

# A BERDO for Newton

Discussion Session #6  
Sept. 29, 2022



## Agenda

- What is Boston BERDO & why is a Newton version being developed
- Compliance Pathways: Focus on Renewable Energy Certificates
- Proposed Timelines and Process
- Community input

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.

## Presenters:

- **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.

Zoom Technician: **Liora Silkes**, Newton Energy Coach

# A BERDO for Newton

## (Building Emissions Reduction and Disclosure Ordinance)

- We are at the **early stages** of developing an ordinance for Newton based on Boston BERDO. The ordinance will **require large buildings to reach net zero by 2050** or shortly thereafter.
  - Will apply to buildings 20,000 SF or more.
  - In Newton there are 400 buildings over 20,000 SF (with 205 owners).
  - The City of Newton is the owner of 32 buildings on this list (and will comply with the standards).
- City Council passed a resolution **in support** of a BERDO (4/19/22).
- This is session #6 of a series of BERDO sessions that are being held throughout the year. Today our focus is **implementation timelines and compliance pathways**.

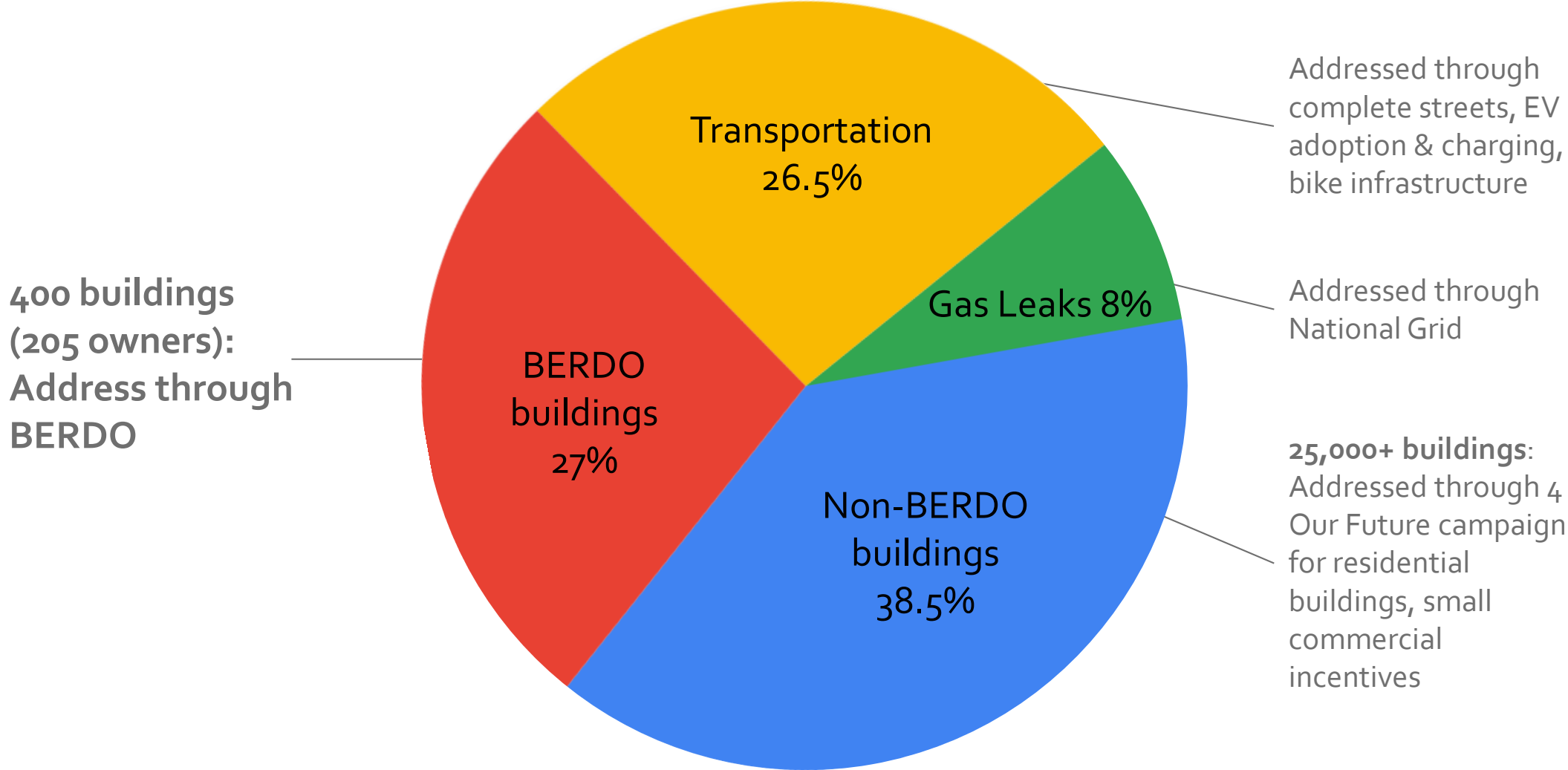
# Building Emissions Performance Standard

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



# Proposed Newton's Declining Emissions Schedule

- **Based on Boston's BERDO Emission Standards**
  - Based on Synapse study of real building data, input from building owners, and MEP experts
- **Alternative Compliance Schedule under consideration**
  - 100% reduction over 6 periods starting from current emission levels.
  - Must be reviewed and approved by the City.
- Applies to **single buildings or a portfolio of buildings.**

Emissions threshold (kgCO<sub>2</sub>e/SF)

Building type	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
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

\*Starting period as indicated in proposed timeline (varies by building size).

# BERDO compliance pathways



**Energy Efficiency Improvements:** pays for itself.



**Procurement** of Renewable Energy Certificates or Newton Power Choice.



**Renewable energy** on site.



**Electrification** of heating, hot water, and cooking.



**Alternative Compliance Payments:** Boston's payment for 2026 is \$234/metric ton of CO<sub>2</sub> above standard.

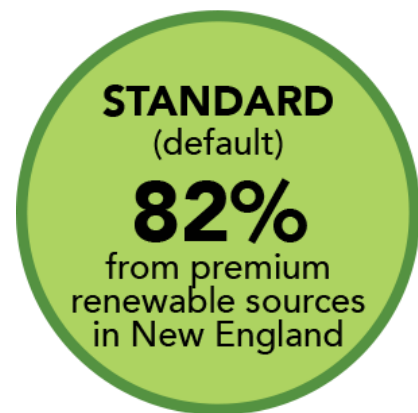
# Mass Class 1 RECs (Renewable Energy Certificate)

A REC represents the green energy in electricity generated by renewable energy systems such as solar and wind.

- Mass Class 1 RECs are high quality RECs. Texas wind and similar RECs are not acceptable for BERDO compliance.
  - A Mass Class 1 REC is from facilities that began operation after 1997 and include primarily solar PV, onshore and offshore wind, and low-impact hydro.
- Today we are going to talk about two ways to purchase RECs.
  - Newton Power Choice
  - Direct Purchase

# Newton Power Choice

- Municipal aggregation program, which includes RECs in your electricity supply.
- Many building owners and their tenants are already participating.
- NPC includes RECs at three levels:



**13.452** ¢/kWh



**14.357** ¢/kWh



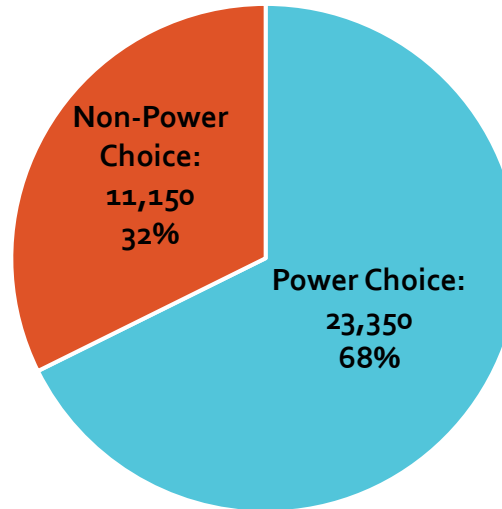
**10.646** ¢/kWh



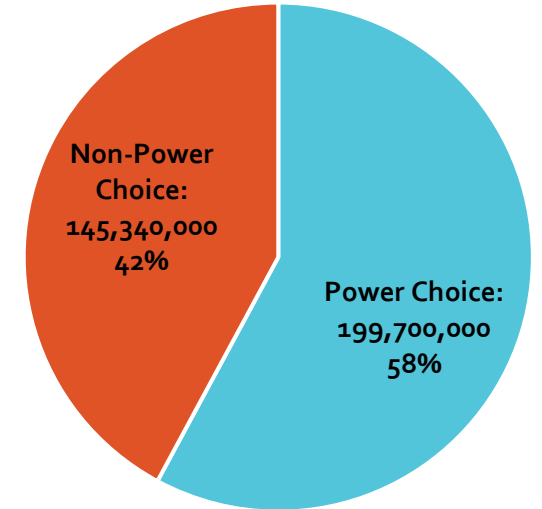
# Participation in Newton Power Choice

- Higher consumers of electricity tend not to participate in NPC
- 'Non-Power Choice' includes accounts with competitive suppliers as well opt-outs from NPC, i.e., to Eversource Basic Service.
  - We do not have information about who the customers on competitive supply are, or who their suppliers are.

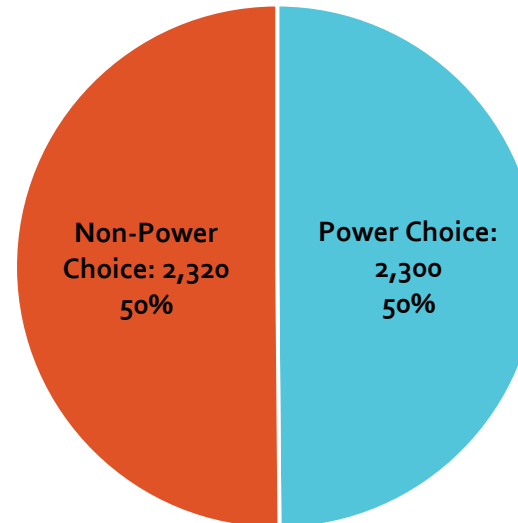
Residential: by # Households



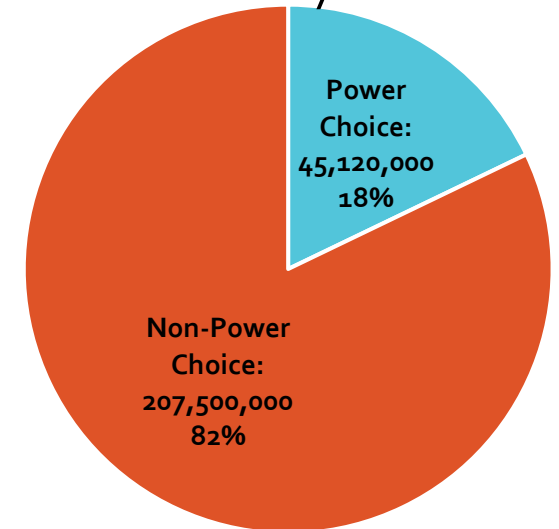
Residential: by kWh used



Commercial: by # participants



Commercial: by kWh used



# Direct Purchase of RECs

Example: The City of Newton uses its electricity broker to purchase RECs

- Contract for 2,100 RECs, representing 10% of the City's electricity use.
- Contract is between the City and a supplier.
- Contract is for four years and specifies:
  - The number of RECs per year (2,100)
  - The cost (fixed at \$38.50 per REC)
  - Delivery and payment terms

Newton is billed \$80,500 per year

2,100 RECs offsets 628 metric tons of CO<sub>2</sub>e



# Other Renewable Energy Options Under Consideration

- Virtual power purchase agreement (VPPA). A long-term contract for RECs from out of state.
- On-site solar systems through SMART or other PPA arrangements.

# 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.

**TIMELINE PROPOSAL**

Tier	Bldg Type	Size (kft <sup>2</sup> )	# of Buildings	Total Area (Mft <sup>2</sup> )	% of Newton's GHG Emissions	# of Unique Owners for Each Category	Calendar Year							
							2023	2024	2025	2026	2027	2028	2029	2030
1	NRB (Non-Residential Building)	>50	113	13.9	18.5%	65	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	55	2.3	2.5%	48	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	34	3.5	2.5%	18	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	111	3.0	3.4%	92	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	86	2.3	1.7%	38	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	

# Process for Newton BERDO



- Monthly Discussion Sessions sponsored by City
- Advisory Groups
- Special topic information sessions from utilities, vendors, building owners
- Updates on City website:  
[Newtonma.gov/NewtonBERDO](https://newtonma.gov/NewtonBERDO)
- Email address:  
[NewtonBERDO@newtonma.gov](mailto:NewtonBERDO@newtonma.gov)

# Support for Property Managers

- EPA Portfolio Manager

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

- Be In Touch

- [newtonberdo@newtonma.gov](mailto:newtonberdo@newtonma.gov)
- [Newtonma.gov/newtonberdo](http://Newtonma.gov/newtonberdo)

- If BERDO Passes:

- Help line
- Community leaders

- Utility Resources

- Eversource Zero Energy Buildings Conference – free and virtual. Registration link on the Newton BERDO website