

A BERDO for Newton

The First in a series of Discussion Sessions

Moderator, Dan Ruben: Chair of Green Newton, Chair of Green Newton Building Standards Committee, Instructor of Sustainable Hospitality and Sustainable Tourism at Temple University, Missouri State University and University of Southern Maine.

- Background
- What is Boston BERDO & why is a Newton version being developed
- Boston Implementation details
- Proposed Timelines and Process
- Community input

William Ferguson: City of Newton Co-Director of Sustainability and Project Manager for the Public Buildings Dept.

Michael Gevelber: Professor of Mechanical Engineering at Boston University and member of the Newton Citizens Commission on Energy.

A BERDO for Newton (Building Emissions Reduction and Disclosure Ordinance)

- We are at the early stage of developing an ordinance for Newton based on Boston BERDO.
- BERDO is important for meeting Newton's Climate Goals.
- City Council passed a resolution in support of a BERDO. (4/19/22).
- The ordinance will require large buildings to reach net zero by 2050.

A BERDO for Newton (Building Emissions Reduction and Disclosure Ordinance)

- Will be based on Boston BERDO: which applies to buildings > 20,000 square feet or residential buildings with 15 or more units.
- In Newton there are 411 buildings that fit this description (225 owners).
- The City of Newton is the owner of 32 buildings on this list (and will comply with the standards).
- This is the continuation of our series of BERDO sessions that will be held throughout the year.

Building Emissions Performance Standard

A building performance standard sets carbon targets for existing large buildings that decrease over time.

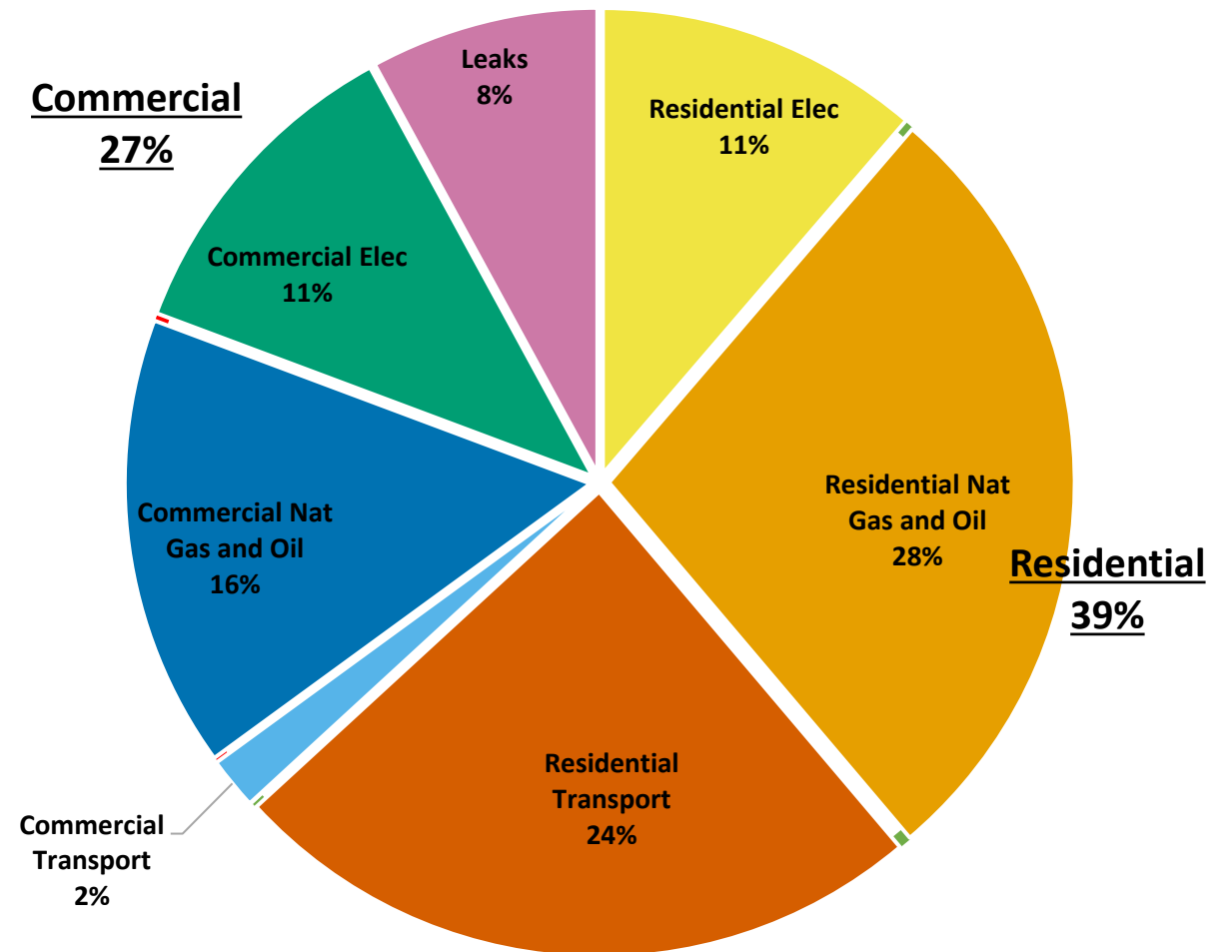
- Directly targets largest source of emissions;
- Sets long planning horizons;
- Provides flexibility in how buildings meet targets and when they make investments.



Newton 2019 GHG Emissions: 717,500 MT

Newton's GHG emissions & meeting climate objectives

- 66% of Newton's emissions come from buildings
- ~400 large NRB and residential buildings account for 27% of Newton's emissions (225 owners)



GHG emissions from Newton's non-residential buildings (NRB) & RB by size

<u>NRB by Size (sqft.)</u>	<u>Number of bldgs.</u>	<u>% of Newton's total emissions</u>
>100,000	51	12%
50,000 -100,000	61	5%
20,000 – 50,000	153	6%
< 20,000	46	0.5%

Target NRB: 23% of Newton's GHG emissions

42% of these GHG emissions from electricity (easier and cheaper to green)

Large Residential buildings: a variety of different types (for-profit, dorms, assisted living, low income). 120 large residential buildings contributing 4.3% to Newton's GHG emissions.

Boston BERDO

(Building Emissions Reduction and Disclosure Ordinance)

For existing buildings, large commercial & residential > 20,000 SF.

Two phases: BERDO 1.0 (energy and emissions reporting)

BERDO 2.0 (GHG emission standards and reporting) .

BERDO 1.0 failed to produce voluntary reductions in GHG emissions.
BERDO 2.0 passed by Boston in September 2021

Boston's Declining Emissions Standards

(Newton schedule will be different)

Based on Synapse Study, real Building data. Input from Building Owners & MEP experts

Building type	Emissions threshold (kgCO ₂ e/SF)					
	2025	2030	2035	2040	2045	2050
Assembly	7.8	4.6	3.3	2.1	1.1	0.0
College/University	10.2	5.3	3.8	2.5	1.2	0.0
Education	3.9	2.4	1.8	1.2	0.6	0.0
Food Sales & Service	17.4	10.9	8.0	5.4	2.7	0.0
Healthcare	15.4	10.0	7.4	4.9	2.4	0.0
Lodging	5.8	3.7	2.7	1.8	0.9	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

Boston BERDO:
Pick compliance
pathways that
work best to
meet your
emission limits

Applies to single buildings or a portfolio of buildings.

Energy Efficiency Improvements: pays for itself.

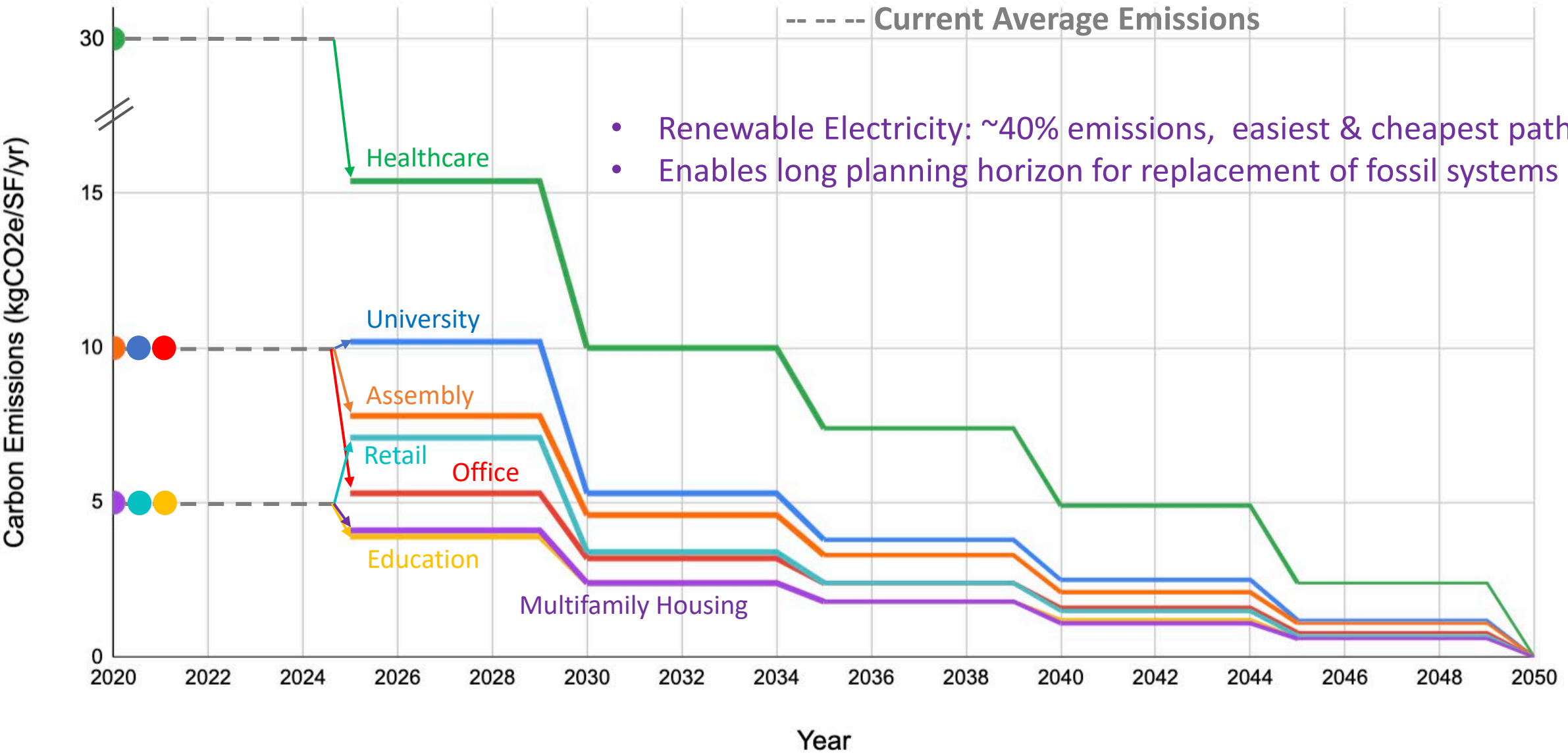
Procurement of Renewable Energy Certificates (VPPA) or Newton Power Choice.

Renewable energy on site.

Electrification of heating.

Alternative compliance payments: \$234/metric ton of CO2 above standard.

Boston's Current Emissions and Scheduled Compliance Standards under BERDO 2.0



Boston BERDO: Flexibility-Individual Plans

- Building owner needs an alternative schedule to reduce emissions.
- Must be reviewed and approved by the City.

Proposed Timelines for Newton BERDO



February 2023

Ordinance passed by City Council

Summer 2024

First energy use and GHG emissions report due from the largest building owners for Calendar Year 2023.

Summer 2027

First report due from the largest building owners under the emissions standards for calendar year 2026.

Timelines vary by building size and type.

TIMELINE PROPOSAL - JULY 24, 2022										
Tier	Bldg Type	Size	Calendar Year							
		(Square Feet)	2023	2024	2025	2026	2027	2028	2029	2030
1	NRB (Non-Residential Building)	>50,000	Collect energy use data	Submit 1st energy and emissions report-Sept.2024		Comply with the first emission standard	Submit 1st emissions compliance report-Sept.2027			
2	NRB	35-50,000	Collect energy use data	Submit 1st energy and emissions report-Sept.2024			Comply with the first emission standard	Submit 1st emissions compliance report-Sept.2028		
	RB (Residential Building)	>50,000	Collect energy use data	Submit 1st energy and emissions report-Sept.2024			Comply with the first emission standard	Submit 1st emissions compliance report-Sept.2028		
3	NRB	20-35,000	Collect energy use data		Submit 1st energy and emissions report-Sept.2025			Comply with the first emission standard	Submit 1st emissions compliance report-Sept.2029	
4	RB	20-50,000	Collect energy use data		Submit 1st energy and emissions report-Sept.2025				Comply with the first emission standard	Submit 1st emissions compliance report-Sept.2030

Proposed Process for Newton BERDO



Discussion Sessions sponsored by City -
monthly

Updates on City website:
Newtonma.gov/NewtonBERDO

Advisory Groups

Special topic information sessions from
utilities, vendors, building owners

Email address:
NewtonBERDO@newtonma.gov

Support-

If BERDO
passes

Help Line

Training on EPA PM

Community leaders



EPA Portfolio Manager Link

- <https://www.energystar.gov/buildings/benchmark>
- Benchmarking tool
- Training

Newton
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website

[Newtonma.gov/NewtonBERDO](https://newtonma.gov/NewtonBERDO)

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