

# Massachusetts School Building Authority

Deborah B. Goldberg, State Treasurer and Receiver-General

*Chairperson*

Mary Pichetti

*Executive Director*

James MacDonald

*Chief Executive Officer*



## MSBA Green Schools Program

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Story of a Building - October 20, 2023



# *MSBA Green Schools Program*

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- As of 2023, 220 MSBA core projects have registered with either USGBC LEED-S or NE-CHPS
- 147 MSBA projects have completed USGBC LEED-S or NE-CHPS certification
- The total additional reimbursement from the MSBA through the Green Schools Program to date is approximately \$232 million
- Under the new 2023 Green Schools Program policy, the additional reimbursement through this program will average about \$3 million per project



# All-Electric Schools



SMMA

Memorial HS, Wakefield



HMFH

Fales ES, Westborough



HMFH

Arlington HS, Arlington



Perkins + Will

Belmont MS/HS, Belmont



MDS

Pierce School, Brookline



Arrowstreet

Douglas ES, Acton-Boxborough



DRA

NE Metro RVTHS



HMFH

Josiah Quincy Upper HS, Boston



Perkins + Will

Carter School, Boston



DiNisco

Welch Elementary, Peabody



# All-Electric Schools



DiNisco

Hastings ES, Lexington



Ai3

Coakley MS, Norwood



RDA

Foster ES, Hingham



MVG

Peck MS, Holyoke



SMMA

Upham ES, Wellesley



Ai3

Watertown HS, Watertown



DiNisco

Fort River ES, Amherst



Tappe

Lynch ES, Winchester



HMFH

Bristol Plymouth Regional Tech



Perkins + Will

Stoneham HS, Stoneham



# Geo-Thermal Schools



Diman RVTHS, Greater Fall River



Foster ES, Hingham



Stoneham HS, Stoneham



Hadley ES, Swampscott



Watertown HS, Watertown



Fort River ES, Amherst



Hanlon ES, Westwood



Mindess ES, Ashland



Green Meadow ES, Maynard



# Geo-Thermal Schools



Hastings ES, Lexington



Fales ES, Westborough



Nelson Place ES, Worcester



Pierce School, Brookline



Douglas ES, Acton-Boxborough



Chapman MS, Weymouth



Auburn MS, Auburn



Belmont MS/HS, Belmont

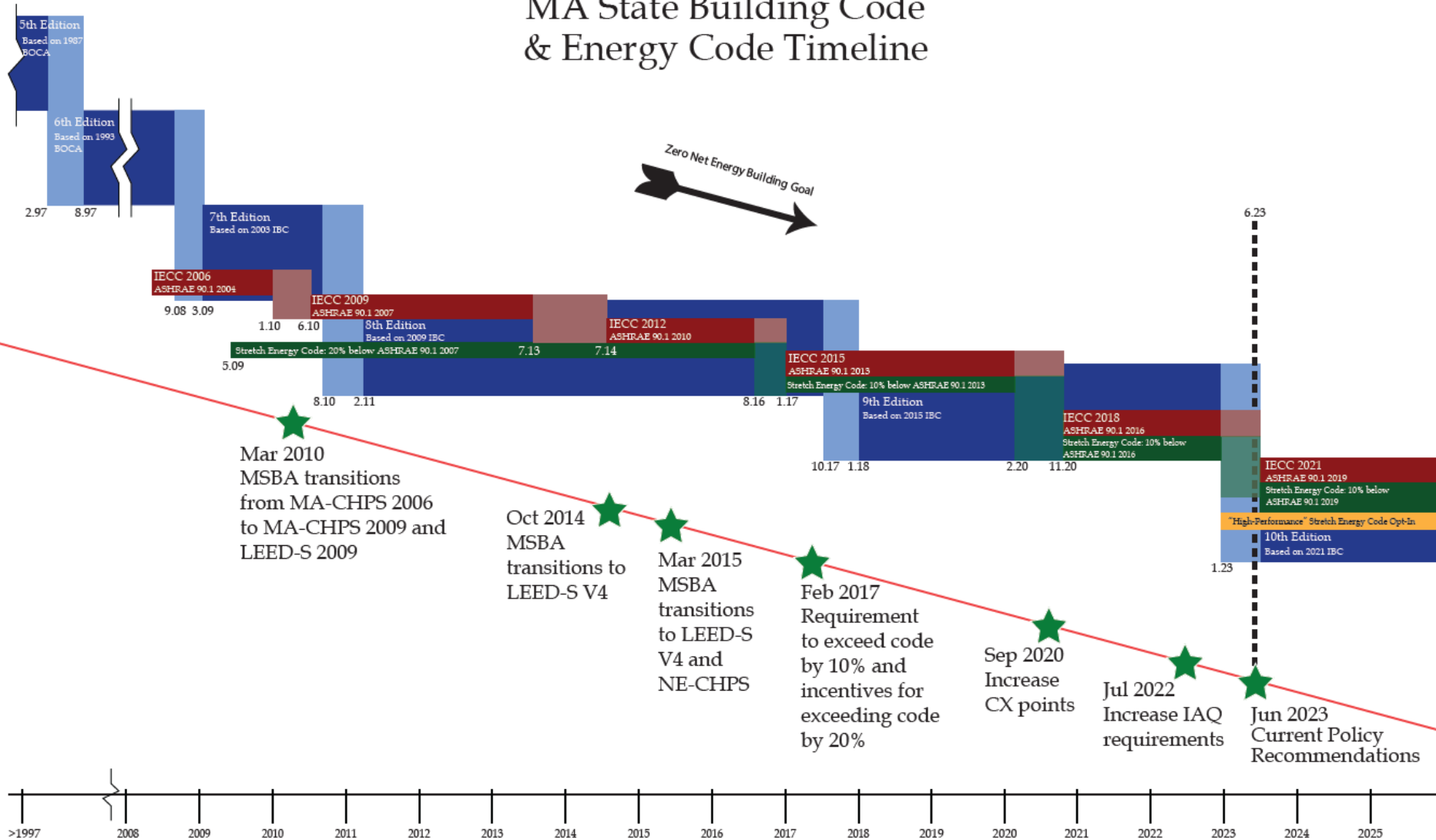


Wellington ES, Belmont



# Green Schools Program

## MA State Building Code & Energy Code Timeline





# Green Schools Program

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- “Base” Energy Code:
  - based on the current 2021 IECC & 2019 ASHRAE 90.1 with MA amendments
  - required as a minimum energy code for all communities in MA
- “Stretch” Energy Code (*includes the above and*):
  - updated on July 1, 2023, available since 2009
  - now uses the new “TEDI”\* rather than EUI (a measure of heating & cooling energy loads; minimizes heating loads, improved building envelope)
  - or, the “Passive House” system
  - wiring for electric vehicles for 10% of spaces
  - increased ventilation (heat/cooling) recovery
- Opt-in “Specialized” Energy Code (*includes the above and*):
  - available for adoption July 1, 2023
  - electrification for space heating & cooling, heating water, appliances
  - mixed fuel is allowed but requires pre-wiring for all-electric
  - or, Net Zero Energy Building

\* Thermal Energy Demand Intensity

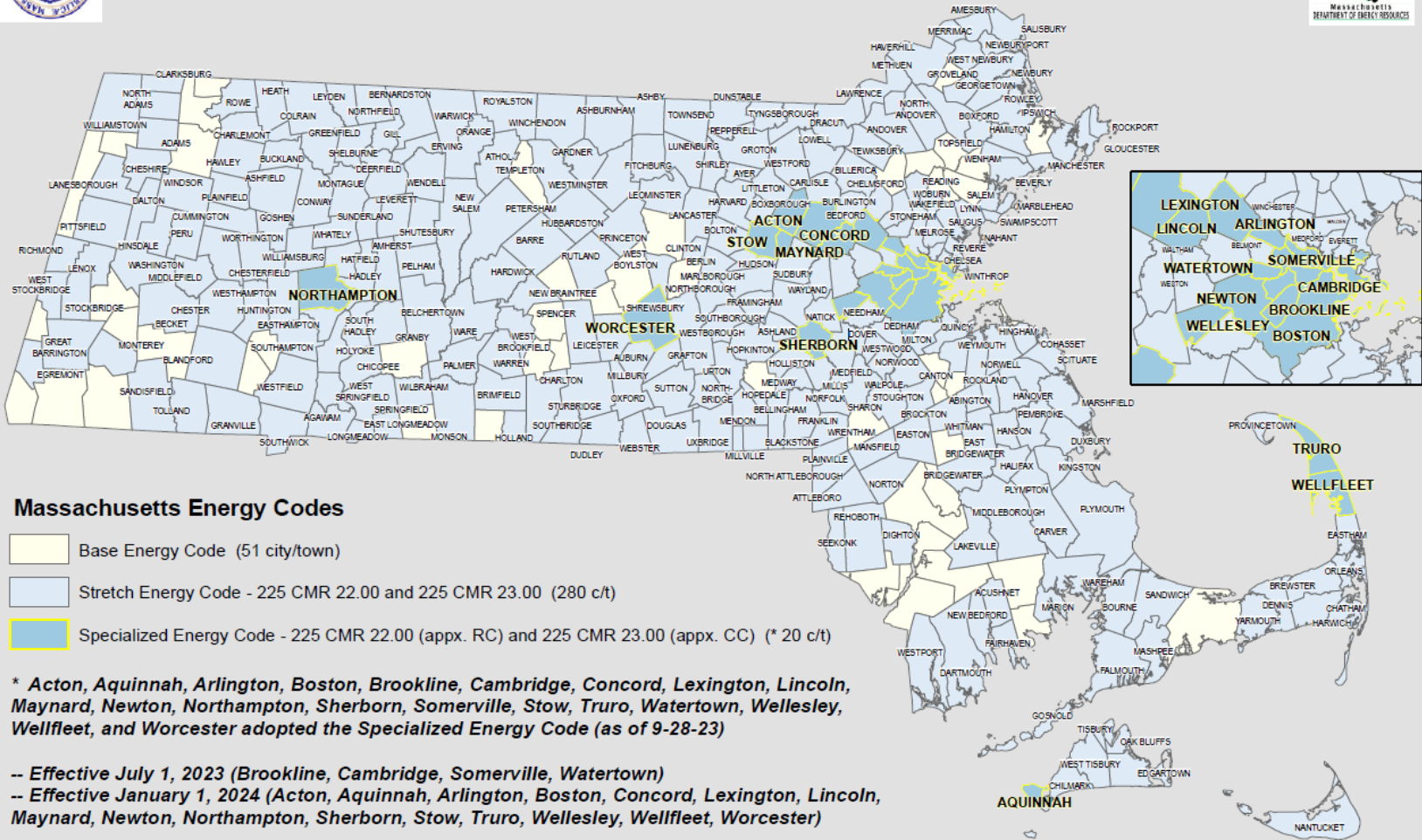




# Green Schools Program



## Massachusetts Building Energy Code Adoption by Municipality





# Green Schools Program

0	0	0	<b>Materials and Resources</b>		<b>13</b>
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
			Credit	Building Life-Cycle Impact Reduction	5
			Credit	Building Product	2
			Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
			Credit	Building Product Disclosure and Optimization - Material Ingredients	2
			Credit	Construction and Demolition Waste Management	2
0	0	0	<b>Indoor Environmental Quality</b>		<b>16</b>
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
			Credit	Enhanced Indoor Air Quality Strategies	2
			Credit	Low-Emitting Materials	3
			Credit	Construction Indoor Air Quality Management Plan	1
			Credit	Indoor Air Quality Assessment	2
			Credit	Thermal Comfort	1
			Credit	Interior Lighting	2
			Credit	Daylight	3
			Credit	Quality Views	1
			Credit	Acoustic Performance	1
0	0	0	<b>Innovation</b>		<b>6</b>
			Credit	Innovation	5
			Credit	LEED Accredited Professional	1



# *Green Schools Program*

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## **MSBA Minimum Requirements:**

Using LEED-S, for no additional reimbursement, achieve a minimum of “Silver,” including a minimum total of three points (from seven points available) from the following three categories:

- MR Building Product Disclosure and Optimization - Material Ingredients
- IEQ - Low Emitting Materials
- IEQ – Indoor Air Quality Assessment

OR;

Using NE-CHPS, for no additional reimbursement, achieve a minimum of “Verified”, including a minimum total of five points (from ten points available) from the following four categories:

- EQ 5.1.3 Indoor Air Quality Management – Building Flush Out
- EQ 7.0 Low Emitting Materials
- EQ 7.1 Additional Low Emitting Materials
- MW 10.1 Health Product Information Reporting

AND;

Meet the minimum energy efficiency requirements described in the MA DOER “Stretch Code Green Community” standards.



# *Green Schools Program*

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## **MSBA Additional Reimbursement :**

For an additional reimbursement of 3% of the Estimated Basis of Total Facilities Grant, and in addition to the minimum requirements described above, projects must meet the minimum energy efficiency requirements described in the MA DOER “Opt-in Specialized Code” standards.

For an additional reimbursement of 1% of the Estimated Basis of Total Facilities Grant, and in addition to the minimum requirements described above, projects must achieve a minimum total of five points (from seven points available) in the LEED indoor air quality points noted above, or a minimum total of eight points (from ten points available) in the NE-CHPS indoor air quality points noted above.