



## Zoning & Planning Committee Agenda

### City of Newton In City Council

Tuesday, May 28, 2024

7:00 pm  
Room 204

The Zoning and Planning Committee will hold this meeting as a hybrid meeting on Tuesday, May 28, 2024 at 7:00 PM that the public may access in-person or virtually via Zoom. To attend this meeting via Zoom use this link: <https://newtonma-gov.zoom.us/j/82630446940> or call 1-646-558-8656 and use the following Meeting ID: 826 3044 6940.

#### Item Scheduled for Discussion:

**Chair's Note:** *Please see the attached document from Ann Berwick, Co-Director of Sustainability regarding examples on when the proposed ordinance and the Specialized Energy Code would apply to a project.*

**#49-24 Discussion and possible adoption of an ordinance requiring electrification of all new construction and substantial renovations**

HER HONOR THE MAYOR AND COUNCILORS ALBRIGHT, DANBERG, LEARY, HUMPHREY, KALIS, DOWNS, LIPOF, WRIGHT, MICLEY, BIXBY, AND GETZ requesting discussion and possible adoption of an Electrification Ordinance that would require all new construction and substantial renovations in Newton to be all-electric. This is in conjunction with the City's recent conditional approval by the State Department of Energy Resources (DOER) for participation in the Ten Communities Program.

**Zoning & Planning Held 8-0 on 01/27/24; Public Hearing Set for 02/26/24**

**Zoning & Planning Held 7-1 (Councilor Kalis Opposed) on 02/26/24**

**Zoning & Planning Approved 7-0 on 03/11/24**

**City Council Referred Back to Zoning & Planning 22-0-2 (Councilors Grossman and Micley Absent) on 03/18/24**

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The location of this meeting is accessible and reasonable accommodations will be provided to persons with disabilities who require assistance. If you need a reasonable accommodation, please contact the city of Newton's ADA Coordinator, Jini Fairley, at least two business days in advance of the meeting: [jfairley@newtonma.gov](mailto:jfairley@newtonma.gov) or (617) 796-1253. The city's TTY/TDD direct line is: 617-796-1089. For the Telecommunications Relay Service (TRS), please dial 711.

**Chair's Note:** *The Chair intends to have the discussion focus on questions and comments from Councilors with June 10<sup>th</sup> being reserved for public comment and continued Committee discussion.*

**#42-24**      **Request for Discussion and Ordinance to require energy use reporting**  
COUNCILORS ALBRIGHT, DANBERG and LEARY on behalf of the Newton Citizens Commission on Energy (NCCE), requesting discussion and an ordinance that would require large property owners (campuses and large commercial buildings) to report energy use and associated greenhouse gas emissions annually to the city of Newton, to be used to encourage reductions in said energy use and greenhouse gas emissions in accordance and support of the goals set forth in the Newton Climate Action Plan.

**Referred to Public Facilities & Zoning & Planning Committee**

**#63-24**      **Requesting an update on the status of implementing the Climate Action Plan**  
COUNCILOR ALBRIGHT requesting an update from the Sustainability Team and appropriate staff on the status of implementing Climate Action Plan measures, expanding municipal energy efficiency and renewable energy programs as follows: Newton Power Choice participation rates, municipal power purchasing contracts for gas and electricity; Solar Power Purchase Agreement including operational and PV installations under construction, municipal energy consumption (DOER report) Green Communities grant funded efficiency projects to date, Energy Coach/ "4 our Future" program and zoning ordinances both to increase building energy efficiency/renewables in the private sector and foster sustainable development patterns.

**#230-24**      **Reappointment of James Miller to the Auburndale Historic District Commission**  
HER HONOR THE MAYOR reappointing James Miller, 85C Seminary Avenue, Auburndale as an alternate member of the Auburndale Historic District Commission for a term of office set to expire on June 6, 2027. (60 Days: 07/19/2024)

**Respectfully Submitted,**  
**R. Lisle Baker, Chair**

## Memorandum

To: Members of the Newton City Council Zoning and Planning Committee  
From: Ann Berwick, Co-Director of Sustainability  
Cc: Andrew Lee, Anthony Ciccariello  
Re: Proposed electrification ordinance: examples  
Date: May 22, 2024

As you may recall, the proposed electrification ordinance builds on the foundation of requirements for new construction and major renovations already in effect in Newton. This memorandum outlines some examples of what would be required in addition if the electrification ordinance is enacted. Please note that for individual situations, the Commissioner of Inspectional Services can provide specific information. These examples are designed to provide an overview.

There are some technical terms here that are worth clarifying at the outset.

First, there are terms that reference the scale of a renovation, such as “conditioned floor area.” Conditioned areas are those that would normally be heated and/or cooled and cover most areas in a typical dwelling, including the living room, kitchen, bedrooms, dining room, and living room. Unconditioned areas are those that typically have no heating/cooling system.

Second, a goal of the new building codes is for buildings to use less energy. In Newton, our building code uses the HERS (Home Energy Rating System) standard, which is a nationally recognized system for calculating a home's energy performance, to measure a building's energy efficiency. The HERS rating is based on a scale from 0 to 150, with 0 being a net-zero energy home (where the home generates as much energy as it consumes) and 150 being a home built to minimum national building code standards. The HERS rating of a home can be improved (i.e., a lower score) with measures like weather stripping, insulation, high-efficiency appliances, good quality windows, etc.

Third, the current Newton building codes already require that new construction and so-called “Major Renovations” (which includes additions as well as renovations) be made more energy efficient and made ready for electrification. Major Renovations are defined in the examples below, and are different for low-rise residential buildings as compared to other types of buildings. Importantly, the definition of Major Renovation is identical in the building codes and in the proposed electrification ordinance. Please keep in mind that the term Major Renovations includes additions above a certain size.

Here are some examples.

### Electrification Examples

## LOW-RISE RESIDENTIAL BUILDINGS

**Major Renovations:** Defined as additions over 1,000 sf or > 100% of conditioned floor area of existing building, or level 3 alterations (consuming over 50% of existing conditioned area) and >1,000 sf.

The Stretch Code requires the *entire* dwelling unit undergoing a Major Renovation to meet the new HERS standard (52 for mixed-fuel buildings; 55 for mixed-fuel with solar or all-electric; 58 for all-electric with solar).

- If an addition is added to an existing dwelling unit, the entire dwelling unit must meet the HERS standard; BUT...
- If an addition to an existing dwelling unit is an entirely (thermally- and fire-) separated unit, the existing separated unit does **not** need to meet the HERS standard. The new unit does.

### Electrification ordinance requires:

For additions that qualify as a Major Renovation, the **addition must be fully electrified.**

- The owner may keep an existing fossil-fuel fired system to serve the existing portions of the building.
- The owner **may not** extend the existing fossil-fuel fired HVAC or domestic hot water distribution lines into the addition (e.g., the bathroom and kitchen in the addition must have electrified hot water, heating, and cooling).

For Major Renovations, the **renovated area must be fully electrified.**

- The remaining portions of the building may continue to be served by an existing fossil fuel-fired system, but an existing fossil fuel-fired HVAC or domestic hot water system may not be extended into the altered area.

**Important note #1: The electrification ordinance requires electrification only in new construction and Major Renovations. In other situations, electrification is not required; e.g., a new gas stove can be installed and attached to the existing piping in an existing kitchen if the kitchen is not subject to a Major Renovation. Replacing all the windows in a home is not a Major Renovation, nor is adding a heat pump to help reduce the use of a furnace.**

**Important note #2: The electrification ordinance has no effect on the HERS rating. The required HERS rating is 52 for a residential building that uses both fossil fuels and electricity as a fuel source (mixed-fuel building). The required HERS rating is 55 for a residential building that is all-electric. Using some electric appliances in a mixed-fuel building will not improve the HERS score. As noted in this document,**

**for Major Renovations, the electrification ordinance does not require that the entire building be electrified.**

**Examples of Major Renovations:**

*Alteration example: A Major Renovation of the first floor of a single-family home.*

- If the alteration includes a kitchen and/or laundry, all kitchen and laundry appliances must be electrified. Domestic hot water, heating and cooling serving the renovated area must be electric.
- The entire house must meet the applicable Stretch Code HERS requirement.

*Alteration example: Single-family home; two stories; entire second floor is renovated; the house is heated by a gas boiler prior to the alteration.*

- The second floor must be all-electric. It may not be heated by the existing gas boiler.
- The remainder of the house may still be heated by the gas boiler and may continue to use other fossil fuel combustion equipment.
- The entire house must meet the applicable Stretch Code HERS requirement.

*Addition example: Three bedrooms and a bathroom are added to an existing single-family home.*

- The entire addition must be all-electric.
- The entire dwelling unit must meet the applicable stretch code HERS requirements, which would normally require weatherization upgrades to the first floor as well.

*Addition example: A third dwelling unit is added to the rear of an existing two-family home. The dwelling unit is entirely thermally- and fire-separated from the main house.*

- The main house does not need to meet the Major Renovations HERS standard or be fully electrified.
- The new unit must meet the Stretch Code and electrification ordinance requirements.

*Addition example: Single-family home; addition of garage and accessory apartment over garage, thermally- and fire-separated from the main dwelling unit; rest of the house is heated by a gas boiler.*

- The garage and apartment must be all-electric.
- The remainder of the house can still be heated by the gas boiler and may continue to use other fossil fuel-fired combustion equipment.
- The duct work for heating the remainder of the house may not be extended to the garage and apartment.

- Only the addition must meet the applicable Stretch Code HERS requirement. The existing single-family home does not need to meet the applicable HERS requirement.
- A detached accessory apartment would qualify as new construction and require a HERS rating on the detached building only.
- If the accessory apartment were internal, it would be treated as a Major Renovation of the principal dwelling unit.

## **BUILDINGS OTHER THAN LOW-RISE RESIDENTIAL**

**Major Renovations:** Defined as additions over 20,000 sf or > 100% of the conditioned floor areas of the existing building, or level 3 alterations (exceeding 50% of the existing conditioned floor area) > 20,000 square feet.

The Stretch Code requires **only** the triggering renovations to meet the Comcheck requirements. Comcheck is the U.S. Department of Energy commercial energy compliance software tool, which determines whether buildings meet certain prescriptive requirements. Note that this is different from how the Stretch Code addresses the HERS requirements.

In other respects, for purposes of the electrification ordinance, the non-residential building examples are analogous to the low-rise residential examples, e.g., for a Major Renovation, the renovated area must be fully electrified; the remaining portions of the building may continue to be served by an existing fossil fuel-fired system, but an existing fossil fuel-fired HVAC system may not be extended into the renovated area.

**See these memos for more information on the commercial and residential building codes.**

CITY OF NEWTON

IN CITY COUNCIL

ORDINANCE NO.

May , 2024

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF NEWTON AS FOLLOWS:

- I. That the Revised Ordinances of Newton, Massachusetts, 2017, as amended, be and are hereby further amended with respect to **Chapter 5 Public Buildings and Inspectional Services** by **INSERTING** a new **Article VI** after **Article V. Design Review Committee** as follows:

**ARTICLE VI.**  
**FOSSIL FUEL-FREE ORDINANCE**

**Sec. 5-59. Regulation of use of Fossil Fuels in New Construction and Major Renovation Projects.**

- (a) Purpose: The city adopts this ordinance in order to enable the city to participate in the Commonwealth of Massachusetts Fossil Fuel-Free Demonstration Project, 225 CMR 24.00. The purpose of the Fossil Fuel-Free Demonstration Project is to restrict and prohibit new building construction and Major Renovation Projects that are not fossil fuel-free in ten communities in Massachusetts. This ordinance will protect the health and welfare of the city's inhabitants and the environment by reducing greenhouse gases, which cause climate change, and by reducing other air pollutants.

This ordinance requires new construction and Major Renovation Projects to use electricity instead of fossil fuels for heating and cooling systems and cooking and clothes drying appliances; and, for hot water, to use either electricity or thermal solar.

- (b) Definitions: As used in this section, the following terms shall be defined as set forth herein, unless otherwise stated:

*Commissioner*: means the Commissioner of Inspectional Services of the City of Newton, as established by Section 5-16 of the ordinances of the city.

*Department:* means The Massachusetts Department of Energy Resources, as established by MGL chapter 25A.

*Fossil Fuel-Free Demonstration Project:* means the project codified by the entirety of 225 CMR 24.00, enabling ten communities designated by the Department to require new construction and Major Renovation Projects to be fossil-fuel free, notwithstanding MGL chapter 40A; MGL chapter 142, section 13; MGL chapter 164; or any other general or special law to the contrary.

*Hospitals or Medical Offices:* means a facility licensed or approved by the Department of Public Health to provide health care, including clinics licensed as health care facilities and facilities that provide substance use disorder treatment services, including outpatient withdrawal management, opioid treatment programs, office-based opioid treatment programs, acute treatment services (inpatient detoxification), and clinical stabilization services.

*Major Renovation Project:* means (a) low-rise residential additions over 1,000 square feet and additions exceeding 100% of the conditioned floor area of the existing dwelling unit; (b) additions over 20,000 square feet and additions that exceed 100% of the conditioned floor areas of the existing building for all building use types except low-rise residential; (c) Level 3 Alterations as defined in the International Existing Building Code (IEBC 2021) (which exceed 50% of the existing conditioned floor area) exceeding 1,000 square feet for low-rise residential, or exceeding 20,000 square feet for all other building uses; or (d) Change of use of over 1,000 square feet per International Energy Conservation Code (IECC 2021) Sections R505; or (e) change of use of over 20,000 square feet or change of use of 100% of the conditioned floor areas of the existing building for all building use types except low-rise residential, International Energy Conservation Code (IECC 2021) Sections C505.

*Research Laboratories for Scientific or Medical Research:* means a building in which a laboratory procedure or research activity occurs, and where the building has an average ventilation at full occupancy greater than 0.5 cfm/sf. Such buildings shall provide the ventilation design documentation described in 225 CMR 23.00, Section C103.2, at the time of building permitting.

*Specialized Code:* means the building code in 225 CMR 22.00 and 23.00; including Appendices RC and CC, which add residential and commercial appendices to the Massachusetts Stretch Energy Code.

*Stretch Code:* means the building code in 225 CMR 22.00 and 225 CMR 23.00.

- (c) Applicability: The fossil fuel restriction set forth in this ordinance applies to residential and commercial buildings located in the city that qualify as new construction or Major



Renovation Projects, except as listed in the section herein entitled "Exceptions."

(d) Exceptions: The requirements of this ordinance do not apply to any of the following:

- (1) Research Laboratories for Scientific or Medical Research;
- (2) Hospitals or Medical Offices;
- (3) Freestanding outdoor cooking appliances that are not connected to the building's natural gas or propane infrastructure;
- (4) Freestanding outdoor heating appliances that are not connected to the building's natural gas or propane infrastructure;
- (5) Emergency generators;
- (6) Appliances to produce potable or domestic hot water from centralized hot water systems in buildings with a gross floor area of at least 10,000 square feet, provided that the architect, engineer, or general contractor on the project certifies by affidavit that no commercially available electric hot water heater exists that could meet the required hot water demand for less than 150% of installation costs, compared to the costs of complying only with the requirements of the applicable (i.e., residential or commercial) Stretch or Specialized Code;
- (7) Multi-family buildings over 12,000 square feet with permit application filed prior to January 1, 2027 may utilize gas or propane for domestic water heating as the only combustion equipment; or
- (8) Fossil fuels for process loads for manufacturing, industrial, and commercial purposes.

(e) Waivers: The Commissioner may grant a waiver to the provisions of this ordinance for:

- (1) Major Renovation Projects if an architect, engineer, or general contractor on the project certifies by affidavit that compliance with the requirements of the ordinance will increase the costs of the project by fifty (50%) percent or more, compared to the costs of complying only with the requirements of the applicable (i.e., residential or commercial) Stretch Code;
- (2) New construction and Major Renovation Projects if the electric utility company notifies the City, in writing, that the project is unable to comply with the provisions of this ordinance because of insufficient electric grid, transmission, distribution, or related electrical infrastructure capacity in the particular location necessary for the project.

- (f) Application Requirements: When applying for a building permit for new building construction or a Major Renovation Project the applicant must submit documents with the application that identify the heating and cooling and hot water systems and cooking and clothes drying appliances that will be used in the new building or, in the case of a Major Renovation Project, that will be used in the portions of the building that are within the scope of the Major Renovation Project.
- (g) Compliance: The Commissioner shall not issue any building permit for the construction of a new building or Major Renovation Project unless the applicant submits the documentation set forth in the Section herein titled “Application Requirements.” The Commissioner shall not issue a certificate of occupancy for any building subject to this ordinance prior to inspection and confirmation that the heating and cooling, hot water systems, and cooking and clothes drying appliances used in the building conform to the applicant’s documents submitted pursuant to the Section herein entitled “Application Requirements.”
- II. That the new **Article VI. Fossil-Free Ordinance.** as ordered in Paragraph I herein shall be effective on January 1, 2025, and shall apply to all building permits, special permits, and comprehensive permits issued on or after the effective date.
- III. That the City of Newton hereby adopt the following amendments to the Specialized Code. These changes are enforceable by the Commissioner, shall be effective on January 1, 2025, and shall apply to all building permits, special permits, and comprehensive permits issued on or after the effective date.
  - a. Low-rise Residential Code (225 CMR 22 Appendix RC)
    - i. Sections RC102 and RC101 “Zero Energy Pathway” and “Mixed Fuel Pathway” shall not be permitted for use for new construction or Major Renovations.
  - b. Commercial and All Other (225 CMR 23 Appendix CC)
    - i. Sections CC103 and CC105 “Zero Energy Pathway” and “Mixed-Fuel Pathway” shall not be permitted for new construction or Major Renovations, with the following exceptions:
      - 1. Research Laboratories for Scientific or Medical Research as defined in paragraph I of this Order;
      - 2. Hospitals or Medical Offices as defined in paragraph I of this Order;
      - 3. Multi-family buildings over 12,000 square feet with permit application filed prior to January 1, 2027 may utilize gas or propane for domestic water heating as the only combustion equipment; or

4. Buildings heated with Clean Biomass Heating Systems as defined in 225 CMR 23, as the only combustion equipment;

Approved as to legal form and character:

ALISSA O. GIULIANI  
City Solicitor

Under Suspension of Rules  
Readings Waived and Adopted

EXECUTIVE DEPARTMENT  
Approved:

(SGD) CAROL MOORE  
City Clerk

(SGD) RUTHANNE FULLER  
Mayor

DRAFT

# City of Newton Proposed BERDO

Building Emissions Reduction and Disclosure  
Ordinance

May 28, 2024

Zoning and Planning Committee of the Newton City Council

## 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.

## 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 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)

## Discussion

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

## Discussion

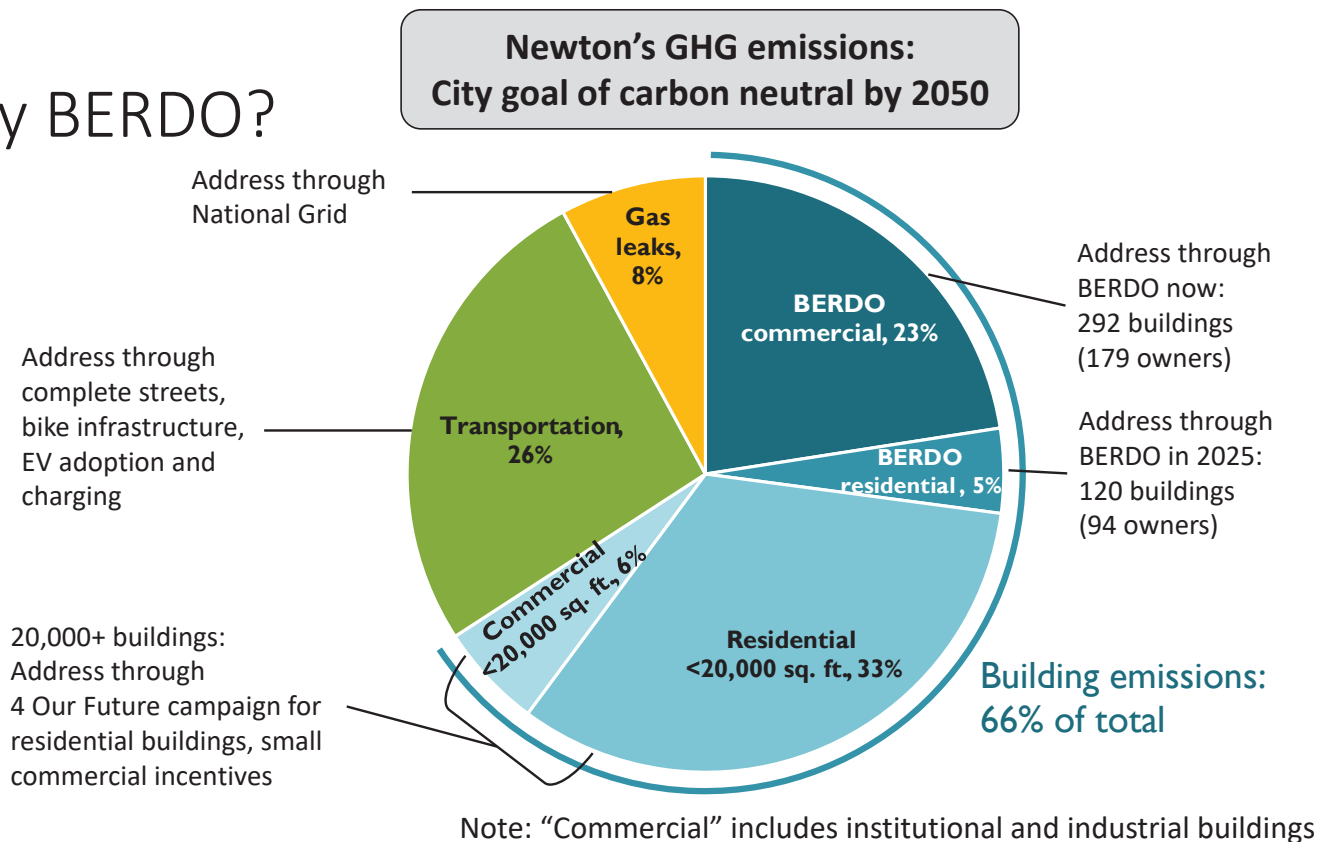
- Boston as a Model
- Rate of Emissions Reduction
- Compliance Flexibility
- Example Compliance Pathways
- Enforcement
- Emissions Investment Fund

# 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?



## 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 CO <sub>2</sub> e)	% 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 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 <sub>2</sub> 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%
<b>Total</b>	<b>All covered buildings</b>	<b>293</b>	<b>179*</b>	<b>19,308,136</b>	<b>167,860</b>	<b>100%</b>

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

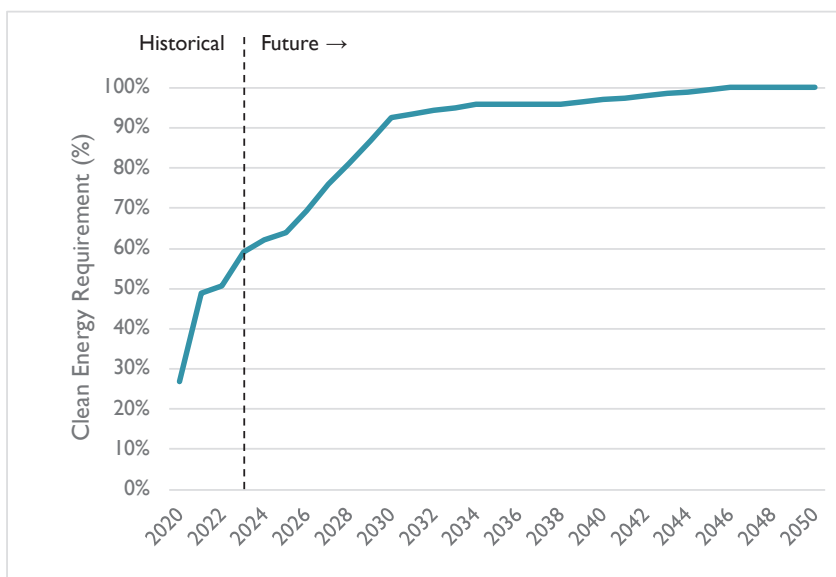
## Proposed Compliance Timeline

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 ≥ 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



Source: [Massachusetts Department of Environmental Protection 310 CMR 7.75: Clean Energy Standard \(CES\)](#)

- Combined clean and renewable electricity procurement mandates:
  - 92 percent by 2030
  - 100 percent by 2050
- Technologies included in statutes:
  - Solar
  - Wind
  - Ocean
  - Fuel cells with qualified fuel
  - Qualified landfill methane gas
  - Large hydro
  - Low-impact, small hydro
  - Qualified biomass
  - Geothermal
  - Nuclear
  - Municipal waste

# Newton BERDO Simplifies Reporting

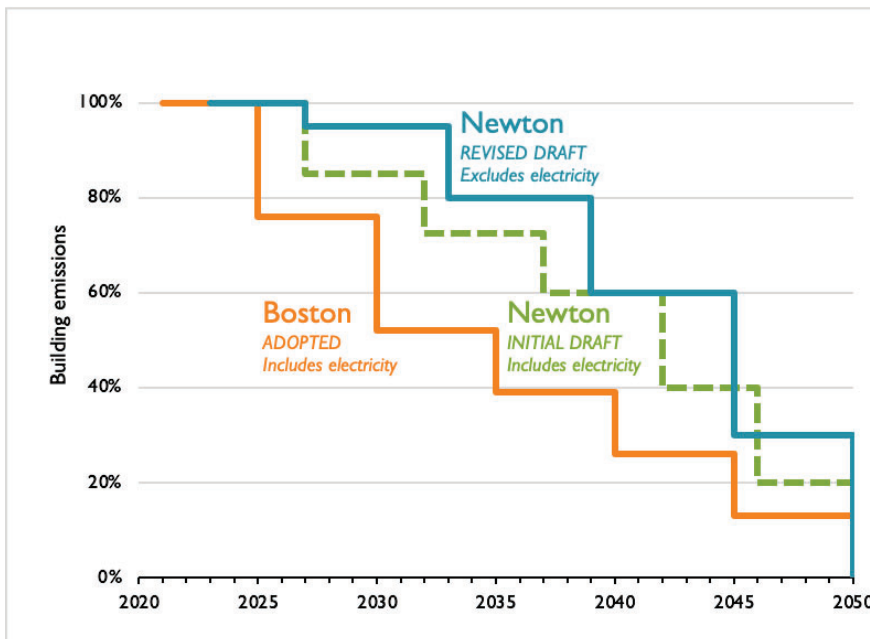
- Submit reports via ENERGY STAR Portfolio Manager
  - Free, industry-standard, widely adopted webtool
  - Junior staff learned the tool and reported 30 City buildings in about 15 hours
- Report all energy use—electricity, natural gas, fuel oil, propane
  - Annually for the prior year
  - One bill per 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

# 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).



# Newton Proposed Rate of Emissions Reduction

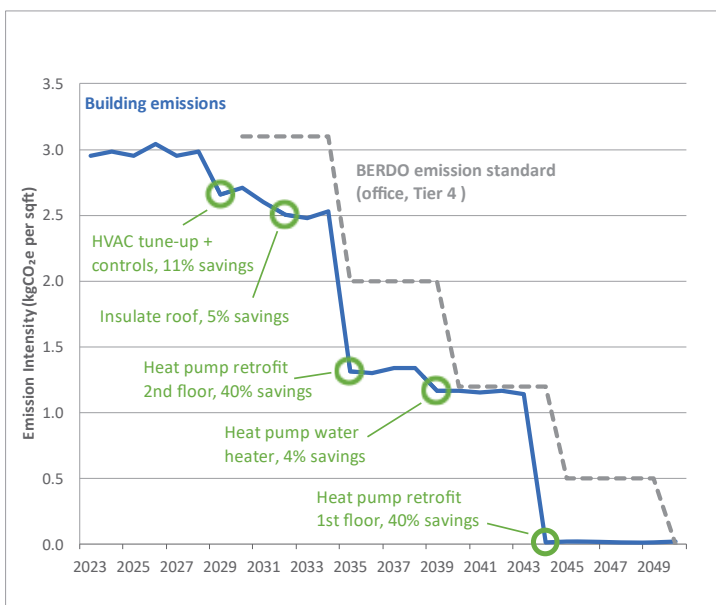
Building use	Emission standards (kgCO <sub>2</sub> e/sq. ft.)				
	Period 1	Period 2	Period 3	Period 4	Period 5
Assembly	6.1	3.7	2.3	1.1	0.0
College/University	9.5	5.7	3.5	1.5	0.0
Education	4.1	2.8	1.9	0.9	0.0
Food Sales & Service	6.8	4.4	3.2	1.5	0.0
Healthcare	14.3	9.2	6.5	3.2	0.0
Lodging	4.6	3.1	2.1	1.0	0.0
Manufacturing/Industrial	3.9	2.9	2.2	1.0	0.0
Office	3.1	2.0	1.2	0.5	0.0
Retail	3.4	2.3	1.4	0.6	0.0
Services	6.5	4.2	2.9	1.4	0.0
Storage	2.5	1.8	1.3	0.6	0.0
Technology/Science	14.6	10.7	6.7	2.8	0.0

*Includes direct GHG emissions only (electricity emissions excluded)*

# Proposed Compliance Flexibility

- **Phased implementation:** Tiers by building size phased in over time
- **Penalties delay:** Not levied prior to 3<sup>rd</sup> 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 1<sup>st</sup> and 2<sup>nd</sup> floors

# Enforcement

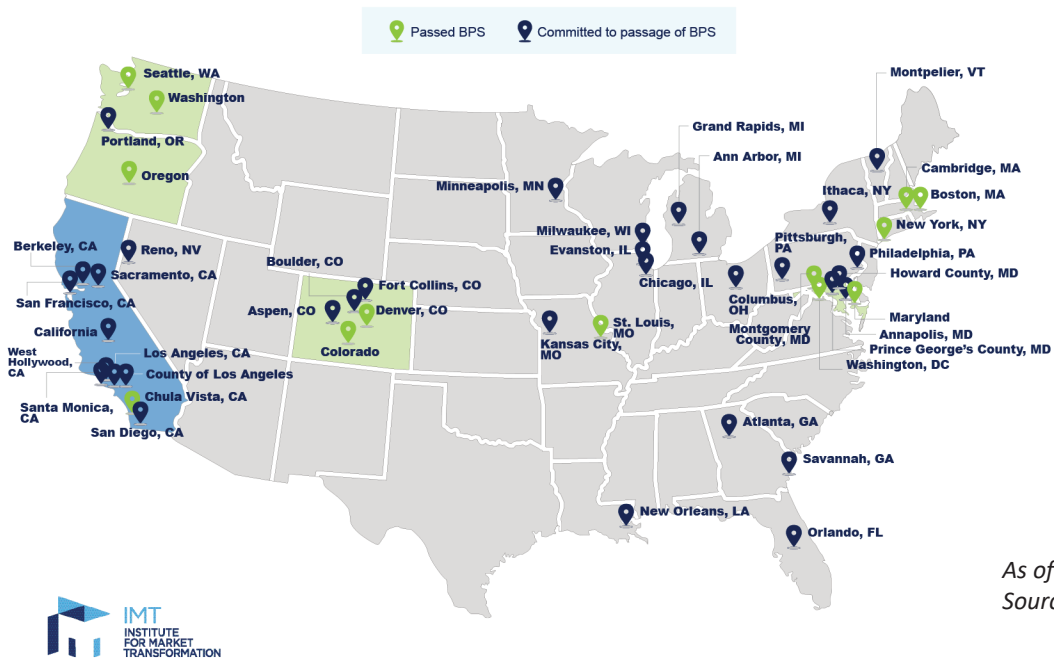
- Non-compliance penalties begin the 3<sup>rd</sup> year of the effective date of emissions requirements
- Penalties are \$300 per day (Boston maximum of \$1,000 per day)
- Penalties for:
  - Failure to submit a report
  - Inaccurate report
  - Failure to meet emissions standard

# 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

# Extra Slides

## Building Performance Standards in the United States



As of December 2023  
Source: IMT

## Residential Context

- Mayor proposes to add residential buildings  $\geq$  20,000 sq. ft. GFA in one year, April 2025. Includes adding centrally heated condos.
- Residential was being phased in anyway. This does not delay it.
- Residential  $\geq$  20,000 sq. ft. GFA accounts for 5% of emissions, commercial accounts for 23%
- One-year delay allows additional time for planning and evaluation
- The Cambridge City Council removed residential from the emissions requirement last June 2023. Through thorough planning, Newton has a better chance of including residential in BERDO

## Remaining Issues with Residential Bldgs.

BERDO Team working with residential owners on the following issues:

- Understanding the impact on housing costs
- Addressing increased cost impacts on housing
- Impact on affordable housing and EJ communities
- Identifying contacts for condo associations
- Identifying centrally heated condo buildings
- Available technologies
- Utility incentives for technologies



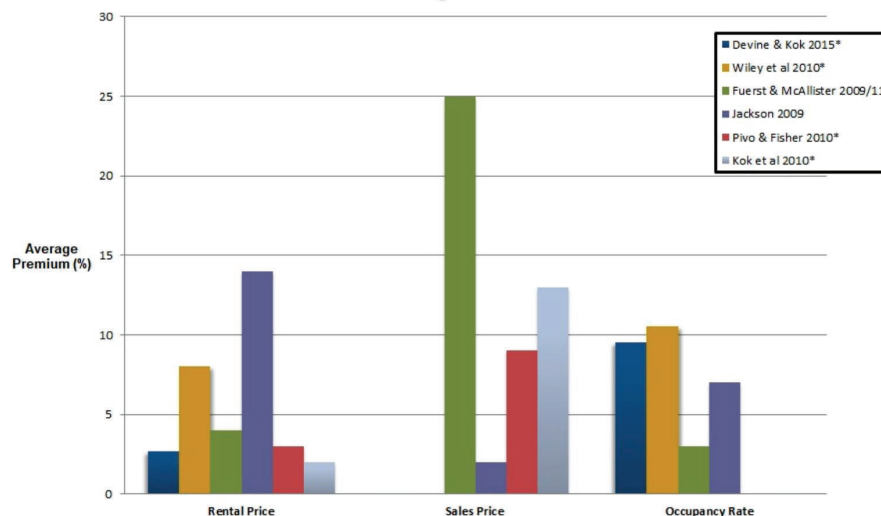
# Residential Buildings

- Extensive BERDO Team discussions about including in BERDO
- Initially excluded to give BERDO Team additional time to assemble information, evaluate costs, develop case studies, and meet with stakeholders
- Table shows potential impact of adding residential, including +5% of citywide emissions

Tier	Description	Count of Buildings	Number of Owners	Total GFA (sq. ft.)	Emissions (tons CO <sub>2</sub> e)	(% total GHG)
R1	Residential, ≥50,000 sq. ft.	37	35	4,988,829	23,721	+3.4%
R2	Residential, 20,000–49,999 sq. ft.	83	60	2,356,977	11,427	+1.6%
<b>Total</b>	<b>All Potential Res. Buildings</b>	<b>120</b>	<b>94</b>	<b>7,198,737</b>	<b>35,148</b>	<b>+5%</b>
<b>Total</b>	<b>All Covered Buildings</b>	<b>413</b>	<b>267</b>	<b>26,506,873</b>	<b>201,930</b>	<b>28%</b>

## Potential Market Value Impacts

**Added Value of ENERGY STAR-Labeled Commercial Buildings in the U.S. Market**

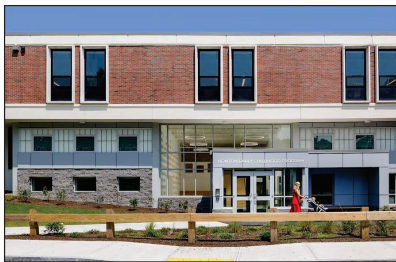


Source: Institute for Market Transformation

# Retrofit Case Examples: Cost to Achieve Zero Emissions

- BERDO Team evaluated completed projects, reviewed literature, and obtained quotes
- Net incremental costs to building owners typically in the range of \$5-20 per sq. ft.

Building	Type	Location	Size (sq. ft.)	Description	Project cost		Net cost		
					\$	\$/sq. ft	\$	\$/sq. ft	
Newton Early Childhood Program	Education	Newton	42,000	All-electric heat pumps	\$1,570,600	\$37.4	-\$176,000	-\$4.2	Net cost less standard gas boiler with heating distribution system
Auburndale Library	Services	Newton	5,500	All-electric heat pump, insulation, air sealing	\$75,000	\$13.6	\$30,400	\$5.5	Net cost less standard gas boiler after rebate
Apartment	Residential	Newton	25,000	All-electric central heat pump and water heater	\$415,000	\$16.6	\$227,500	\$9.1	Net cost less standard gas boiler



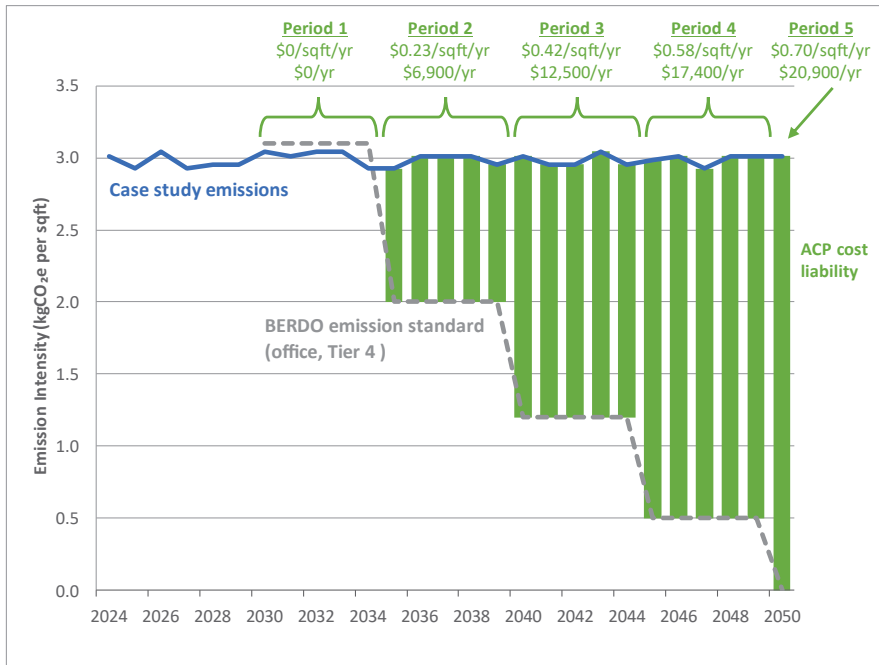
# Retrofit Case Examples: Cost to Achieve Zero Emissions

TOTAL	RESIDENTIAL									COMMERCIAL					
	Single Family			Small Multifamily			Large Multifamily			Small & Medium			Large Commercial		
	Low	High	Per (Unit)	Low	High	Per (Unit)	Low	High	Per (Unit)	Low	High	Per (Unit)	Low	High	Per (Unit)
Benchmarking							\$580	\$750	building	\$580.00	\$750.00	building	\$580.00	\$750.00	building
Basic Efficiency 10-14%	\$3,100	\$5,400	unit	\$2,600	\$4,300	unit	\$2,300	\$3,800	unit	\$2.60	\$4.20	sq ft	\$2.60	\$4.20	sq ft
Efficiency 15-30%	\$8,200	\$12,200	unit	\$7,200	\$10,200	unit	\$6,600	\$9,200	unit	\$8.60	\$11.50	sq ft	\$8.60	\$11.50	sq ft
Deep Energy Retrofit 30%+	\$20,600	\$33,500	unit	\$19,000	\$30,200	unit	\$18,100	\$28,500	unit	\$33.65	\$40.36	sq ft	\$33.65	\$40.36	sq ft
Space Heating/Cooling Electrification	\$19,500	\$20,500	unit	\$9,000	\$11,000	unit	\$11,600	\$12,200	unit	\$4.00	\$11.33	sq ft	\$19.00	\$28.00	sq ft
Water Heating Electrification	\$3,000	\$3,100	unit	\$1,180	\$2,740	unit	\$890	\$1,180	unit	\$0.79	\$0.88	sq ft	\$0.44	\$0.52	sq ft
Dryer Electrification	\$1,000	\$1,800	unit	\$1,300	\$2,600	building	\$1,300	\$2,600	building			sq ft			sq ft
Miscellaneous										\$1.50	\$2.00	sq ft	\$1.50	\$2.00	sq ft
Cooking Electrification	\$1,400	\$2,900	unit	\$1,400	\$2,900	unit	\$1,400	\$2,900	unit	\$16.00	\$20.00	sq ft of kitchen space	\$16.00	\$20.00	sq ft of kitchen space
Gas Disconnection	\$400	\$600	unit	\$600	\$800	building	\$600	\$800	building	\$800.00	\$1,000	building	\$1,200	\$1,600	building
Panel up-grades	\$4,400	\$4,500	unit	\$11,540	\$89,600	building	\$179.2k	\$281k	building	\$20k	\$40k	building	\$68k	\$128k	building

Source: Jones, B. 2021.

Costs based on published literature, case studies, construction cost estimators, and interviews with industry professionals.

# Alternative Compliance Payment (ACP) Example

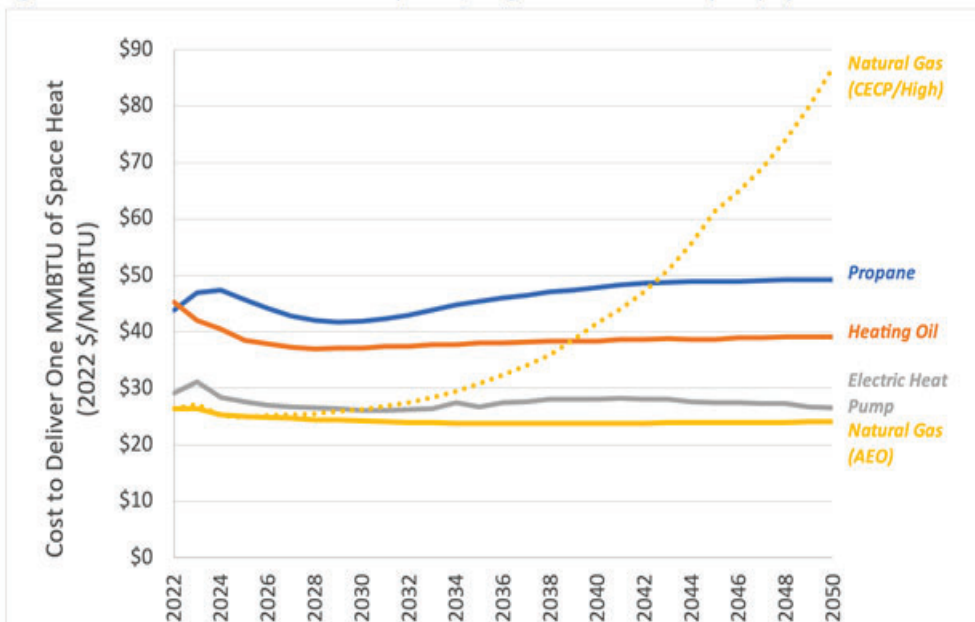


## Building profile:

- 30,000 sq. ft. office building
- Natural gas use, annual:
  - 1,685 MMBtu
  - \$28,350
  - \$0.95 per sq. ft.
- ACP costs:
  - \$0 through 2034
  - Rises to \$0.70 per sq. ft. (\$20,900 total) per year
  - 2050 Cumulative: \$205,000

# Energy Operating Costs for Heating

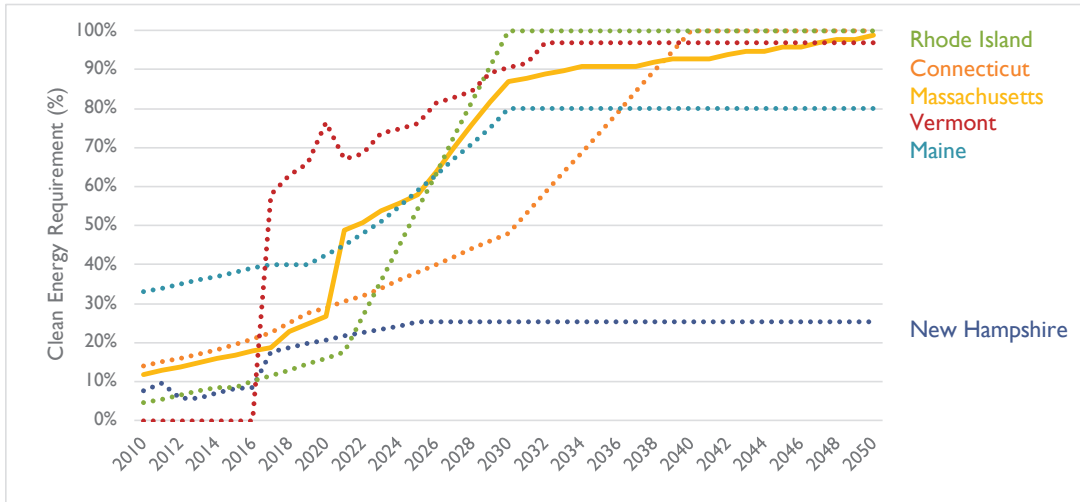
Figure 4. Residential delivered heat cost comparison, using AEO 2023-based fuel price projections



CECP = MA Clean Energy and Climate Plan  
 AEO = U.S. EIA Annual Energy Outlook

# New England Clean Energy Regulations

Most other states in New England have similar requirements

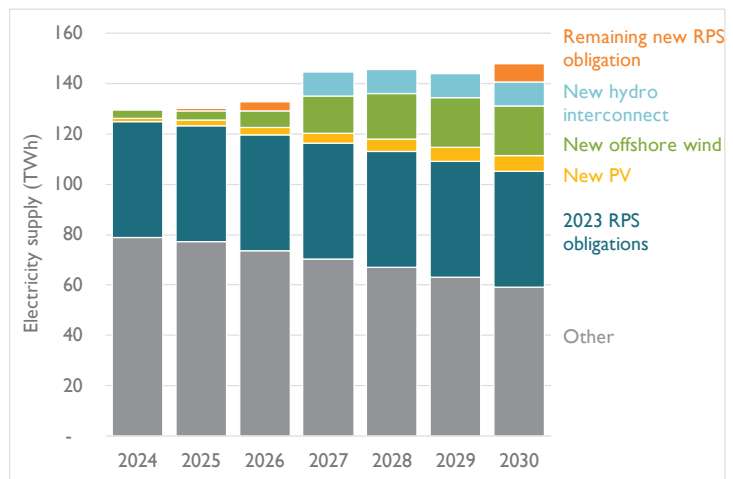


Commonwealth of Massachusetts Department of Energy Resources. 2021. 225 CMR 15.00 Renewable Energy Portfolio Standard- Class II.  
 Commonwealth of Massachusetts Department of Energy Resources. 2021. RPS and APS Annual Compliance Review 2019.  
 --- Compliance Review 2018, Compliance Review 2017, Compliance Review 2016, Compliance Review 2015.  
 Commonwealth of Massachusetts Department of Environmental Protection. 2022. Background Document on Proposed Amendments to: 310 CMR 7.75 Clean Energy Standard.  
 Database of State Incentives for Renewables & Efficiency. 2018. "Connecticut Renewable Portfolio Standard." Available at: <https://programs.dsireusa.org/system/program/detail/195>.  
 Maine Public Utilities Commission. 2021. Annual Report on New Renewable Resource Portfolio Requirement. Report for 2019 Activity. Presented to the Joint Standing Committee on Energy, Utilities and Technology.  
 New Hampshire Public Utilities Commission. "Electric Renewable Portfolio Standard (RPS)." Available at: [https://www.puc.nh.gov/Sustainable%20Energy/Renewable\\_Portfolio\\_Standard\\_Program.htm](https://www.puc.nh.gov/Sustainable%20Energy/Renewable_Portfolio_Standard_Program.htm).  
 Rhode Island Public Utilities Commission. 2022. Rhode Island Renewable Energy Standard Annual Compliance Report for Compliance Year 2020.  
 Vermont Department of Public Service. 2021. 2021 Annual Energy Report. A summary of progress made toward the goals of Vermont's Comprehensive Energy Plan. Prepared for the Vermont General Assembly.  
 Vermont Department of Public Service. 2022. 2022 Annual Report on the Renewable Energy Standard.

# New England Clean Energy Regulations

- In 2022, New England achieved greater than 55% clean energy supply
- New renewable projects are needed to meet state mandates by 2030
- Planned offshore wind, PV, and hydro interconnect projects will meet most of the requirements
- Remaining obligations not covered by planned projects range from 1% of load in 2025 to 5% in 2030, with excess production in some years
- Remaining obligations can be met in several ways
  - New renewable projects that are not yet planned
  - Renewable imports from adjacent grid regions
  - "Banked" renewable energy certificates
- Potential offshore wind and transmission project delays may pose a risk to meeting states' obligations

New England Electricity Supply and Clean Energy Requirements

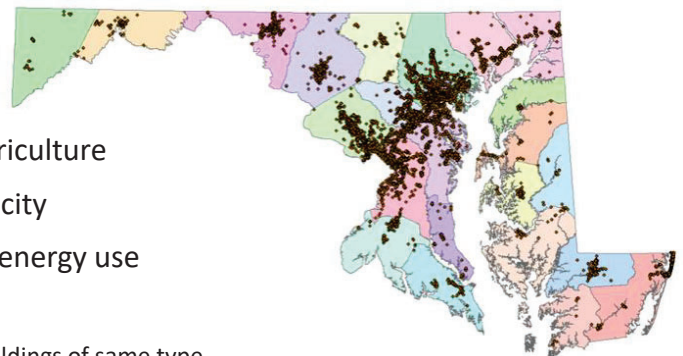


# Planned Offshore Wind Projects

Location	Name	Completion Date	Capacity (MW)	Current Status	Offtaker State
ME	New England Aqua Ventus I	2024	12	Permitting	ME
MA/RI	Revolution Wind	2026	704	Permitting	RI (400 MW) and CT (304 MW)
MA	Vineyard Wind 1	2024	800	Under Construction	MA
MA	SouthCoast Wind 1a	2028	804	Permitting	MA
MA	SouthCoast Wind 1b	2029	400	Permitting	MA
MA	New England Wind I	2027	800	Permitting	MA
MA	New England Wind II	2027	1232	Permitting	MA

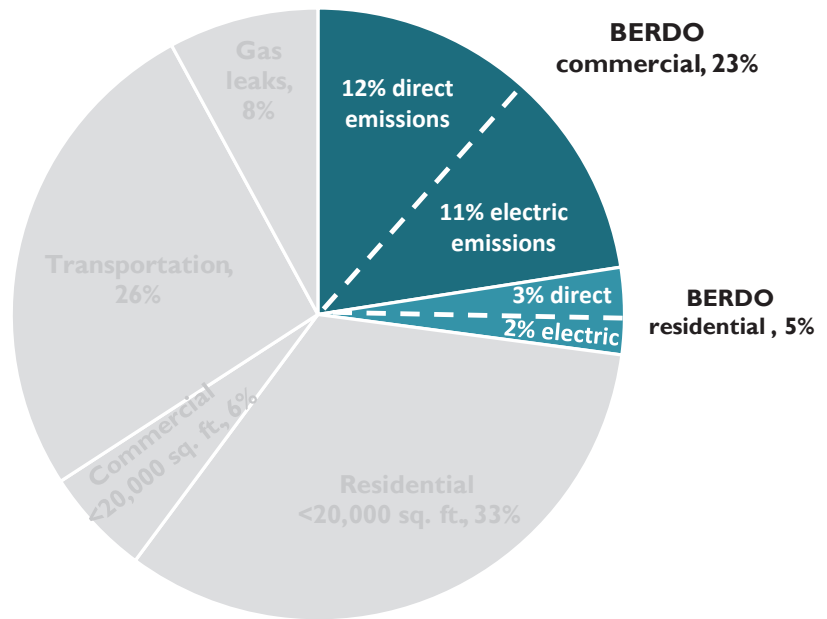
## Maryland Building Energy Performance Standards

- Covers buildings  $\geq 35,000$  sq. ft.
- Exempt buildings: historic, schools, manufacturing, agriculture
- Does not regulate indirect GHG emissions from electricity
- Regulates “direct greenhouse gas emissions” and site energy use
  - Net direct GHG emissions standards
    - 20% reduction by 2030 compared with 2025 average buildings of same type
    - 60% reduction by 2035 compared with 2025 average buildings of same type
    - Net-zero direct GHG emissions by 2040
  - Site energy use intensity (EUI) standards
    - Yet to be established, but will require straight line progress toward final 2040 EUI target
    - Intended to reduce GHG, peak load, and energy costs
    - Likely not necessary in Newton to reduce GHG (Maryland RPS caps out at 50 percent in 2030)



# Why BERDO?

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



Note: "Commercial" includes institutional and industrial buildings

## Legal Authority

- Newton Law Department has reviewed
- This is new territory legally
- Boston BERDO may be challenged by building owners

**City of Newton Proposed Building Emissions  
Reduction and Disclosure Ordinance (BERDO)  
May 20, 2024**

**WHEREAS:** Buildings contribute to 64 percent of greenhouse gas emissions in the City of Newton; and

**WHEREAS:** Non-Residential Buildings over 20,000 Gross Floor Area contribute 23 percent of greenhouse gas emissions in the City of Newton; and

**WHEREAS:** The City of Newton’s Climate Action Plan details strategies to reduce carbon emissions from buildings; and

**WHEREAS:** The Newton City Council passed a resolution unanimously in April 2022 declaring that the City should pass a Building Emissions and Reduction Ordinance.

**THEREFORE, THE FOLLOWING ORDINANCE IS ADOPTED:**

**SECTION 1. Building Emissions Reduction and Disclosure**

**(a) Purpose**

It is the intent of this Ordinance to reduce the emissions of air pollutants, including greenhouse gases, from building energy consumption, and thereby to encourage efficient use of energy; to develop further investment in building a green economy, and to protect public health. To do so, the provisions of this Ordinance require the reporting and disclosure of annual energy use in all

**City of Newton Proposed Building Emissions  
Reduction and Disclosure Ordinance (BERDO)  
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covered Buildings and compliance with emissions reduction requirements in accordance with this Ordinance.

**(b) Definitions**

When used in this Ordinance, unless a contrary intention clearly appears, the following terms shall have the following meaning:

*Alternative Compliance Payment* means a per-metric ton payment based on the average cost per metric ton of CO<sub>2</sub>e to decarbonize Buildings subject to this Ordinance.

*BERDO Administrator* means the City employee designated as the individual employed to implement the BERDO program.

*Building* means a building that equals or exceeds 20,000 square feet in Gross Floor Area and in which at least 20,000 square feet of Gross Floor Area is used for non-residential purposes.

*Building Portfolio* means two or more Buildings, on one or more properties, provided that all Buildings within the Portfolio have the same Owner; for this purpose, a Building management company does not constitute an Owner.

*Building Use* means (i) space type as defined in the Regulations, which refers to the primary activity for which a given space is utilized, as entered into the EPA Energy Star Portfolio Manager



**City of Newton Proposed Building Emissions  
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reporting tool; or (ii) other activities as defined in Portfolio Manager or by the Regulations.

*Carbon Dioxide Equivalent (CO<sub>2e</sub>)* means greenhouse gas Emissions, including carbon dioxide, methane, and nitrous oxide. CO<sub>2e</sub> shall be calculated using a methodology as set forth in the Regulations.

*Emergency Backup Generation/Backup Power* means a device or mechanism, such as battery storage, reciprocating internal combustion engine, or turbine, that serves solely as a secondary source of mechanical or electrical power whenever the primary Energy supply is disrupted or discontinued during power outages or natural disasters that are beyond the control of the Owner, occupant, or operator of a Building.

*Emissions* means the emission of greenhouse gases, measured in units of CO<sub>2e</sub> associated with the Energy used by a Building, excluding electricity.

*Emissions Factor* means CO<sub>2e</sub> calculated according to regional Energy and greenhouse gas factors as set forth in the Regulations.

*Energy* means electricity and any fuel source including, but not limited to, natural gas, fuel oil, propane and any other sources of Energy that the BERDO Administrator may designate.

**City of Newton Proposed Building Emissions  
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*Portfolio Manager or EPA ENERGY STAR Portfolio Manager* means the U.S. Environmental Protection Agency's online tool for reporting and managing Building Energy data.

*Environmental Justice Population* means a neighborhood that meets one or more of the following criteria: (i) the annual median household income is not more than 65 percent of the statewide annual median household income; (ii) minorities comprise 40 percent or more of the population; (iii) 25 percent or more of households lack English language proficiency; or (iv) minorities comprise 25 percent or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150 percent of the state annual median income; or such other meaning as is adopted or amended by the Commonwealth's Executive Office of Energy and Environmental Affairs, by state statute, or defined in the Regulations.

*Gross Floor Area (GFA)* means the sum of the floor area of the Building measured from the exterior face of the exterior walls of the Building as per the City of Newton Assessors' records. The BERDO Administrator shall publish Regulations governing the calculation of Gross Floor Area, including types of areas that shall be excluded from the calculation.

*Hardship Compliance Plan* means alternative Emissions reduction targets and/or timelines for a Building or Building Portfolio.

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*Individual Compliance Schedule* means an alternative timeline for complying with the Emissions Standards outlined in this Ordinance.

*Owner* means a Building’s Owner of record, provided that the “Owner” may be deemed to include (i) multiple Owners in common ownership and (ii) the association or organization of unit Owners responsible for overall management in the case of a condominium. In the case of a Building subject to a lease that assigns maintenance, regulatory compliance, and/or capital improvement costs to Tenants with a term of at least 30 years, inclusive of all renewal options, the Owner may designate the lessee as “Owner” for purposes of compliance with this Ordinance; such designation must be provided in writing to the BERDO Administrator as required by the Regulations. An Owner may designate an agent to act on its behalf, including reporting as required by this Ordinance; provided, however, that any designation (i) must be provided in writing to the—BERDO Administrator, and (ii) does not relieve the Owner of any compliance obligation under this Ordinance.

*Regulations* means the Newton Building Emissions Reduction and Disclosure Regulations.

*Tenant* means any tenant of a Building covered by this Ordinance.

*Verification Year* means any year in which an Owner must report third-party verified reporting data. Verification Years will be the

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second reporting year for each building category following the enactment of this Ordinance, and every five years thereafter.

**(c) Building Portfolios**

Building Portfolios must be approved by the BERDO Administrator and Building Portfolio Owners must submit documentation confirming eligibility as a Building Portfolio. Notwithstanding the approval of a Building Portfolio, Owners must continue to report the Energy use, Emissions data, and any other information required by this Ordinance for each individual Building. If a Building is removed from or added to a Building Portfolio for any reason, including transfer to a different Owner, the Building shall retain its individual reporting data and be subject to the Emissions standards, and the Building Portfolio shall be adjusted to reflect the removal or addition of the Building.

**(d) Energy and Emissions Reporting Required**

*(i) Data Reporting Requirements*

Each year, the Owner of each Building subject to reporting requirements shall accurately report to the BERDO Administrator, via the Portfolio Manager or as required by the Regulations, the following information for the previous calendar year:

**City of Newton Proposed Building Emissions  
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- (a) Energy use of each Building and other Building characteristics necessary to evaluate CO<sub>2</sub>e Emissions on a kilogram (kg) CO<sub>2</sub>e per square foot (SF) per year basis.
- (b) The primary Building Use(s) of each Building in accordance with the categories listed in the Portfolio Manager and the Regulations. Multiple primary Building Uses shall be reported, provided that each use occupies at least 10 percent of the Building's Gross Floor Area.
- (c) Contact information for Owners and any designated agents.

*(ii) Reporting Schedules*

The initial reports shall occur according to the following schedule:

1. For every Building equal to or greater than 100,000 square feet Gross Floor Area, the first report shall be submitted no later than September 15, 2025.
2. For every Building equal to or greater than 20,000 square feet Gross Floor Area but less than 100,000 square feet Gross Floor Area, the first report shall be submitted no later than September 15, 2026.

Building Owners may apply to the BERDO Administrator for a one-time six-month extension of their reporting deadline.

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**(e) Direct Upload**

Provided that the necessary mechanisms already exist, Building Owners may authorize electric and gas utilities or other third party to report Building-specific data on their behalf to the BERDO Administrator. Such authorization shall not create an obligation on the part of electrical and gas utilities or remove the obligation of Building Owners to comply with reporting requirements.

**(f) Equitable Emissions Investment Fund**

The City Comptroller shall establish the Equitable Emissions Investment Fund (hereinafter, the “Fund”) as a separate account, and credit to the Fund all Alternative Compliance Payments, penalties and fees paid pursuant to this Ordinance.

The City may incur liabilities against and spend monies from the Fund.

At the discretion of the BERDO Administrator, and with approval by the Mayor, expenditures from the Fund may be made for the following purposes:

- a. Projects that benefit Environmental Justice Populations
- b. Costs incurred by the City in administering the program created pursuant to this Ordinance;

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- c. Costs incurred by the City in complying with the program created pursuant to this Ordinance;
- d. Costs incurred by non-profit entities that operate within the City, including but not limited to entities that operate affordable housing, in complying with the program created pursuant to this Ordinance;
- e. Other projects intended to reduce greenhouse gas emissions within the City;
- f. Technical assistance to property owners subject to BERDO related to implementation of the requirements of this ordinance.

**(g) Data Verification**

- a. Building Owners shall self-certify their reporting data every year.

In a Building's second year of reporting, Building Owners shall provide a third-party verification of their reporting data for the previous year. For every Verification Year thereafter, Building Owners shall provide a third-party verification for the five calendar years prior to, but not including the current year. Third-party verifications must be performed by qualified Energy professionals,

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as defined by the Regulations, and submitted no later than the reporting deadline of the relevant year.

**(h) Emissions Requirements**

Each Building subject to the reporting requirements of this Ordinance shall comply with the CO<sub>2</sub>e Emissions standards set forth in Table 1 below; unless the Building Owner has received an approved Individual Compliance Schedule pursuant to the requirements in SECTION 1(k) or an approved Hardship Compliance Plan pursuant to SECTION 1(l). Buildings must comply with the Emissions standards on an annual basis and compliance shall be measured as a total of kg of CO<sub>2</sub>e Emissions per square foot. Buildings will be subject to the emissions standards in Table 1 based on the schedule for each Tier and Building Category in Tables 2 through 5.



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Table 1: CO<sub>2</sub>e Emissions Standards by Building Use

Building Use	Emission standards (kgCO <sub>2</sub> e/SF/yr)				
	Period 1	Period 2	Period 3	Period 4	Period 5
Assembly	6.1	3.7	2.3	1.1	0.0
College/University	9.5	5.7	3.5	1.5	0.0
Education	4.1	2.8	1.9	0.9	0.0
Food Sales & Service	6.8	4.4	3.2	1.5	0.0
Healthcare	14.3	9.2	6.5	3.2	0.0
Lodging	4.6	3.1	2.1	1.0	0.0
Manufacturing/Industrial	3.9	2.9	2.2	1.0	0.0
Office	3.1	2.0	1.2	0.5	0.0
Retail	3.4	2.3	1.4	0.6	0.0
Services	6.5	4.2	2.9	1.4	0.0
Storage	2.5	1.8	1.3	0.6	0.0
Technology/Science	14.6	10.7	6.7	2.8	0.0

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Table 2. Compliance Periods by Building Use—Tier 1 Buildings:  
Buildings equal to or greater than 100,000 square feet Gross Floor  
Area.

Building Use	Emission standards (kgCO <sub>2</sub> e/SF/yr)				
	2027- 2032	2033- 2038	2039- 2044	2045- 2049	2050-
Assembly	6.1	3.7	2.3	1.1	0.0
College/University	9.5	5.7	3.5	1.5	0.0
Education	4.1	2.8	1.9	0.9	0.0
Food Sales & Service	6.8	4.4	3.2	1.5	0.0
Healthcare	14.3	9.2	6.5	3.2	0.0
Lodging	4.6	3.1	2.1	1.0	0.0
Manufacturing/Industrial	3.9	2.9	2.2	1.0	0.0
Office	3.1	2.0	1.2	0.5	0.0
Retail	3.4	2.3	1.4	0.6	0.0
Services	6.5	4.2	2.9	1.4	0.0
Storage	2.5	1.8	1.3	0.6	0.0
Technology/Science	14.6	10.7	6.7	2.8	0.0

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Table 3. Compliance Periods by Building Use—Tier 2 Buildings:  
Buildings equal to or greater than 50,000 square feet and less than  
100,000 square feet Gross Floor Area.

Building Use	Emission standards (kgCO <sub>2</sub> e/SF/yr)				
	2028- 2033	2034- 2039	2040- 2044	2045- 2049	2050-
Assembly	6.1	3.7	2.3	1.1	0.0
College/University	9.5	5.7	3.5	1.5	0.0
Education	4.1	2.8	1.9	0.9	0.0
Food Sales & Service	6.8	4.4	3.2	1.5	0.0
Healthcare	14.3	9.2	6.5	3.2	0.0
Lodging	4.6	3.1	2.1	1.0	0.0
Manufacturing/Industrial	3.9	2.9	2.2	1.0	0.0
Office	3.1	2.0	1.2	0.5	0.0
Retail	3.4	2.3	1.4	0.6	0.0
Services	6.5	4.2	2.9	1.4	0.0
Storage	2.5	1.8	1.3	0.6	0.0
Technology/Science	14.6	10.7	6.7	2.8	0.0

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Table 4. Compliance Periods by Building Use—Tier 3 Buildings:  
Buildings equal to or greater than 35,000 square feet and less than  
50,000 square feet Gross Floor Area.

Building Use	Emission standards (kgCO <sub>2</sub> e/SF/yr)				
	2029- 2034	2035- 2039	2040- 2044	2045- 2049	2050-
Assembly	6.1	3.7	2.3	1.1	0.0
College/University	9.5	5.7	3.5	1.5	0.0
Education	4.1	2.8	1.9	0.9	0.0
Food Sales & Service	6.8	4.4	3.2	1.5	0.0
Healthcare	14.3	9.2	6.5	3.2	0.0
Lodging	4.6	3.1	2.1	1.0	0.0
Manufacturing/Industrial	3.9	2.9	2.2	1.0	0.0
Office	3.1	2.0	1.2	0.5	0.0
Retail	3.4	2.3	1.4	0.6	0.0
Services	6.5	4.2	2.9	1.4	0.0
Storage	2.5	1.8	1.3	0.6	0.0
Technology/Science	14.6	10.7	6.7	2.8	0.0

## **City of Newton Proposed Building Emissions Reduction and Disclosure Ordinance (BERDO) May 20, 2024**

Table 5. Compliance Periods by Building Use—Tier 4 Buildings:  
Buildings equal to or greater than 20,000 square feet and less than  
35,000 square feet Gross Floor Area.

Building Use	Emission standards (kgCO <sub>2</sub> e/SF/yr)				
	2030- 2034	2035- 2039	2040- 2044	2045- 2049	2050-
Assembly	6.1	3.7	2.3	1.1	0.0
College/University	9.5	5.7	3.5	1.5	0.0
Education	4.1	2.8	1.9	0.9	0.0
Food Sales & Service	6.8	4.4	3.2	1.5	0.0
Healthcare	14.3	9.2	6.5	3.2	0.0
Lodging	4.6	3.1	2.1	1.0	0.0
Manufacturing/Industrial	3.9	2.9	2.2	1.0	0.0
Office	3.1	2.0	1.2	0.5	0.0
Retail	3.4	2.3	1.4	0.6	0.0
Services	6.5	4.2	2.9	1.4	0.0
Storage	2.5	1.8	1.3	0.6	0.0
Technology/Science	14.6	10.7	6.7	2.8	0.0

### **(i) Blended Emissions Standard**

Buildings or Building Portfolios with more than one primary use may comply with a blended CO<sub>2</sub>e Emissions standard as defined by Regulation; provided, however, that a use may constitute a primary use only if it occupies at least 10 percent of a Building's

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May 20, 2024**

or Building Portfolio's Gross Floor Area. Building Owners using a blended CO<sub>2</sub>e Emissions standard must (i) designate the blended standard in annual reports to the BERDO Administrator, and (ii) provide documentation verifying the qualification of each primary use in annual reports to the BERDO Administrator for the first year a blended CO<sub>2</sub>e Emissions standard is used and in any subsequent year for which the blended Emissions standard or primary use(s) changes.

**(j) Energy Use Exempt from Emissions Requirements**

- i. Electricity which is used by a covered Building or Building Portfolio is exempt from the CO<sub>2</sub>e Emissions Standard of this ordinance;
- ii. Building Owners may deduct Energy used by Emergency Backup Generation/Backup Power supply equipment from a Building's total Energy use subject to the CO<sub>2</sub>e Emissions standard of this Ordinance, provided that emergency Backup Generation/Backup Power provides Energy only to the Building or Building Portfolio; and:
- iii. Building Owners annually report (i) Energy used by Emergency Backup Generation / Backup Power; (ii) the date(s), hour(s) and conditions that required the use of Emergency Backup Generation/Backup Power; and (iii) any other information required by the Regulations. Such reporting

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shall be subject to the self-certification and third-party verification procedures in SECTION 1(g);

- iv. In the event that Emergency Backup Generation/Backup Power serves, or has the potential to serve, multiple Buildings in a Building Portfolio, the Energy use from such activities shall be allocated to individual Buildings in proportion to the gross square footage of each Building.

The BERDO Administrator may revise the availability and use of these exemptions or add additional exemptions pursuant to the Regulations.

**(k) Individual Compliance Schedules**

Owners of Buildings or Building Portfolios may apply for an Individual Compliance Schedule as an alternative to the CO<sub>2</sub>e Emissions standard reduction schedule in Tables 2 through 5. Individual Compliance Schedules must establish declining CO<sub>2</sub>e Emissions standards in 5- to 6-year increments, and such standards must (i) decline on a linear basis, (ii) reduce Emissions 40 percent by period 3, and (iii) reduce Emissions 100 percent by period 6; and

Use a baseline from any year between 2013 and the first required reporting year, provided, however, that the Building or Building Portfolio Owner provides documentation of Energy use, Gross Floor Area, and relevant Emissions Factors by the Building or

# **City of Newton Proposed Building Emissions Reduction and Disclosure Ordinance (BERDO) May 20, 2024**

Building Portfolio for the selected baseline year and the year in which an Individual Compliance Schedule is requested, in accordance with the data verification requirements of this Ordinance and the Regulations.

A Building or Building Portfolio that failed to comply with previous reporting requirements may use an Individual Compliance Schedule; provided, however, that the necessary data has been submitted to the BERDO Administrator and any applicable penalties for past non-compliance are paid in full.

Individual Compliance Schedules must be approved by the BERDO Administrator. Building and Building Portfolio Owners must submit the information required in this Ordinance, and any other documentation specified in the Regulations, when requesting an Individual Compliance Schedule. The BERDO Administrator may include additional conditions on the approval of Individual Compliance Plans, consistent with the Regulations.

## **(l) Hardship Compliance Plans**

A Building Owner may apply to the BERDO Administrator for a Hardship Compliance Plan if there are extraordinary characteristics or circumstances associated with the Building in complying with the Emissions standards in this Ordinance. Such characteristics or circumstances may include historic Building designations, pre-existing long-term Energy contracts without reopeners, or extraordinary financial hardship. Implementation guidelines will



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be further detailed in the Regulations. The application, review process, and conditions for Hardship Compliance Plans shall be set forth in the Regulations. The BERDO Administrator shall have sole discretion in approving Hardship Compliance Plans; such plans may include alternative Emissions standards and timelines for compliance. The BERDO Administrator may include additional conditions on the approval of Hardship Compliance Plans consistent with the Regulations.

**(m) Alternative Compliance Payments**

Owners of Buildings or Building Portfolios may mitigate CO<sub>2</sub>e Emissions from Energy use by making Alternative Compliance Payments. The price of an Alternative Compliance Payment shall be based on the average cost per metric ton of CO<sub>2</sub>e to decarbonize Buildings subject to this Ordinance. The initial cost of an Alternative Compliance Payment shall be \$234 per metric ton of CO<sub>2</sub>e. The cost of an Alternative Compliance Payment shall be reviewed every five years by the BERDO Administrator, which shall make recommended adjustments, if any, to the City Council.

**(n) Preservation of Documents**

Building Owners shall preserve records and information (i) required to be submitted by this Ordinance and/or (ii) submitted pursuant to this Ordinance in order to demonstrate compliance with the Emissions standards, including but not limited to information regarding Building Uses, Emissions Factors,

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compliance mechanisms outlined in this Ordinance, Individual Compliance Schedules, and Hardship Compliance Plans, for such time as set forth in the Regulations, and shall make such records available for inspection and audit by the BERDO Administrator or the Law Department upon request.

**(o) Obligation to Request and Report Information**

Where a unit or other space in a Building is occupied by a Tenant and the unit or space is separately metered, the Tenant of such space shall, within 30 days of request by the Owner and in a form to be determined by the BERDO Administrator, provide all information that cannot otherwise be acquired by the Owner and that is needed to comply with the requirements of this Ordinance. Failure by Tenant to comply with the requirements of this Ordinance may result in penalties as provided in this Ordinance.

1. The Owner may request information related to the Tenant's metered Energy and other related information for the previous calendar year no earlier than January 1 and no later than January 31 of any year in which the Owner is required to report such information.
2. Failure of any Tenant to report the information required in this Ordinance does not relieve the Owner of the obligation to report.

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3. Where an Owner of a Building is unable to obtain complete Energy use data due to the failure of any Tenant to report the information required, the Owner shall use values or formulas established by the BERDO Administrator to estimate whole Building Energy use.

**(p) Disclosure**

The BERDO Administrator shall make Energy and Emissions information for Buildings available to the public on the City's website no later than November 30 of every year, except for 2025, in which it shall make such information available to the public no later than December 15, 2025. Such disclosure shall include, at a minimum, Building identification, Energy use intensity, CO<sub>2</sub>e Emissions per square foot, and Emissions compliance status. Before any such disclosure, the BERDO Administrator shall subject all data to a quality-assurance/quality-control process.

1. At least 30 Days prior to disclosure, the BERDO Administrator shall provide Building Owners an opportunity to review the accuracy of information to be disclosed.
2. The Building Administrator shall also, from time to time, publicly report on implementation of, compliance with, and overall results from this Ordinance.

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**(q) Enforcement for Failure to Comply with this Ordinance**

Any violation of this ordinance shall be punishable by a fine of three hundred (\$300.00) dollars per day for each day the violation continues. Each day a violation continues shall constitute a separate offense. Where noncriminal disposition of this section by civil fine has been provided for in sections 17-22 and 17-23 of these ordinances, as amended, pursuant to the authority granted by M.G.L. c. 40, section 21D, said violation may be enforced in the manner provided in such statute. Penalties under this section will not be levied prior to the third year of the effective date of the emissions requirement.

**(r) Notice**

Within two months of the adoption of this Ordinance, notification concerning reporting and disclosure obligations and emissions reductions obligations shall be provided to Owners subject to the requirements of this Ordinance.

This notice, and any other notice required by this Ordinance shall be delivered to the contact information in the Assessor's database unless an Owner provides alternative contact information to the City Assessor's office.

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SECTION 2. If any provision of this ordinance is held invalid by a court of competent jurisdiction, then such provision should be considered separately and apart from the remaining provisions, which shall remain in full force and effect.

SECTION 3. The provisions of this Ordinance shall be effective upon passage.

DRAFT



## **Newton City Councilor Victoria Danberg**

Date: May 24, 2024

To: Zoning & Planning Committee

From: Victoria Danberg, Ward 6 At-Large Councilor

Re: Proposed Amendment to BERDO Ordinance

Dear Colleagues,

Below is a motion I intend to raise for discussion at the Zoning & Planning Committee meeting on Tuesday, May 28<sup>th</sup> with a vote on Monday, June 10<sup>th</sup> after the public comment period.

I move that the Zoning and Planning Committee adopt the BERDO ordinance as presented by the Co-Chair of the Sustainability Office, Mr. William Ferguson, to the Zoning and Planning Committee on December 6, 2023, including all Newton buildings over 20,000 sf. Included are all commercial, multi-family residential rentals and residential condo buildings with central HVAC and water heating systems.

Respectfully Submitted,

Victoria Danberg, Ward 6 At-Large Councilor



# Active City Initiatives

Administration & Communication	Clean Energy	Transit & Streetscapes	Buildings	Consumption & Disposal
<ul style="list-style-type: none"> <li>Data tracking &amp; reporting</li> <li>Relationships with NCCE, Solid Waste Comm., Bike/Ped Advocacy Comm.</li> <li>Relationships with nonprofits, state gov., community orgs, etc.</li> <li>Updates via website, newsletters, social media, etc.</li> <li>Use of Energy Stabilization Fund</li> <li>Budget Process</li> </ul>	<ul style="list-style-type: none"> <li>Newton Power Choice</li> <li>Solar at Municipal Facilities</li> <li>Encouraging residential &amp; commercial solar</li> <li>Advocating for utility network geothermal</li> </ul>	<ul style="list-style-type: none"> <li>Improving bike &amp; pedestrian infrastructure</li> <li>NewMo</li> <li>Complete Streets projects</li> <li>All-electric City passenger fleet</li> <li>Implement City-wide EV adoption and charging plan</li> <li>Enforce idling restrictions</li> <li>Exploring EV medium duty vehicles</li> <li>Bluebikes</li> <li>Advocate for better MBTA</li> <li>Exploring e-busses</li> </ul>	<ul style="list-style-type: none"> <li>Code implementation/Electrification Ordinance</li> <li>Improving sustainability requirements for special permit projects</li> <li>Village Center Zoning Redesign</li> <li>Advocacy for state-wide electrification</li> <li>Update Public Buildings Sustainability Guidelines</li> <li>Embodied Carbon requirements</li> </ul>	<ul style="list-style-type: none"> <li>4 Our Future outreach Campaign</li> <li>Design Review Team input</li> <li>Energy Coaching</li> <li>Municipal building renovations (efficiency and decarbonization)</li> <li>Green Communities grants</li> <li>BERDO</li> <li>ARPA affordable housing decarb projects</li> <li>Revise permit process to capture desired data</li> <li>Work w/Assessing to gather desired data</li> </ul>
<p><b>Natural Resources &amp; Resilience</b></p> <ul style="list-style-type: none"> <li>Stormwater management</li> <li>Stormwater ordinance</li> <li>Planting &amp; Maintaining street trees</li> <li>MS4 permit</li> <li>Flooding, floodplain ordinance</li> <li>Other trees under City care</li> <li>Tree ordinance</li> <li>Conservation areas</li> <li>School gardens</li> <li>Other land use policies</li> </ul>				

# Some Recent Statistics



- Solar:**
  - 18 projects generated > 6 million kWh electricity in FY23, saving the City over \$1 million
  - Additional 7 projects about to start construction, adding 1.5 million kWh
- Green Communities:**
  - Over \$2.2 million in grants since 2010, including \$500,000 in 2024
  - A total of 17% reduction in energy use since base year FY10
- 4 Our Future home energy improvements 2023 totals:**
  - Home Energy Assessments: 1526
  - Weatherization projects: 532
  - Heat Pumps: 428
  - Solar: 96 small, 2 large projects
  - Electric Vehicles: 4.8% fully electric, 15.5% EV + hybrid
- Newton Power Choice:**
  - 95% renewables default
  - 70% participation
- Microgrants:**
  - 9 grants totaling \$5,867



Ruthanne Fuller  
Mayor

City of Newton, Massachusetts  
Office of the Mayor

Telephone  
(617) 796-1100  
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(617) 796-1113  
TDD/TTY  
(617) 796-1089  
Email  
rfuller@newtonma.gov

May 13, 2024

Honorable City Council  
Newton City Hall  
1000 Commonwealth Avenue  
Newton, MA 02459

To the Honorable City Councilors:

I am pleased to reappoint James Miller of 85C Seminary Avenue, Apt 341, Auburndale as an Alternate member of the Auburndale Historic District Commission. James Miller's term of office shall expire June 6, 2027 and the appointment is subject to your confirmation.

Thank you for your attention to this matter.

Warmly,  
A handwritten signature in black ink that reads "Ruthanne Fuller". The signature is written in a cursive style with a large initial "R".

Ruthanne Fuller  
Mayor



Application Form

Profile

James  
First Name

A  
Middle Initial

Miller  
Last Name

85C Seminary Avenue, Apt. 341  
Home Address

Apt. 341  
Suite or Apt

AUBURNDALE  
City

MA  
State

02466  
Postal Code

What Ward do you live in?

Ward 4

Retired  
Employer

Job Title

Which Boards would you like to apply for?

Auburndale Historic District Commission: Submitted

Ethnicity

Caucasian/Non-Hispanic

Gender

Male

Interests & Experiences

Please tell us about yourself and why you want to serve.

Why are you interested in serving on a board or commission?

Auburndale resident since 1964 Current Alternate Member Auburndale Historic District Commission. City of Newton municipal experience: Planning Director 1964-69; former Chair Newton Housing Authority; former member Economic Development Commission; former Newton representative to the Metropolitan Area Planning Council

James A.docx  
Upload a Resume

# JAMES A. MILLER

85C Seminary Avenue, Apt. 341  
Auburndale MA

## EDUCATION:

- Postgraduate: Cornell University, Ithaca NY: Master of Regional Planning 1961
- Undergraduate: University of Massachusetts, Amherst MA: Bachelor of Landscape Architecture, 1956
- Other: Newton MA High School 1952

## PROFESSIONAL EXPERIENCE:

- 1982-2006 James A. Miller AICP, Planning and Development Consultant, Newton MA
  - 45+ years of experience in planning and development
  - Worked with public agencies, financial institutions, and residential developments
  - Specialized in affordable housing and retirement communities
- 1977-1982 Executive Vice President, DEVCO Inc; Newton MA
- 1969-1977 Deputy Executive Director, Metropolitan Area Planning Council; Boston MA  
(Served as Acting Executive Director during 1976-77)
- 1964-1969 Planning Director, City of Newton MA
- 1962-1964 Director - Community Renewal Program; Newton MA
- 1960-1961 Associate Planner, City of Ithaca NY (Acting Director )

## SERVICE TO COMMUNITY:

- Former Member and Chairperson; Newton MA Housing Authority
- Former member; Economic Development Commission; City of Newton MA
- Former Metropolitan Area Planning Council representative for the City of Newton MA

**MILITARY SERVICE:** 1956-1959 United States Navy - Airborne Combat Information Center Officer; Early Warning Aircraft Barrier Patrols. Rank: Lieutenant USNR