



# Watertown City Council

Administration Building  
149 Main Street  
Watertown, MA 02472  
Phone: 617-972-6470

## ELECTED OFFICIALS:

Mark S. Sideris,  
Council President

Vincent J. Piccirilli, Jr.,  
Vice President &  
District C Councilor

John M. Airasian,  
Councilor At Large

Caroline Bays,  
Councilor At Large

John G. Gannon,  
Councilor At Large

Anthony Palomba,  
Councilor At Large

Nicole Gardner,  
District A Councilor

Lisa J. Feltner,  
District B Councilor

Emily Izzo,  
District D Councilor

## COMMITTEE ON ECONOMIC DEVELOPMENT AND PLANNING MEETING

**TUESDAY, DECEMBER 6, 2022 AT 6:00 PM**  
**RICHARD E. MASTRANGELO COUNCIL CHAMBER**  
**ADMINISTRATION BUILDING, 149 MAIN STREET**

## AGENDA

### ACCESS INFORMATION:

A. The meeting will be televised through WCATV (Watertown Cable Access Television):

<http://vodwcatv.org/CablecastPublicSite/?channel=3>

B. The public may join the virtual meeting online: <https://watetown-ma.zoom.us/j/83549340015>

C. The public may join the virtual meeting audio only by phone: (877) 853-5257 or (888) 475-4499 (Toll Free) and enter Webinar ID: 835 4934 0015

D. The public may comment through email: [vpiccirilli@watertown-ma.gov](mailto:vpiccirilli@watertown-ma.gov)

1. Call to Order
2. Meeting Discussion - Action
  - A. Initial Policy Guidance on the Reuse/Design for a Building at the Former Police Station
  - B. Review the Specialized Stretch Code and Make Recommendations of the Fully Executed Version to the Council Committee of the Whole
3. Adjournment



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# The new Stretch and Specialized Stretch Code 12/6/2022



# Stretch Code History

## 2009 **Stretch Code Created**

Under Board of Building Regulations and Standards (BBRS)  
Provides 20-35% greater efficiency over Base Code

## 2010 **Watertown becomes a Green Community, adopts the Stretch Code**

## 2021 **Act Creating a Next Generation Roadmap for Massachusetts Climate Policy**

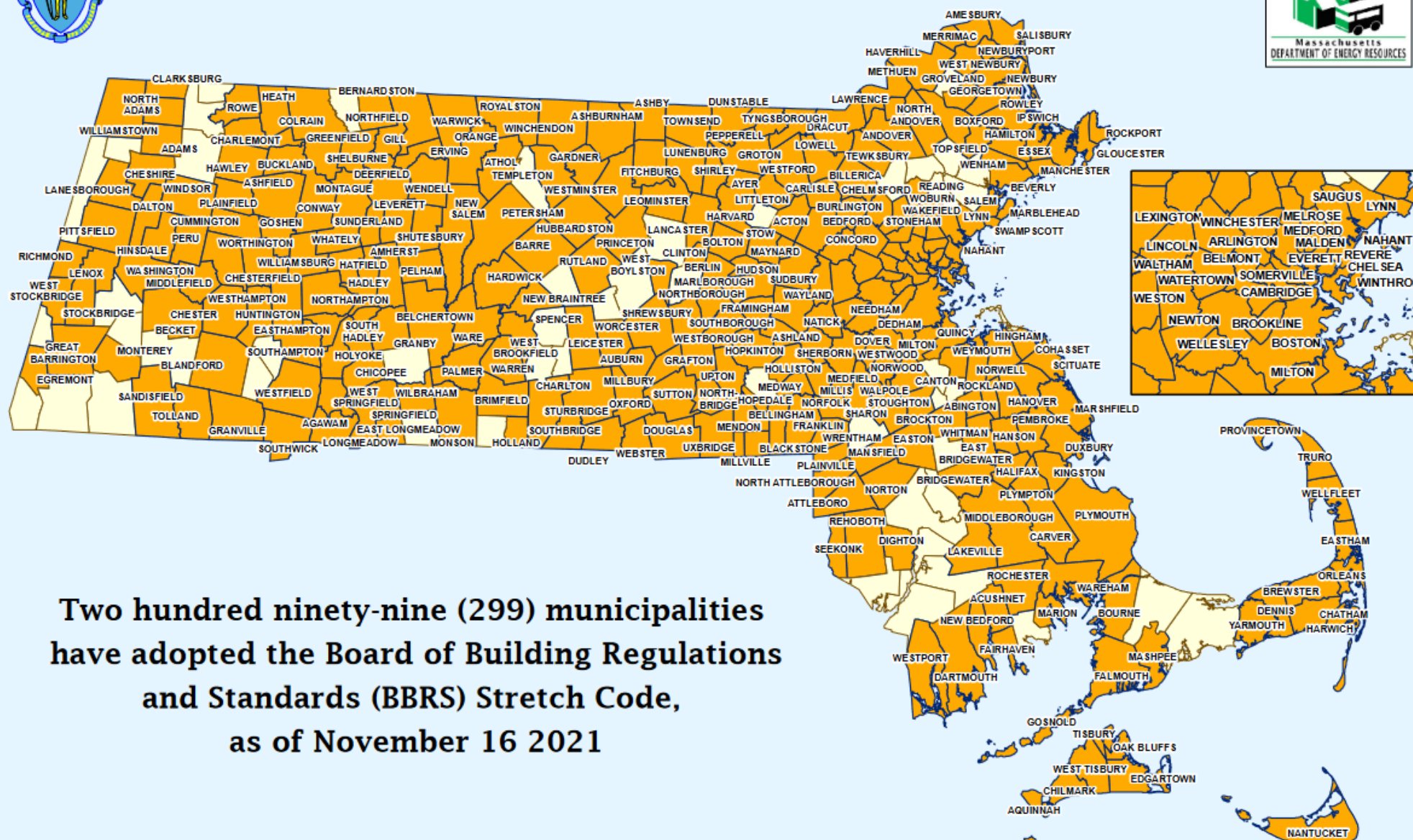
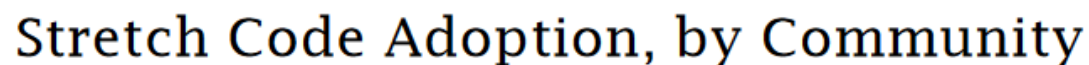
Established Department of Energy Resources (DOER) as Stretch Code authority  
Called for Opt-in Net Zero Stretch Code

## 2022 **Watertown Enacts the Climate and Energy Action Plan**

## 2022 **Act Creating the Massachusetts Clean Energy and Climate Plan**

Defines what Net Zero Economy looks like in 2050

## 2022 **DOER completes the Latest New Stretch Code and Specialized Stretch Code**



**Two hundred ninety-nine (299) municipalities  
have adopted the Board of Building Regulations  
and Standards (BBRS) Stretch Code,  
as of November 16 2021**



# Building Code Pathways for 2023

## Base Code

- New and modified construction in cities and towns that have not adopted the Stretch Code
- 52 Communities
- BBRS update effective in 2023

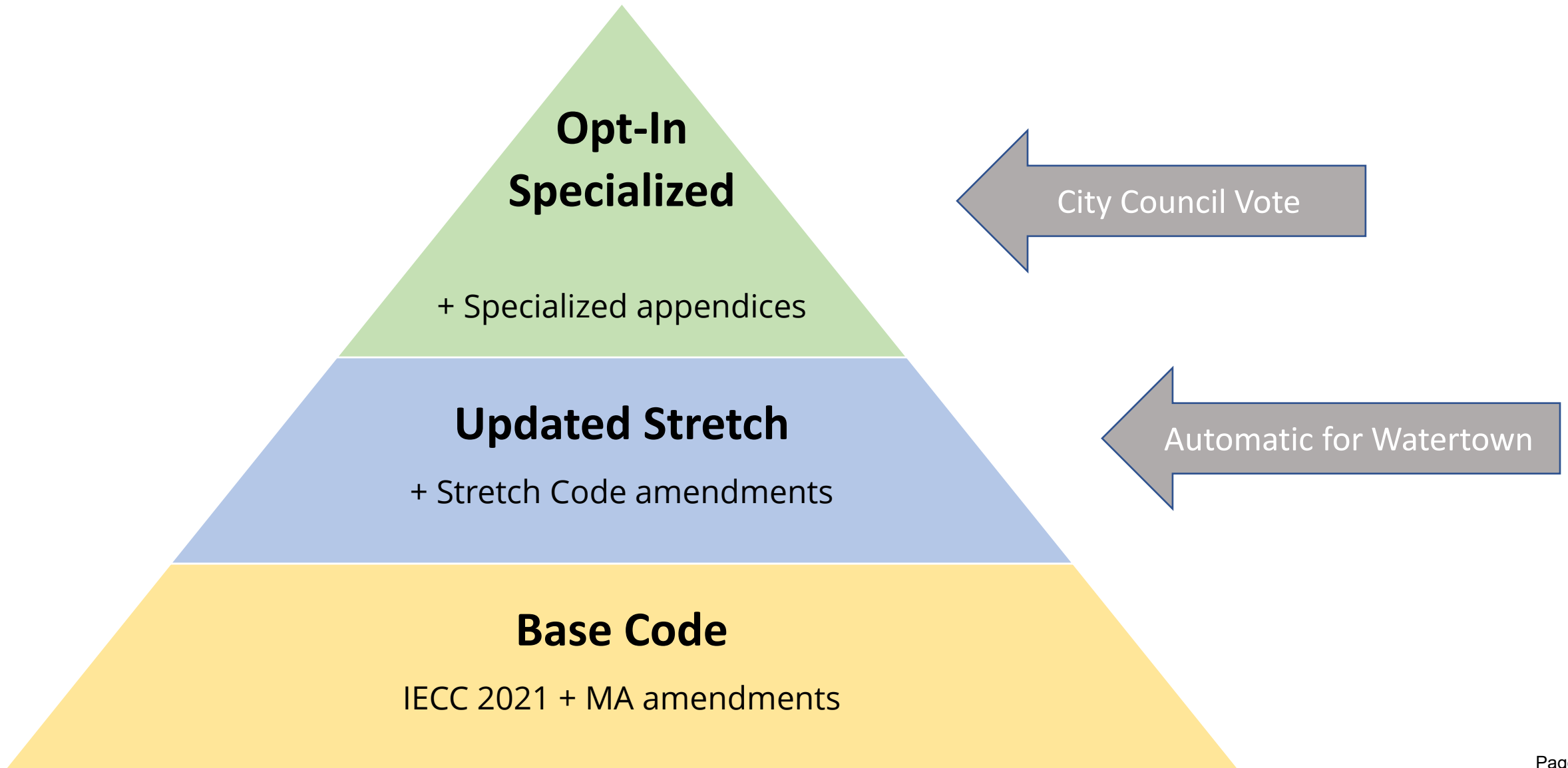
## New Stretch Code

- New and modified construction in cities and towns that have adopted the Stretch Code
- 299 Communities
- DOER Update Phase in 2023 Effective 2024

## New Specialized Opt-In

- New construction in cities or towns that choose to opt into Specialized Stretch Code
- Available in December 2022

# How the Code Pathways Stack





## What is the Specialized Stretch Code

“The Specialized Stretch Code ensures that new construction is consistent with a net-zero Massachusetts economy in 2050, primarily through deep energy efficiency, reduced heating loads, and efficient electrification.”

It accomplishes this by codifying new building construction as net zero buildings.

“A net zero building is consistent with achievement of MA 2050 net zero emissions, through a combination of highly energy efficient design together with being an all-electric or Zero Energy Building, or where fossil fuels are utilized, a building fully pre-wired for future electrification and that generates solar power on-site from the available Potential Solar Zone Area.”

# Why



The Watertown Climate & Energy Action Plan section BE2.1: Adopt the State's Net Zero Stretch Code as soon as permissible.

“We will be looking for continued improvement towards a truly net zero code in the coming years, informed by the upcoming pilot that will enable 10 communities to ban fossil fuels. At this time, we encourage the cities and towns in our region and across the Commonwealth to adopt the new Specialized Code as soon as possible,” says Julie Curti, Director for Clean Energy at MAPC.



# How would adoption of the Specialized Stretch Code Effect Watertown?

Puts Watertown on the net-zero energy building path

Incorporates some of Watertown's lead by example ordinances / guidelines into the building code:

## Solar Ordinance

- Will require solar on almost all mixed fuel residential units and small commercial buildings

## LEED Silver Ordinance

- LEED is based off of ASHRAE 90.1–2016 and the Specialized Stretch is moving to ASHRAE 90.1–2019

## Watertown EV Charger Guidelines

- Will enhance the city ordinance by requiring more EV chargers



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Thank You

Questions





# Comparison of updated Stretch Code and Opt-In Specialized Stretch Code - Residential

| Building Size         | Fuel Type    | Minimum Efficiency        |                           | Electrification |                         | Min EV Wiring   | Renewable Generation |                                                                   |
|-----------------------|--------------|---------------------------|---------------------------|-----------------|-------------------------|-----------------|----------------------|-------------------------------------------------------------------|
|                       |              | Stretch Code              | Specialized Opt-in Code   | Stretch Code    | Specialized Opt-In Code |                 | Stretch Code         | Specialized Opt-in Code                                           |
| Dwelling <= 4,000 sf  | All-electric | HERS 45* or Passive House | HERS 45* or Passive House | Full            | Full                    | 1 parking space | Optional             | Optional                                                          |
| Dwellings <= 4,000 sf | Mixed-fuels  | HERS 42* or Passive House | HERS 42* or Passive House | Optional        | Pre-wiring Required     | 1 parking space | Optional             | Solar PV > 4kW for single family and > 0.75 W/sf for multi-family |
| Dwellings > 4,000 sf  | All-electric | HERS 45* or Passive House | HERS 45* or Passive House | Full            | Full                    | 1 parking space | Optional             | Optional                                                          |
| Dwellings > 4,000 sf  | Mixed-fuels  | HERS 42* or Passive House | HERS 0 or Phius ZERO      | Optional        | Pre-wiring Required     | 1 parking space | Optional             | Solar PV or other renewable to meet Zero Energy Building          |



# Comparison of updated Stretch Code and Opt-In Specialized Stretch Code – Commercial pg 1

| Building Type                            | Fuel Type    | Minimum Efficiency                                             |                                                                | Electrification        |                         | Minimum EV Wiring               | Renewable Generation |                                                                                           |
|------------------------------------------|--------------|----------------------------------------------------------------|----------------------------------------------------------------|------------------------|-------------------------|---------------------------------|----------------------|-------------------------------------------------------------------------------------------|
|                                          |              | Stretch Code                                                   | Specialized Opt-in Code                                        | Stretch Code           | Specialized Opt-In Code |                                 | Stretch Code         | Specialized Opt-in Code                                                                   |
| Offices and Schools >20,000 sf           | All-electric | TEDI or Passive House                                          | TEDI or Passive House                                          | Full                   | Full                    | 20% for business, 10% for other | Optional             | Optional                                                                                  |
| Offices and Schools > 20,000 sf          | Mixed-fuels  | TEDI or Passive House                                          | TEDI or Passive House                                          | Optional <sup>◊</sup>  | Pre wiring required     | 20% for business, 10% for other | Optional             | On-site PV: Min of 1.5 W/sf for each sf of the 3 largest floors or 75% of potential solar |
| High Ventilation (Hospitals, Labs, etc.) | All-electric | TEDI, 10% better than 2019 ASHRAE Appendix G, or Passive House | TEDI, 10% better than 2019 ASHRAE Appendix G, of Passive House | Full                   | Full                    | 20% for business, 10% for other | Optional             | Optional                                                                                  |
| High Ventilation (Hospitals, Labs, etc.) | Mixed-fuels  | TEDI, 10% better than 2019 ASHRAE Appendix G, or Passive House | TEDI, 10% better than 2019 ASHRAE Appendix G, of Passive House | Optional <sup>‡◊</sup> | Pre wiring required     | 20% for business, 10% for other | Optional             | On-site PV: Min of 1.5 W/sf for each sf of the 3 largest floors or 75% of potential solar |



# Comparison of updated Stretch Code and Opt-In Specialized Stretch Code – Commercial pg 2

| Building Type                   | Fuel Type    | Minimum Efficiency                                                                    |                                                    | Electrification       |                         | Minimum EV Wiring                                                   | Renewable Generation |                                                                                                |
|---------------------------------|--------------|---------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------|-------------------------|---------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------|
|                                 |              | Stretch Code                                                                          | Specialized Opt-in Code                            | Stretch Code          | Specialized Opt-In Code |                                                                     | Stretch Code         | Specialized Opt-in Code                                                                        |
| Multi-family >12,000 sf         | All-electric | TEDI, HERS 45*, Passive House, or (before 7/1/2024) 10% better than ASHRAE appendix G | Passive House or HERS 0 <sup>s</sup>               | Full                  | Full                    | 20% of parking spaces                                               | Optional             | Optional                                                                                       |
| Multi-family >12,000 sf         | Mixed-fuels  | TEDI, HERS 42*, Passive House, or (before 7/1/2024) 10% better than ASHRAE appendix G | Passive House or HERS 0 <sup>s</sup>               | Optional <sup>o</sup> | Pre wiring required     | 20% of parking spaces                                               | Optional             | Optional                                                                                       |
| Small Commercaill (<20,000 sf ) | All-electric | Perscriptive pathway plus Stretch Code ammendments                                    | Perscriptive pathway plus Stretch Code ammendments | Full                  | Full                    | 20% for residential and business uses, 10% for other uses           | Optional             | Optional                                                                                       |
| Small Commercial (<20,000 sf )  | Mixed-fuels  | Perscriptive pathway plus Stretch Code ammendments                                    | Perscriptive pathway plus Stretch Code ammendments | Optional <sup>o</sup> | Pre wiring required     | 20% of spaces for residential and business uses, 10% for other uses | Optional             | On-site PV: Min of 1.5 W/sf for each sf of the 3 largest floors or 75% of potential solar area |



# Definitions

## **TEDI**

Thermal Energy Demand Intensity - only considers heating / cooling loads. Not lighting, plug loads, etc

## **Net Zero Building**

A building which is consistent with achievement of MA 2050 net zero emissions, through a combination of highly energy efficient design together with being an all-electric or a Zero Energy Building, or where fossil fuels are utilized, a building fully pre-wired for future electrification and that generates solar power on-site from the available Potential Solar Zone Area.

## **Zero Energy Building**

A building which through a combination of highly energy efficiency design and onsite renewable energy generation is designed to result in net zero energy consumption over the course of a year as measured in MMBtus or KWheq, on a site energy basis, excluding energy use for charging vehicles.

## **HERS**

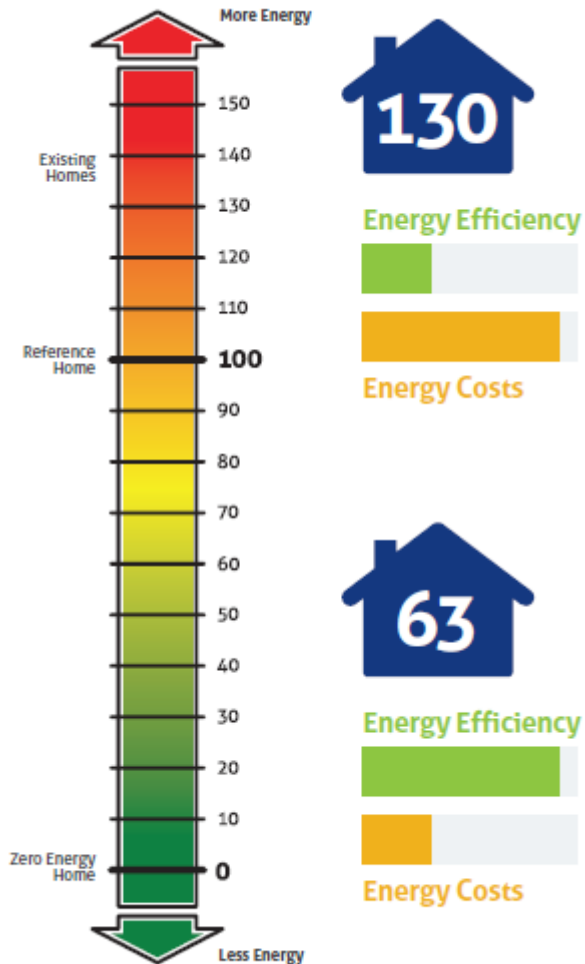
A Home Energy Rating is an estimated measurement of a home's energy efficiency based on normalized modified end-use loads. Similar to TEDI but for Homes

## **Passive House**

A standard for energy efficiency in a building, which reduces the building's ecological footprint. It results in ultra-low energy buildings that require little energy for space heating or cooling.

# Rating Systems

## HERS Rating



| On-site<br>Clean<br>Energy<br>Application | Maximum HERS Index score (before renewable energy credit) |                                                   |                         |                                             |                         |
|-------------------------------------------|-----------------------------------------------------------|---------------------------------------------------|-------------------------|---------------------------------------------|-------------------------|
|                                           | New construction                                          |                                                   |                         | Alterations, Additions and<br>Change of use |                         |
|                                           | Updated<br>Stretch<br>Code July 1,<br>2024                | Updated<br>Stretch Code<br>(Same as base<br>code) | Current<br>Stretch Code | Updated<br>Stretch Code                     | Current<br>Stretch Code |
| None (Fossil<br>fuels)                    | 42                                                        | 52                                                | 55                      | 52                                          | 65                      |
| Solar                                     |                                                           | 55                                                | 60                      | 55                                          | 70                      |
| All-Electric                              | 45                                                        | 55                                                | 60                      | 55                                          | 70                      |
| Solar & All<br>Electric                   |                                                           | 58                                                | 65                      | 58                                          | 75                      |

# Rating System Comparison

