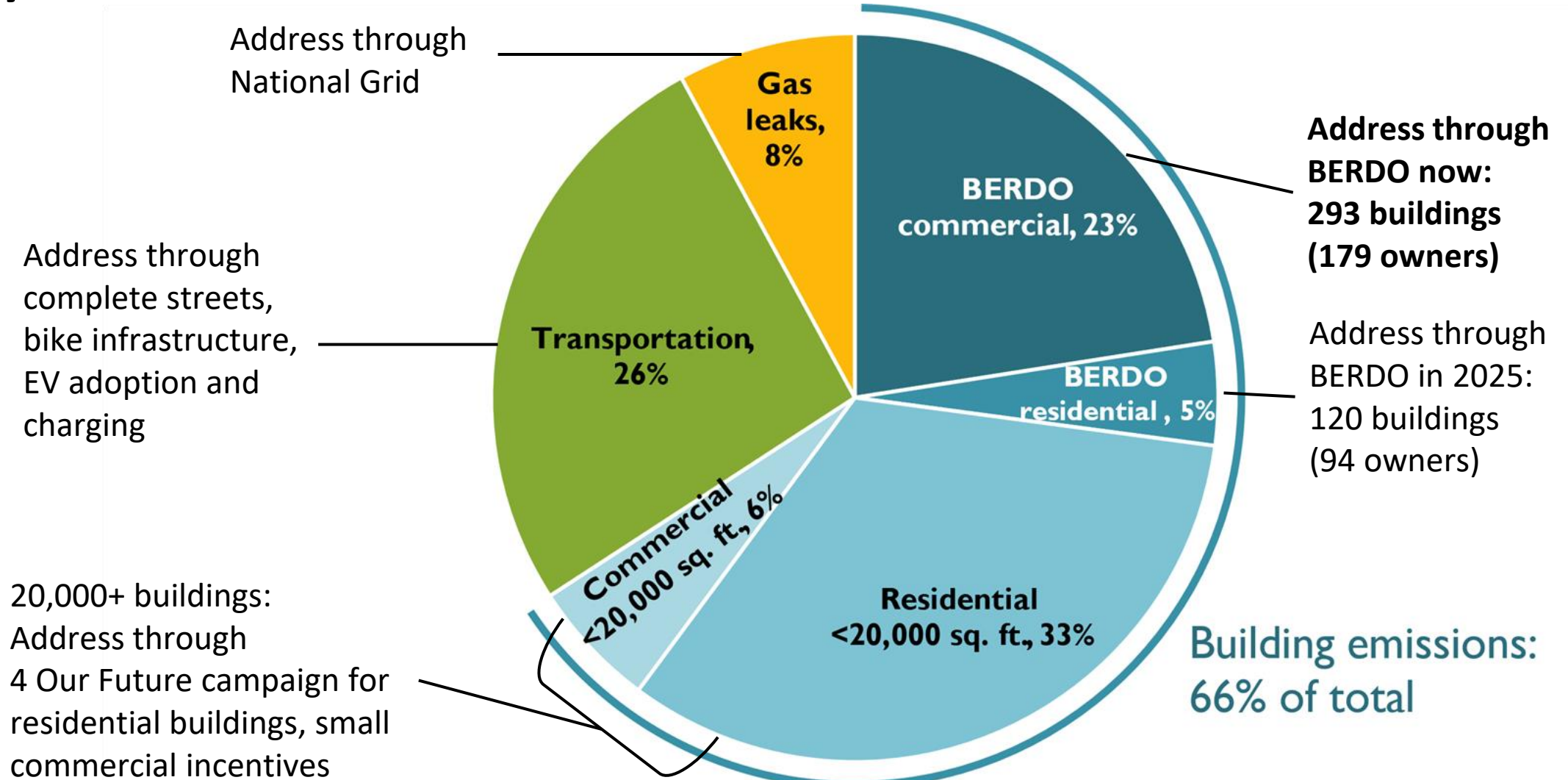
- **City Staff:**
 - **Policy leads:** Bill Ferguson, Ann Berwick, Liora Silkes, Andrew Lee
 - **Coordinating with:** Josh Morse, Barney Heath, John Sisson
- **NCCE:** Halina Brown, Phil Hanser, Michael Gevelber
- **Green Newton:** Dan Ruben
- **Consultant:** Philip Eash-Gates, Synapse Energy Economics

Why BERDO?

- Efficient approach to advancing Climate Action Plan targets through 2050
- Substantially reduces Newton's total emissions by regulating a small number of buildings
 - 293 commercial buildings, 179 owners, 19.3 million sq. ft.
- **Buildings**: 1.3% of buildings. 0.7% of owners, 14% of gross floor area (GFA)
- **Emissions**: 34% of buildings emissions and 23% of Newton emissions
- Consistent with local strategies in Greater Boston area
 - Boston BERDO 2.0 (2021)
 - Cambridge BEUDO amendments (2023)
 - Watertown BERDO (planned 2024)

Why BERDO?

**Newton's GHG emissions:
City goal of carbon neutral by 2050**



Note: "Commercial" includes institutional and industrial buildings

Buildings Covered

- BERDO covers commercial buildings
- Exception: state and federal buildings
- 293 buildings $\geq 20,000$ sq. ft. GFA
- Mayor proposes to add residential buildings $\geq 20,000$ sq. ft. GFA in April 2025, including centrally heated residential condos

Policy Design: Covered Buildings

Scope	Number of buildings	Number of owners	Gross floor area (sq. ft.)	Emissions (Metric tons CO2e)	% of Newton emissions, all sectors
All buildings \geq 20,000 sq. ft. GFA	413	267	26,624,758	202,794	28%
Only commercial buildings \geq 20,000 sq. ft. GFA. (No residential buildings).	293	179	19,308,136	167,860	23%

Proposed Covered Buildings

- **Large impact by regulating a small number of buildings**
 - 293 commercial buildings, 179 owners, 19.3 million sq. ft.
- **Buildings**: 1.3% of buildings, 0.7% of owners, 14% of gross floor area (GFA)
- **Emissions**: 34% of buildings emissions and 23% of Newton emissions

Tier	Description	Count of Buildings	Number of Owners	Total GFA (sq. ft.)	Emissions (metric tons CO ₂ e)	
1	Commercial, GFA ≥ 100,000 sq. ft.	47	29	8,631,279	77,774	46%
2	Commercial, GFA 50,000–99,999 sq. ft.	70	41	4,948,885	42,246	25%
3	Commercial, GFA 35,000–49,999 sq. ft.	67	51	2,825,059	23,480	14%
4	Commercial, GFA 20,000–34,999 sq. ft.	109	94	2,902,913	24,381	15%
Total	All covered buildings	293	179*	19,308,136	167,860	100%

*Note that the total number of covered building owners is less than the sum of the rows, because some owners appear in multiple tiers.

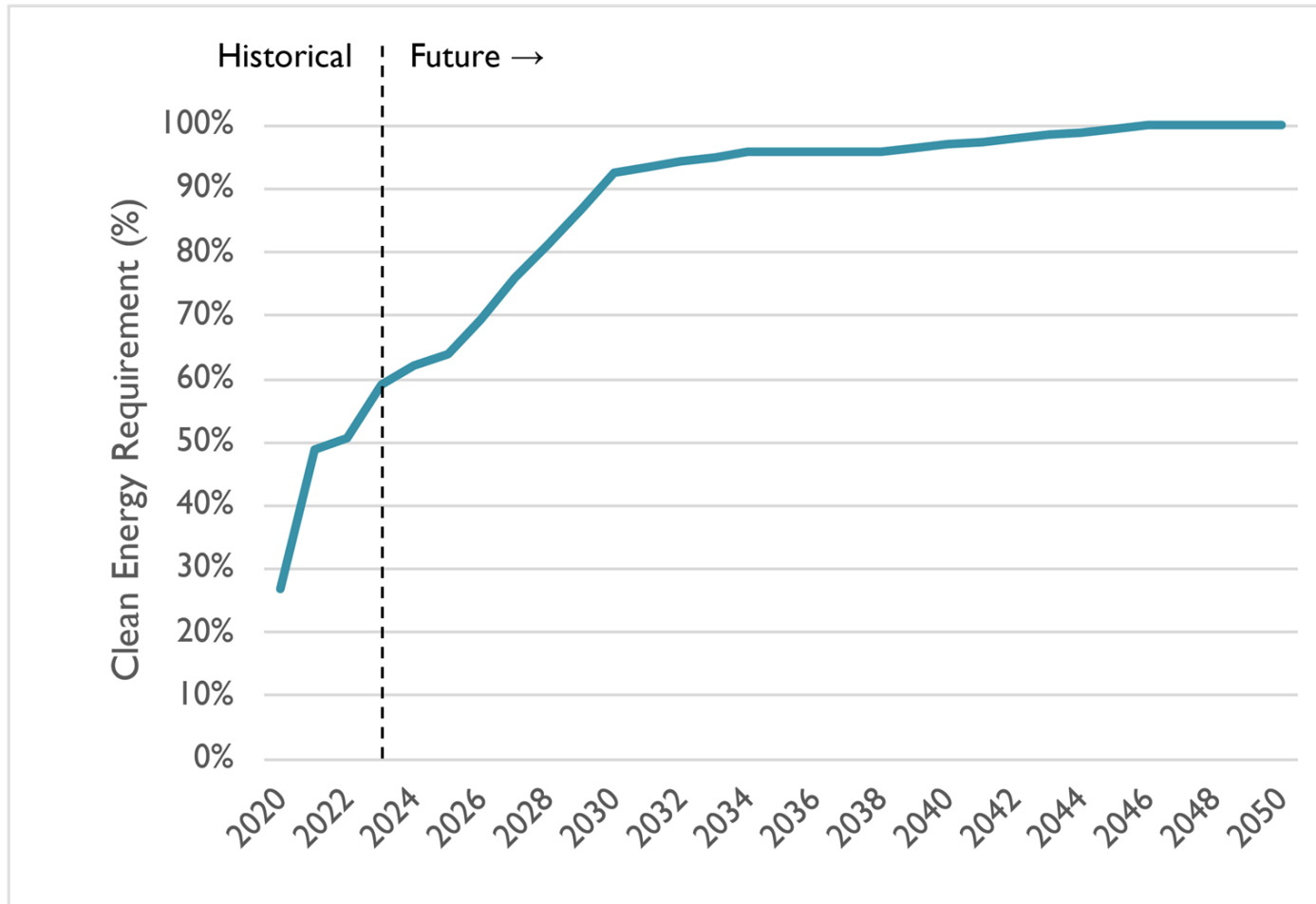
Proposed Compliance Timeline

Building Tier	Building Tier Description	Buildings count	1st Energy and Emissions Report Due	1st Emissions Compliance Year	1st Report under Emissions Compliance
Tier 1	Commercial \geq 100,000 sq. ft. GFA	47	Sept. 15, 2025	2027	Sept. 15, 2028
Tier 2	Commercial 50,000–99,999 sq. ft. GFA	70	Sept. 15, 2026	2028	Sept. 15, 2029
Tier 3	Commercial 35,000–49,999 sq. ft. GFA	67	Sept. 15, 2026	2029	Sept. 15, 2030
Tier 4	Commercial 20,000–34,999 sq. ft. GFA	109	Sept. 15, 2026	2030	Sept. 15, 2031

Electricity Excluded from Emission Standard

- Because State policy eliminates grid emissions over time, BERDO can exclude electricity
- Greatly simplifies reporting and compliance
 - Will cover onsite natural gas, oil, and propane emissions only
 - Owners will report electricity use, but not electricity emissions
- Reporting is covered in more detail later

Massachusetts Clean Electricity Regulations



- Combined clean and renewable electricity procurement mandates:
 - 92 percent by 2030
 - 100 percent by 2050

Source: *Massachusetts Department of Environmental Protection 310 CMR 7.75: Clean Energy Standard (CES)*

Newton BERDO Simplifies Reporting

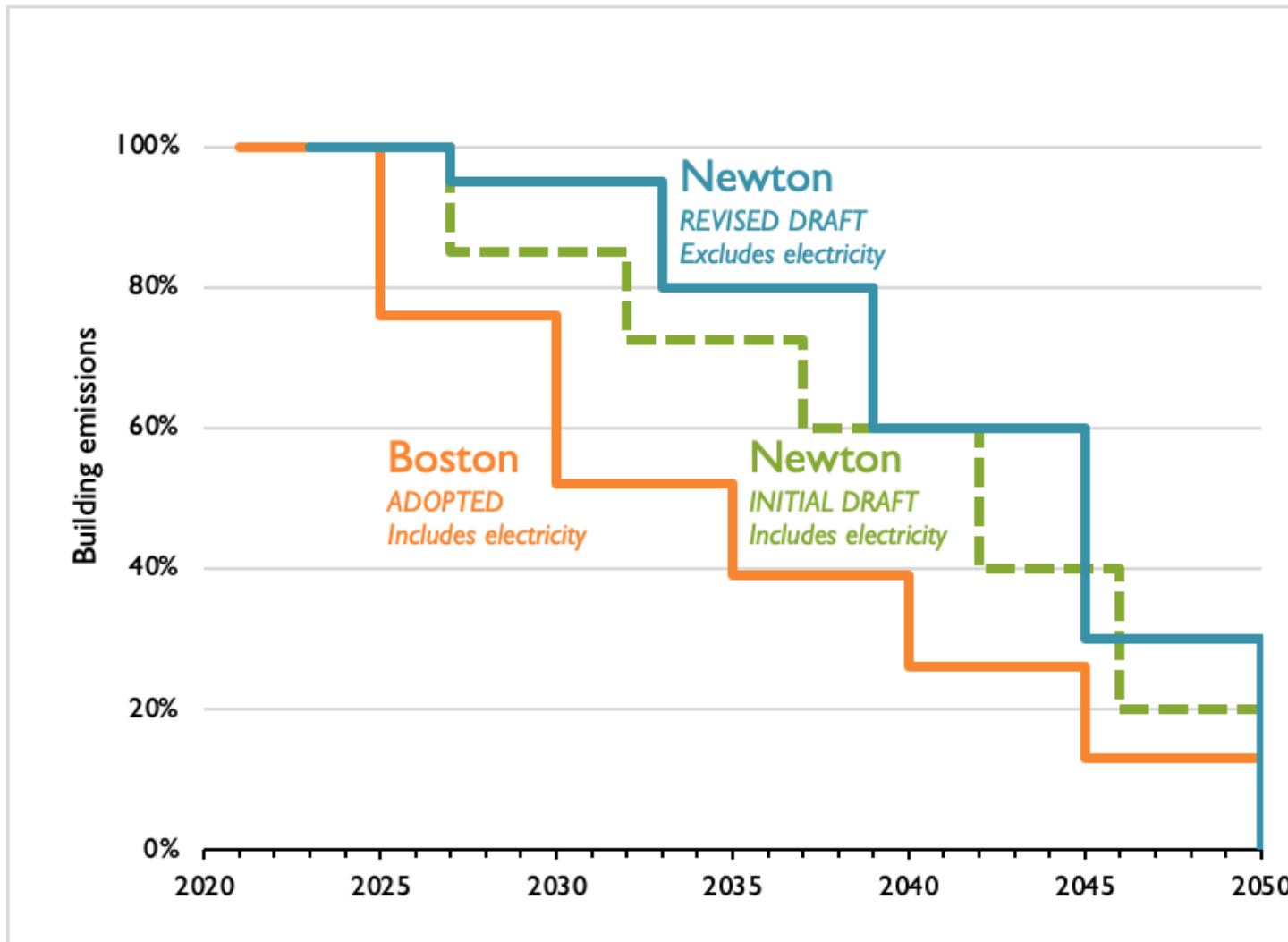
- Submit reports via ENERGY STAR Portfolio Manager
 - Free, industry-standard, widely adopted webtool
 - Junior staff learned the tool and reported 30 City buildings in about 15 hours
- Report all energy use—electricity, natural gas, fuel oil, propane
 - Annually for the prior year
 - One bill per utility account provides 12 months data
 - Receipts for delivered fuels—fuel oil and propane
- The City will provide training and education

Boston as a Model: Proposed Differences

- **Building types**: Initially excludes residential—apartments and condos
- **Scale**: 47 buildings in year 1 (vs. 3,975 in Boston), ramping to 293; lower staff demand
- **Scope**: Includes direct emissions only; excludes electricity emissions
- **Timeline**: Requirements phased in over 4 years, beginning in 2027 (vs. 2025 in Boston)
- **Compliance periods**: aligned with capital planning cycles
- **Stringency**: Reductions are more gradual; first major decrease in 2033 (vs. 2025 in Boston).
- **Enforcement**: Penalties begin in year 3 of emission standards

BERDO: Proposed Rate of Emissions Reduction

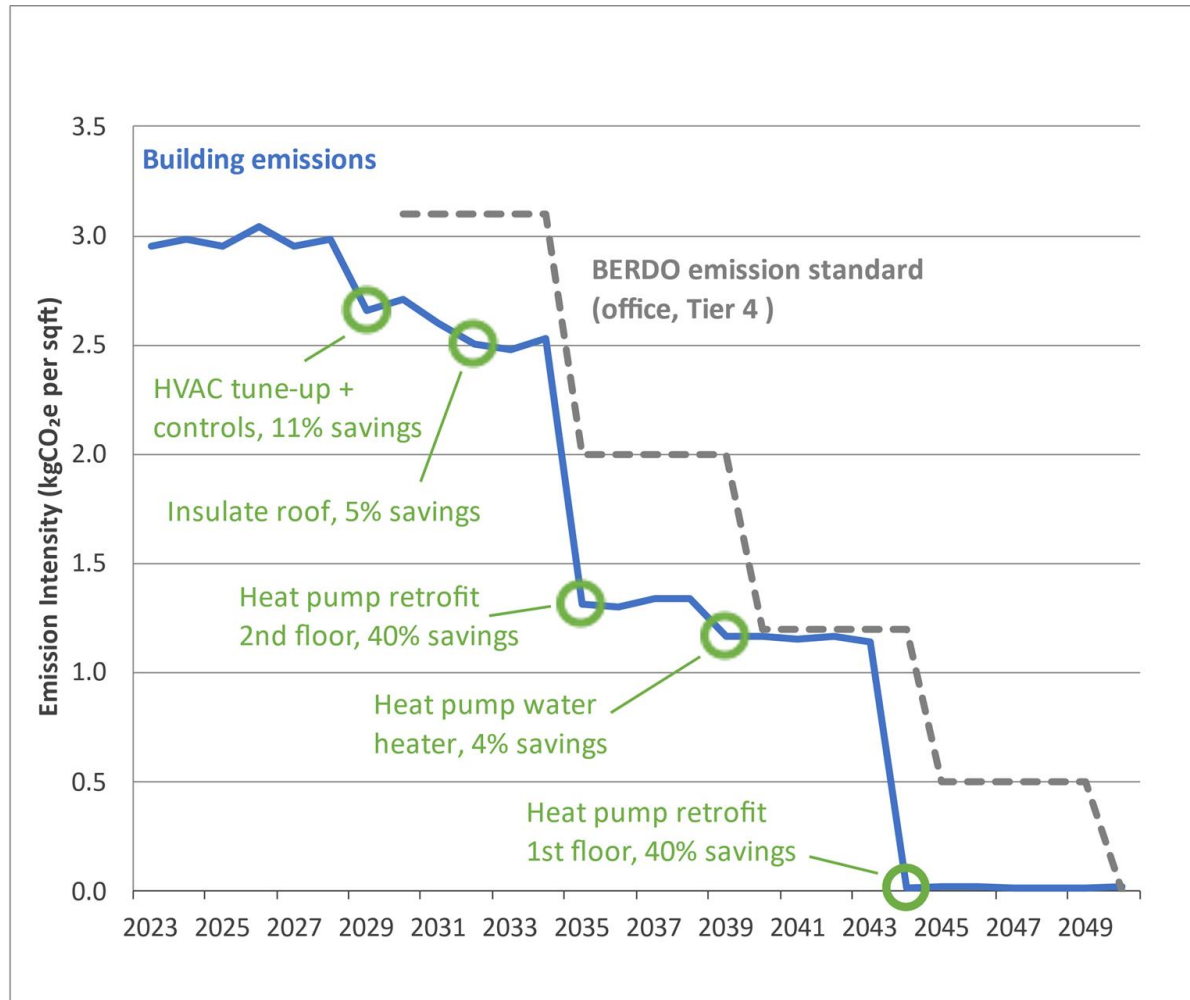
In light of stakeholder input, revised trajectory is more gradual than Boston's and than proposed at prior ZAP Committee hearing (Nov. 13, 2023).



Proposed Compliance Flexibility

- **Phased implementation**: Tiers by building size phased in over time
- **Penalties delay**: Not levied prior to 3rd year of emissions requirement
- **Portfolios**: Combine emissions rating of 2 or more buildings
- **Individual Compliance Plans**: Allows a change of schedule
 - Choose a base year from 2013 to now and follow percentage-based reduction schedule
 - Period 1: 95%, Period 2: 80%, Period 3: 60%, Period 4: 30%, Period 5: 0%
- **Hardship Plans**: Allows change of emissions
 - Accommodates unique circumstances or conditions
 - Considerations: financial hardship, regulatory or contractual restriction, technical or operational constraint (e.g., utility service electrical capacity)
- **Multiple Compliance Pathways**: Energy efficiency, phased electrification, alternative compliance payment (ACP)

Compliance Pathway Example



Building profile:

- 30,000 sq. ft. office building
- Built 1980, 2-story
- Natural gas use
 - Space heating (95%)
 - Water heating (5%)
- New roof needed by 2032
- Separate heating systems for 1st and 2nd floors

Enforcement

- Non-compliance penalties begin the 3rd year of the effective date of emissions requirements
- Penalties are \$300 per day (Boston maximum of \$1,000 per day)
- Penalties for:
 - Failure to submit a report
 - Inaccurate report
 - Failure to meet emissions standard

Proposed Emissions Investment Fund

- Fines, fees, and penalties are placed in a special City fund
- Fund to be administered by the Climate/Sustainability Office and can be used for:
 - Projects that benefit environmental justice populations in Newton
 - Costs to the City to administer BERDO
 - Costs to the City to comply with BERDO
 - Costs to local non-profits (such as affordable housing providers) to comply
 - Education related to implementation of BERDO

Questions?