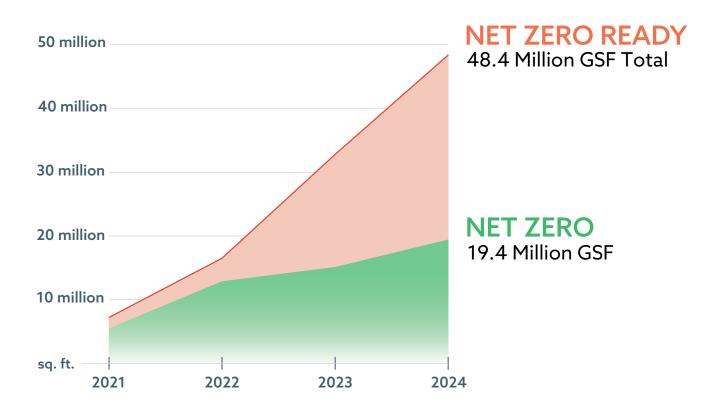


NET ZERO - 19.4 Million GSF



What's this all about?



Since 2021, Built Environment Plus has been actively asking the Massachusetts building community for data on what's happening around Net Zero buildings. We want to take an ongoing pulse on:

- 1. How many Net Zero projects exist or are in development in and around Massachusetts.
- 2. Does it cost more to build these projects?
- 3. What building types are achieving Net Zero?
- 4. Who is bringing these projects to reality?
- 5. How are they getting it done?

Continued data collection since 2021 increased the total of Net Zero or Net Zero Ready Projects included in the analysis from 7.2 million GSF to 48.4 million GSF. That's nearly a 6 times increase in known square footage in just 3 years. It is clear from this analysis that Massachusetts is not just *Ready for Net Zero*, as the first three reports were named, Massachusetts is now *Going Net Zero*.

Change is Happening

Since we first issued this report in 2021:

- MA updated its State Building Code including the new Opt-in Specialized Stretch Code.
- To date <u>thirty-four communities</u> representing over a quarter of the State's population have adopted the Opt-in Specialized Stretch Code.
- Boston and Cambridge finalized their Existing Building Emissions Ordinances.
- Ten communities are piloting fossil fuel bans for new construction.
- We launched BE+ CONNECTS, a directory of high performance building professionals.

The intent of this document, now, is to provide data for municipalities considering adopting the opt-in code, implementing fossil-fuel legislation or existing buildings emissions ordinances. We hope other states will find the data useful as they consider their own initiatives. It is also a resource to share between professionals on how they are achieving net zero projects.

Built Environment Plus (BE+), with support from the <u>Massachusetts Clean Energy Center (MassCEC)</u> has created <u>BE+ CONNECTS</u> an online directory of high performing green building professionals. The data for the 2024 report has migrated to BE+ CONNECTS. People can find more information on the projects, professionals and companies making these Net Zero and Net Zero Ready projects at <u>https://beplusconnects.com/</u>

To be listed as Net Zero Ready in this report, buildings must be:

- Located In Massachusetts
- Highly energy efficient*
- All electric for building heating operation**

To be listed as Net Zero, buildings must meet the Net Zero Ready criteria and:

• Procure renewable energy from on-site and/or off-site equal to 100% of the site energy consumption on a net annual basis.

We know there are additional Net Zero Buildings in Massachusetts, and for the projects we do have, the data is not 100% complete. We intend to update this ongoing document as we gather more information.

^{*}To qualify as highly energy efficient the project either meets or exceeds an established net zero ready standard (e.g. MA Stretch Code, Passive House, etc.) or is ultra energy efficient as defined by a percent reduction from the ASHRAE 90.1 baseline according to one of the following: 2010: 25% below App G baseline site EUI; 2013: 18% below App G baseline site EUI; 2016: 5% below App G site PEI; 2019: 0% below App G site PEI

^{**} All electric for building heating operation means that electricity is used for heating during "normal operation" when systems are operating as intended and ambient temperature is above the ASHRAE 99% design condition. Special use buildings such as health care facilities and laboratories are given more leeway and may be included if the building relies primarily on heat pumps for building heating and through efficiency and electrification achieve 290% fossil fuel reduction vs. the ASRAE 90.1 baseline

The Bottom Line

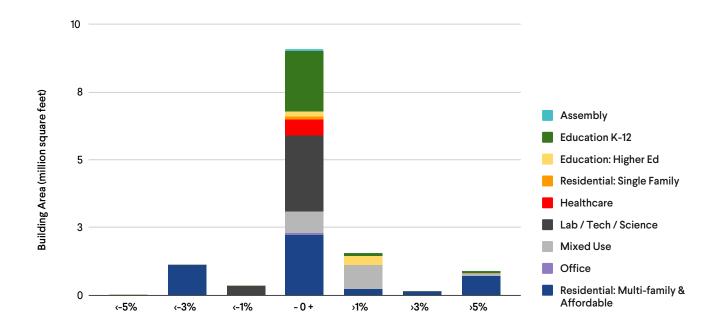
- 1. The Net Zero and Net Zero Ready building stock exceeds 48.4 million square feet and is growing at a constant rate in the Commonwealth today.
- 2. Of the 13.1 million GSF with reported cost data, 80% reported <1% construction cost premium to achieve Net Zero Ready.*
- 3. Multi-family and affordable housing's combined 15.3 Million GSF are leading the way for Net Zero development in Massachusetts, employing heat pumps and on-site renewables to reach their Net Zero targets. Lab / Tech / Science grew substantially, by nearly 50%, in 2024 to 13.7 Million GSF, making up the majority of the found Net Zero Ready space.
- **4.** Affordable Housing makes up 40% of all residential Net Zero and Net Zero Ready square footage.
- 5. All projects rely on heat pumps as the primary source of heat. The majority of building types utilize air-source heat pumps, with the exception of K-12 which more often use ground-source heat pumps. Net Zero buildings also procure on-site and/or off-site renewable energy to offset 100% of consumption on a net annual basis.
- 6. Over twice as many projects since 2023 have reported the use of electricity for domestic hot water with a total of 28.2 million GSF.
- 7. There are 319 companies working to make Net Zero buildings the standard in MA. Many of the companies can be found in <u>BE+ CONNECTS</u>.

* 27% of the project GSF and 44% of submissions shared cost difference for Net Zero. Of those, 80% of them reported 🕫 construction cost premium.

HOW MUCH DOES IT COST TO BUILD NET ZERO READY?

*13.1 MILLION GSF OR 154 PROJECTS REPORTED ON % COST DIFFERENCE

NOT MUCH!



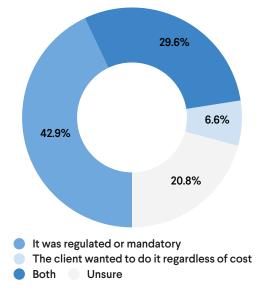
Net Zero Ready buildings are being built at the same cost as conventional buildings. Of the 13.1 million GSF with reported cost data, 80% of Net Zero Ready buildings have less than a 1% construction cost premium.* This is consistent across all building types and sizes, including high-rise buildings that are hundreds of thousands of square feet. In 2024 we added an option "We didn't calculate the cost premium." 7.5% of all projects selected this option and of those over half said it was because it was regulated or mandatory and/or the client wanted to do it regardless of cost.

FEAR: Net Zero is expensive.

REALITY: Of submissions reporting on cost data, Net Zero buildings often carry little to no added construction cost and significantly reduce operating cost. This means that Net Zero buildings typically have lower total cost of ownership than conventional buildings. The financial case is even more compelling when construction is financed via loans or bonds; in this scenario the operating savings more than offsets the loan payment premiums. This results in positive cash-flow from day one.

Cost data in this report includes incentives from the utilities and the government. There are significant incentives through <u>Mass Save®</u>, Federal Tax Credits, the Mass Department of Energy Resources (DOER) and more. <u>Mass.gov</u> keeps a good list of resources.

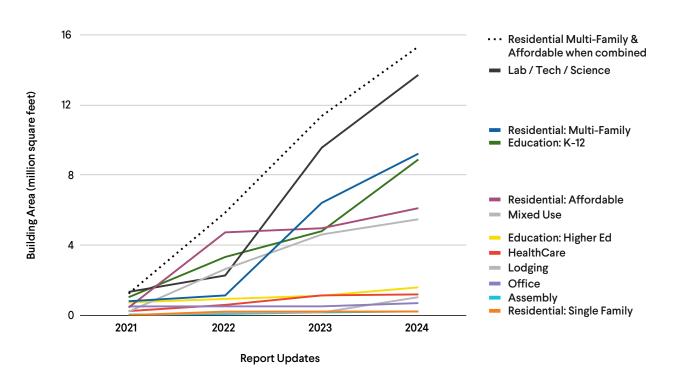
Why aren't project teams calculating cost premiums? (by GSF of reporting projects)



*27% of the project GSF and 44% of submissions shared cost difference for Net Zero. Of those, 80% of them reported <1% construction cost premium.

WHAT BUILDING TYPES ARE ACHIEVING NET ZERO READY?

MANY TYPES!



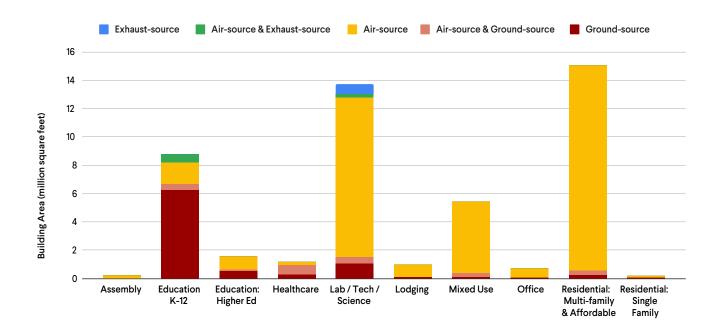
Of the 48.4+ Million GSF of Net Zero Ready building area found after 4 years, 28% is Lab/Tech/Science, 19% is Residential: Multi-Family, 13% is Residential: Affordable, 18% is Education: K-12, and 11% is Mixed Use. The other typologies together make up the remaining 11% of GSF. Since 2023 the square footage of NZR Education: k-12 projects more than doubled while Market-rate Multi-family residential and Laboratory / Tech / Science each increased roughly 50% in area.

FEAR: Laboratory, technology, and life science buildings will be too technically challenging to achieve. **REALITY:** Totaling 13.7 Million GSF, lab/tech/science make up the majority of the found Net Zero Ready space. Through making these projects, high-performance building professionals have shown they have the knowledge and technology to make it possible.

FEAR: Net Zero multi-family and affordable housing will not be feasible as it is too cost prohibitive. **REALITY:** Multi-family and affordable projects are leading the way for Net Zero development in Massachusetts. Combined they total 15.3 Million GSF, representing a greater total GSF than lab/tech/science. It is clear that these projects are not just possible; they are the most thriving typology.

EXPLORE PROJECT PROFILES BY PROJECT TYPE ON BE+ CONNECTS

HOW ARE BUILDINGS USING ELECTRICITY FOR HEATING? *48 MILLION GSF REPORTED ON HEAT PUMP TYPE GROUND AND AIR-SOURCE HEAT PUMPS!



48+ million square feet of buildings reported using heat pumps as the primary heating source. This spans all building types and sizes reported, including high-rise buildings that are hundreds of thousands of square feet. The majority of projects employ air-source heat pumps with the exception of Education K-12 utilizing the highest percentage of ground-source heat pumps. In 2024 we have Labs / Tech / Science and Education K-12 introducing exhaust-source heat pumps as a solution.

FEAR: Net Zero buildings must be 100% electric with no exceptions.

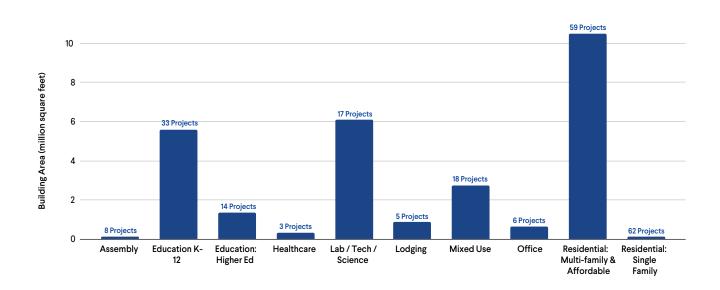
REALITY: Net Zero standards promote electrification and allow flexibility for fossil fuel use where appropriate. For example the <u>Massachusetts Fossil Fuel-Free Demonstrations</u> includes exemptions for lab buildings, healthcare facilities, and large domestic hot water systems.

FEAR: The electric grid can't support electric buildings.

REALITY: New Net Zero buildings often have lower peak electric demand than their peers. The BE+ 2019 report, *Zero Energy Buildings in Massachusetts: Saving Money from the Start* found that the peak electric demand for all electric buildings was actually lower for Existing Building Renovations, New Office Buildings, K-12 schools, and Mixed Use Buildings. Only the Residential Buildings had higher peak electrical loads. This is offset by the fact that Single and Small Multi-family Residential Buildings were able to cover most, if not all of their electrical demand with on-site solar and thus reducing the overall peak demand on the grid.

SEE HEAT PUMP DATA IN PROJECT PROFILES ON BE+ CONNECTS

ARE BUILDINGS USING ELECTRICITY FOR DOMESTIC HOT WATER? *28.2 MILLION GSF REPORTED ELECTRIC DHW YES, MANY!



28.2+ million square feet of buildings reported using electricity as their domestic water heating source. The amount more than doubled in the last year.

FEAR: Electrification of domestic hot water is not possible for some high-energy building types, such as labs and healthcare. **REALITY:** Electrification of domestic hot water is possible for high-energy building types. In fact, 44% of the GSF of Laboratories and 23% of the GSF of healthcare facilities reported relying on all-electric domestic hot water.

FEAR: Electrification of domestic hot water is not possible for multi-family buildings.

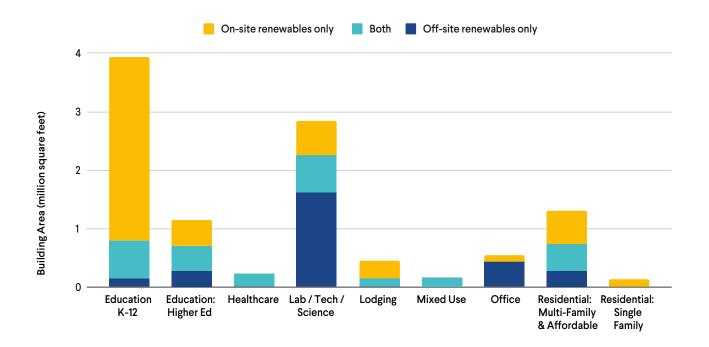
REALITY: Electrification of domestic hot water is possible for multi-family buildings. In 2024 69% of GSF of all multi-family buildings reported are electrifying domestic hot water. This includes 5.2M GSF of affordable housing.

SEE IF A PROJECT IS ELECTRIFYING THEIR DOMESTIC HOT WATER IN THE PROJECT PROFILES ON BE+ CONNECTS

HOW ARE BUILDINGS ACHIEVING NET ZERO?

*10.7 MILLION GSF OF NET ZERO PROJECTS REPORTED ON RENEWABLES

ON-SITE AND OFF-SITE RENEWABLE ENERGY!



Of the 48.4+ million GSF of Net Zero Ready buildings, 19.4 million GSF anticipate achieving Net Zero energy. Net Zero buildings procure on-site and/or off-site renewable energy to offset 100% of annual consumption.

FEAR: Net Zero buildings must produce all energy on-site.

REALITY: Net Zero buildings can procure renewable energy from off-site. More than half of the Net Zero buildings that provided renewable energy data use off-site renewable energy or a combination of off-site and on-site renewable energy.

FEAR: Renewable electricity costs more than grid electricity.

REALITY: There are many procurement methods for renewable energy. Some marginally increase cost. Others cost less, such as: power purchase agreements and virtual power purchase agreements.

SEE WHAT TYPE OF RENEWABLES A PROJECT IS USING TO MEET NET ZERO REQUIREMENTS IN THE PROJECT PROFILES ON BE+ CONNECTS

NET ZERO READY PROJECT DATABASE SNAPSHOT 48.4 Million GSF found by BE+ in Massachusetts. Sorted by GSF.

ASSEMBLY:

Dorchester Community Center Project 786 Belmont Public Library Confidential Project T5 Confidential Project T9 Eastham Public Library Fields Corner Branch Project Lexington Visitors Center MA Audubon Broad Meadow Brook Walden Pond Visitor Center Danehy Park Gateway Pavilion Environmental Learning Center at Mass Audubon Drumlin Farm Old Oak Dojo Expedition Blue Waypoints

EDUCATION K-12:

Andover High School Lexington High School Belmont Middle & High School Bristol-Plymouth Regional Technical School Arlington High School NEMT School Building Project Tobin Montessori Vassal Lane Upper Schools Project King Open/Cambridge St Upper Schools & Community Complex Wakefield Memorial High School Building Project Nauset Regional High School Stoneham High School Watertown High School Confidential Project T3 Coakley Middle School Building Project Josiah Quincy Upper School Elmwood School Building Project Boardwalk Campus - Douglas & Gates Schools Dr. Martin Luther King, Jr. School

Lincoln School Revitalization Walpole Middle School The Michael Driscoll School Hadley Elementary School Concord Middle School Project Hosmer Elementary School Boston Arts Academy Hingham Elementary School Building Project John B. DeValles Elementary School Quinn Middle School Amherst Elementary School Building Project Pine Hill Elementary School Hanlon Elementary School Maria Hastings Elementary School David Mindess Elementary School Greenlodge-Oakdale Elementary Building Project Confidential Middle School Lynch Replacement Project Hardy Elementary School Snyder Center - Phillips Academy J.R. Lowell Elementary Abraham Lincoln Elementary School Lincoln-Eliot Elementary Green Meadow Elementary School Project Fox Hill Elementary School Building Project **Roxbury Preparatory Charter School Cunniff Elementary School** Squantum School John Pierce School Hunnewell Elementary School Countryside Elementary School Annie E. Fales Elementary School West Tisbury School Eaglebrook School Dining Hall Lexington Children's Place

Hitchcock Center for the Environment Smith College Bechtel Environmental Classroom

EDUCATION HIGHER ED:

BU Center for Computing and Data Sciences

269-301 Vassar Street: MIT West Campus Graduate Student Dormitory

100 South Campus Drive

Harvard Kennedy School Library

Confidential Project T6

MassBay Community College Center for Health Sciences, Early Childhood, and Human Services

Franklin Cummings Tech

North Shore Community College Health Professions and Student Services

Bunker Hill Community College - Academic Student Success Center

Clark U. Alumni & Student Engagement Ctr

Confidential Project T7

Confidential Community Center

RW Kern Center

Crotty Hall

ArtLab (Harvard University)

House Zero

Greenhouse & Science Lab Support Areas

HEALTHCARE:

Soldiers' Home in Holyoke Franciscan Children's Hospital, New Inpatient Building Chelsea Soldiers' Home Community Living Center Boston Children's Hospital Ambulatory Surgery Center Brockton Behavioral Health Center 8 Old Road Health Center

LABORATORY / TECH / SCIENCE:

Gateway Innovation Center 66 Cambridge Street Wentworth Institute of Technology - 500 Huntington Ave, Boston Seaport Circle Lab Confidential Kendall Lab 120 Middlesex Turnpike, Somerville-Brickyard Assembly Row Bulfinch Crossing East Parcel Development 1400 Boylston St, Boston 421 Park Drive OneMilestone at Enterprise Research Campus 80 First Street, Cambridge 325 Binney Street Allston Yards Building B Parcel X (310 Northern Ave) 155 North Beacon St, Boston 74 Middlesex Ave, Somerville 776 Summer St - Block F Southline Labs 60 Guest St, Boston University of Massachusetts Medical School, New Education and Research Building 80 East Berkeley 776 Summer St - Block D 5 Fid Kennedy Building 1 Au Bon Pain Way (Parcel O) Confidential Lab Building Alewife Research Center 65 First Ave Confidential Cambridge Lab Cambridge Crossing Parcel Q2 Arsenal on the Charles Building 2 Arsenal on The Charles Building 1 420 Rutherford Confidential South Boston Lab 287 Western Ave Bristol Community College Sbrega Health and Science Building

Cape Cod Community College Frank and Maureen Wilkens Science and Engineering Center

Massachusetts Maritime Academy - Science, Technology and Engineering Lab Modernization

Seaport Circle Pavilion

LODGING:

UMass Amherst Undergraduate Housing Parcel 12 Hotel Building Hotel in Back Bay The Coolidge Hotel at Brookline Allston Hotel UMass Amherst Graduate Housing

MIXED USE:

Mildred Hailey Phase One One Boston Wharf Road 1033-1055 Washington St, Boston 380 Stuart Street 495 Dot Ave. Confidential Mixed Use A Allston Green (Building A) Boynton Yards: General Building 4A (LotB4.1) East of Broadway Confidential Mixed Use B Boynton Yards: General Building 4B (LotB4.2) 1200 Montello 87 Broadway 95 Everett 761-793 Boylston St Lasell Village Expansion Northland Newton Development - Building 4 Northland Newton Development - Building 8 New Bedford YMCA Capital Renovation Project Dorchester Fieldhouse **Blessed Sacrament** Boynton Yards: General Building 4C

(LotB4.3) 280 Western Ave The Foundry Boston Net Positive Multi-Unit Ashland Public Safety Building Project 152-158 Broadway Multifamily Passive House 402 Rindge Avenue/Ringe Commons (A-Non Residential Portion) Elmwood Norfolk Fire Station **Dudley Kenilworth Homes** Greenfield Fire Station The Williams Bookstore Bertram Field House Powisset Net Positive Barn Forest River Outdoor Recreation & Nature Center

OFFICE:

11-21 Bromfield 140 Kendrick - Building A Div of Fisheries & Wildlife Field HQ Pharma Academy Franklin Regional Transit Center: John W. Olver Transit Center Emery Grover Building Renovation Project Gilman Ordway Building Auburndale Builders Office

RESIDENTIAL: AFFORDABLE MULTI FAMILY:

Bunker Hill Housing Redevelopment Clarendon Hill Redevelopment Cambridge Affordable Housing 299 Broadway Building A North Commons at Village Hill Passive House Village Hill Walnut Street Phase 1 The Pryde LGBTQ Senior Housing Mission Hill Parcel 25 Phase 3 Finch Cambridge 1599 Columbus Ave Terrace Cedar 402 Rindge Ave / Ringe Commons (Building B - Residential) 25 Sixth St. Residences at Lawrence Hill Old Colony Phase Three C Affordable Passive House Project Blue Hill Ave The Kenzi 10 Sunnyside Ave. Stoughton Veterans Housing 1005 Broadway Baldwinville School Apartments Harbor Village E+ Highland St. NOAH Ayer Commons - Building D Melpet Farm Residence 37 Wales Street 1463 Dorchester Ave Nubian Ascends Housing 148 Maple Ave Linnean Apartments Weaver Apartments 31 Tufts Street NOAH Ayer Commons - Building C NOAH Ayer Commons - Building B1 NOAH Ayer Commons - Building B2 NOAH Ayer Commons - Building A1

NOAH Ayer Commons - Building A2

RESIDENTIAL: MULTI-FAMILY: atMark Cambridge Apartments Modera Revere Beach 244-284 A Street 18 Spice Street Rowen at The Pinehills 33 Cambridge Northland Newton Development - Building 6AB **51N Spice Street Gibson Point** Ryder Harvard Enterprise Research Campus - Residential Northland Newton Development - Building 5 The Coolidge Residences at Brookline 18-22 Arboretum Road 1141 Bennington St Confidential Project T4 East Boston Passive House Project Multifamily Building AST1 355 Bennington St 780 Morrissey Boulevard 2085 Washington Street 51S Spice Street JJ Carroll Redevelopment Confidential Residential: Multi-family A Allston Yards Building E Danvers The Riverbank 361 Belgrade Ave 775 Huntington Avenue The Proponent / 361 Belgrade Avenue Old Colony Phase 6 289 Walk Hill Street 35-43 Braintree Street 79 King Street Senior Housing 500 Western Ave 40 Soldiers Field Place Bartlett Station Building A

Northland Newton Development - Building 3 Northland Newton Development - Building 7 Confidential Multi-Family **Cottage Street Housing** Juniper Hill 2072 Massachusetts Ave Apartments 40 Roland Street Project West Newton Armory 69 North Montello Street (Phase 2) 3 Hawkins Street 43 North Montello Street (Phase 1) E+ Parker Terrace Housing 1201 River Street Bartlett Station Building F5 11 E Lenox The Distillery North Roxbury Sustainable Housing 3371 Washington Street 62 Packard Street, Hudson Brewster Woods Community Housing -Building 40 402 Rindge Ave / Rindge Commons (Building A - Residential) 3409 Washington St FBMS 128 Manley St (Phase 2) 201 Hampden Devens Sustainable Housing Multi-family (Multiple Homes) FBMS 128 Manley St (Phase 1) 191 Talbot 213 Harvard Street Emerson Green Phase 2 (Multiple Homes) 63 Moreland St 41 Hawthorne 71-80 Fort Ave. 226 Highland 10 Copeland 246 Norwell Emerson Green Phase 1 (Multiple Homes)

2-4 Linwood Street
15 Howard St
36-38 Colonial Ave
Two Zero Energy Modular Homes in Northampton
152-154 Highland
4 Fort Ave. Terrace
E+ 118 Marcella Street
The Davis House
Revell Retrofit
21 Lamartine
67 Beech Glen Street
Butler Residence
21 Wensley

RESIDENTIAL: SINGLE FAMILY:

Emerson Green Phase 2 (Multiple Homes) Emerson Green Phase 1 (Multiple Homes) Concord River Walk Net Zero #1-13 (Multiple Homes) MassDev. Devens Green ZE Community (8 Homes) Miller Residence Green Zero Carbon Home 25 Dukes Rd Patrone Home Newton Net Zero Dartmouth Ocean Fronthome 76 Larchmont Ave **Ross Residence** Needham Deep Energy Retrofit **Devens Greek Revival** 8 Cavite St Holland Passive House

Lincoln Net Positive Farm House Chatham Marshview House Fink-Simko Zero Net Energy Deep **Energy Retrofit** Hobart Net Zero "The Groton" Model 203 Elliot Street Livermore Deep Energy Retrofit Cave Residence Rivendell: Jenson-DeLeeuw NZE House Cape Cod Passive House 1960s Garrison Comprehensive Deep **Energy Retrofit** 15 Park Place **Bushey Residence** 162 Highland St 15 Laurel Street Brooks/Mulligan House Modified Little Diamond - Meek House 14 Cavite St 33 Johnsonwood Kane Family Residence 393 Marlborough 55 Marcella St 21 Laurel Street 133 Bourne St The Giordano - Smeltz Residence Net Zero Bungalow White Claw Farm Net Zero Deep Energy Retrofit Solar Energy Home Kraus-Fabel Retrofit 67 Dudley St

RETAIL:

Boston Building Resources

SEARCH BY "PROJECT NAME" ON <u>BE+ CONNECTS</u> TO FIND MORE INFORMATION ON MOST OF THESE PROJECTS, INCLUDING THE PROFESSIONALS AND THEIR COMPANIES RESPONSIBLE FOR THEIR DESIGN AND CONSTRUCTION.

AT THIS TIME BE+ CONNECTS IS NOT INTENDED FOR SINGLE OR MULTI-FAMILY RESIDENTIAL PROJECTS UNDER 15,000 GSF. AS SUCH, BUILT ENVIRONMENT PLUS DID NOT COLLECT NEW DATA FOR SINGLE FAMILY RESIDENTIAL PROJECTS FOR THE 2024 REPORT AND THE DATA FOR THESE PROJECTS CANNOT BE FOUND ON BE+ CONNECTS.

SENIOR LIVING:

Cooper Center for Active Living McDevitt Sr Homes Appleton Building

THE PROFESSIONALS WORKING ON THESE PROJECTS: 319 Companies found by BE+ in Massachusetts.

89 OWNERS

FROM BE+ CONNECTS BY CONNECTED GSF: Skanska USA The Community Builders

FROM CLASSIC DATA COLLECTION:

213 Harvard Street Condominium Trust Alexandria Real Estate Equities Inc. Allied Health Barbara Simko Barlett Lot D Preservation Associates **Beacon Communities** Boston Housing Authority **Boston Properties Boston University Brian Butler Bristol Community College** Broadway & A St LLC Broadway Investments Realty, LLC Bunker Hill Community College Cambridge Housing Authority Cape Cod Community College Capstone Communities LLC Chuck Lenhart Chungha Cha City of Cambridge City of New Bedford City of Watertown Clark University Commonwealth of Massachusetts David Green Deborah Frieze Division of Capital Asset Management and Maintenance (DCAMM) DLJ Real Estate Capital Partner E3 Development Elizabeth Meek Fred Gordon Gate Residential Properties

Hampshire College Harvard University Hawkins St Union Square LLC Hitchcock Center for the Environment Holyoke Soldiers' Home Homeowner's Rehab, Inc. Just-A-Start Corporation Leggat McCall Properties MA Dept. of Conservation & Recreation Marcella 120 LLC Marcus Partners Mass Audubon Massachusetts Institute of Technology Massbay Community College MassDevelopment Midwood Investment & Development NeighborWorks Housing Solutions New Bedford Public Schools North Shore Community College North Shore Community Development Coalition (NSCDC) NOW Communities, LLC Phillips Academy Pioneer Valley Habitat for Humanity Preservation of Affordable Housing (POAH) PT RED Rees Larkin Development Ryan Bushey Samuels & Associates P-12 Property LLC Sara Ross Scott Webster & Elmwood Street Reality Trust Smith College Somerville Community Corporation (SCC) Somerville Housing Authority (SHA) The Neighborhood Developers **TLee Development** Town of Acton

Town of Arlington Town of Belmont Town of Concord Town of Eastham Town of Lexington Town of Lincoln Town of Stoneham Town of Swampscott Town of Westwood **Traggorth Companies Trinity Financial** UMass Chan Medical School University of Massachusetts Amherst Urban Edge Veterans Home at Chelsea Westborough Public Schools Woods Hole Research Center Corporation Z Capital Investments Zero Energy Modular Affordable Housing Initiative (ZE-MAHI)

(All Individual Homeowners are excluded from this list)

109 ARCHITECTS

FROM BE+ CONNECTS BY CONNECTED GSF: Arrowstreet Stantec SGA Elkus Manfredi Architects **DiMella Shaffer** Perkins & Will Payette Utile Perkins Eastman **ICON** Architecture **HMFH** Architects CUBE 3 **SMMA** Ai3 Architects Studio G Architects NBBJ **CBT** Architects Davis Square Architects, Inc. Dore + Whittier CambridgeSeven **DiNisco** Design isgenuity LLC KPMB KieranTimberlake West Work William Rawn Associates Tappé Architects, Inc. Mount Vernon Group Architects **DHK** Architects MASS Design Group Jonathan Levi Architects (JLA) Lavallee Brensinger Architects Sasaki **Raymond Design Associates BKSK Architects LLP** Stefanov Architects Inc. Bruner/Cott ZeroEnergy Design Architerra Inc. RODE

Oudens Ello Architecture Next Phase Studios Architects Bargmann Hendrie + Archetype, Inc. (BH+A) DREAM Collaborative **HKT** Architects Placetailor Elton Hampton H2M architects + engineers DesignLAB Architects Mills Whitaker Maryann Thompson Architects Maclay Architects Snøhetta Coldham & Hartman Architects Paul Lukez Architecture

FROM CLASSIC DATA COLLECTION:

Adrian Smith + Gordon Gill Architecture Architectural Resources Cambridge Beacon Architecture Ben Nickerson **Brian Butler BrightBuilt Homes** Brown Lindquist Fenuccio & Raber Architects Inc. Brown Sardina. Inc. Chandler Architectural Products David Miller DiNisco Design Architects & Planners Edy Ambroz Ellenzweig Fitch Architecture & Community Design Flansburgh Franziska Amacher Fred Gordon Gate Residential Properties Hampdentailor LLC Henning Larsen Hutker Architects ICON Architecture, Inc. Interface Studios

Jacobs Consultants. Inc. John Livermore JPNDC Kieran Timberlake Madison Park CDC Maple Hill Architects Mary Kraus MassDevelopment Matt Coffey Miller Pollin Architecture New Atlantic Development NOW Communities. LLC OMR Architects Inc. Peter Brooks Peter Kane Peter Stevens R. Carter Scott **Rachel Stevens** Rees Larkin Development **RISE** Together **Ryan Bushey** Sebastian Mariscal Studios SimpleCity Studio Steven Baczek Studio Gang TLee Development Union Studios Urbanica Design William McDonough + Partners Wilson Butler ZGF

33 ENERGY CONSULTANTS

FROM BE+ CONNECTS BY CONNECTED GSF: BR+A Thornton Tomasetti Petersen Engineering Soden Sustainability Consulting Steven Winter Associates enviENERGY Studio Vanderweil Engineers WSP The Green Engineer New Ecology, Inc. Sustainable Comfort, Inc. AHA Consulting Engineers AKF Passive to Positive Linnean Solutions Building Evolution Corporation (BEC) Transsolar KlimaEngineering

FROM CLASSIC DATA COLLECTION:

Andelman Lelek Atelier Ten **Building Science Corporation** CLEAResult **Conservation Services Group** Daniel Roy Integrated Environmental Solutions Marc Rosenbaum **Michael Duclos** Northern Power Systems Sayo Okada Sean Welch SegoDesign Solar Design Associates Solworks VEIC

49 MEP ENGINEERS

FROM BE+ CONNECTS BY CONNECTED GSF BR+A Petersen Engineering RDH Building Science Inc. Vanderweil Engineers Skanska USA WSP Cosentini Associates Buro Happold **Rist Frost Shumway Engineering** R.W. Sullivan Engineering AHA Consulting Engineers Garcia, Galuska & DeSousa - GGD Consulting Engineers Nitsch Engineering AKF Wozny Barbar & Associates CMTA **BALA** Consulting Engineers **BLW Engineers** Consulting Engineering Services (CES) ZeroEnergy Design Van Zelm Engineers VAV International Inc. Kohler & Lewis Engineering 2RW Consulting Engineers

FROM CLASSIC DATA COLLECTION:

Adam Kohler Allen & Major Associates Arup Ben Brungraber Bensonwood Center for Ecological Technology David Fink Drew Gillett Engineering Design Build Griffith & Vary, Inc. LVR Corporation Marc Rosenbaum McBrie, LLC Merrill Engineers & Land Surveyors Norian/Siani Engineering, Inc. Places Associates Ripcord Engineering Inc. RSE Associates, Inc. RW Sullivan Engineering Ryan Hellwig Simpson Gumpertz & Heger South Mountain Company Stamski and McNary StudioNYL Zade Associates LLC

74 BUILDERS

FROM BE+ CONNECTS BY CONNECTED GSF: Suffolk Construction Skanska USA Sustainable Comfort, Inc. Consigli Construction Turner Construction Company **Dellbrook JKS** W.T. Rich Moriarty Construction Shawmut Design & Construction **Brait Builders NEI** General Contracting Walsh Brothers The Community Builders New England Development Haycon **Brenco** Construction Erland Construction Gilbane Building Co. Callahan Construction Managers **Bond Brothers** Groom Construction **Delphi Construction** Wright Builders Lee Kennedy Chapman Construction Stack + Co

FROM CLASSIC DATA COLLECTION:

Auburndale Builders Bacon Construction Bald Hill Builders Bill Hallaren BOND Building Boston Green Building Brian Butler

Caleb Ewing **CDI** Construction Columbia Construction Company Cranshaw Construction Decumanus Green Design/Build, Inc. **Dunhill Companies** Edy Ambroz Farley Pedler Gate Residential Properties George Donahue **GFC** Development Hampdentailor LLC Hawkins St Union Square LLC Holden Builders JPNDC Karsten Construction LeftField Madison Park CDC Marcella 120 LLC MassDevelopment McNamara Salvia New Atlantic Development NOW Communities, LLC NPS Contractors **Olive Branch Builders** One Way Development Pascal Albanese Pat DeLeeuw Pioneer Valley Habitat for Humanity **Related Beal Richard Jenson RISE** Together **Ryan Bushey** Sandcastle Construction

TLee Development TR White Company, Inc. Transformations, Inc. WS Development

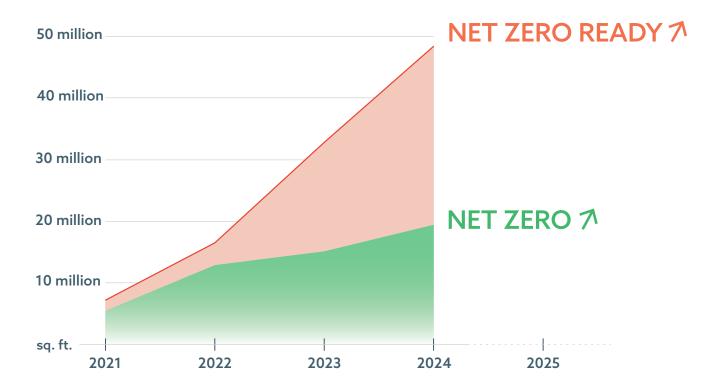
CONNECT WITH THE MAJORITY OF THESE COMPANIES AND PROFESSIONALS ASSOCIATED WITH THEM BY VISITING THEIR RESPECTIVE COMPANY AND PROFESSIONAL PROFILES ON ON <u>BE+ CONNECTS</u>. SEARCH BY PROJECT TYPE, PROFESSION, LOCATION, CREDENTIALS AND MORE.

Southern Middlesex Industries

Synergy Construction

Sean Ford

THIS REPORT IS STILL CONTINUING TO GROW ...



For questions related to this report, please reach out to connects@builtenvironmentplus.org

For updates to this report visit <u>https://builtenvironmentplus.org/road-to-net-zero/</u>

Create an account on BE+ CONNECTS to contribute additional projects, update existing projects, add companies and professionals and make connections. In 2024 we transitioned to collecting data via <u>BE+ CONNECTS</u>, a directory of high performing building professionals and companies connected to their projects eligible to be in this report. The majority of the projects and companies in this report are listed in BE+ CONNECTS.

This report focuses on operational carbon in new construction and major renovation and is only part of the equation. Learn more about the importance of embodied carbon by reviewing the entries in the <u>MassCEC Embodied</u> <u>Carbon Reduction Challenge</u> or connecting with our local <u>New England Carbon Leadership Forum Hub</u>.

Thank you to the many people and organizations who contributed to this effort, especially the Boston Society for Architecture, MassCEC and Eversource. The building community united to provide this data swiftly, and have proven very committed to our ongoing collection efforts!

About <u>Built Environment Plus</u>: Formerly known as the USGBC MA Chapter, BE+ is a member-based non-profit driving sustainable and regenerative design, construction and operations of the built environment. We do this by providing green building education, building community, engaging in advocacy, research and tool development, celebrating success, and by fostering leadership opportunities for sustainable building practitioners.





Build with Purpose

Help your clients meet low-carbon and energy efficiency goals and receive financial incentives by tapping into Eversource's new construction and major renovation offerings.

Engage us early in the planning and design of your project, and we'll connect you with technical support to discuss energy-saving solutions, pathways and resources for the design and construction of high efficiency homes and buildings.

The more energy-efficient the project, the more lucrative the incentives – especially for Net Zero, low EUI, and Passive House.

For **residential** new construction, visit **eversource.com/new-construction**

For **commercial** new construction, visit eversource.com/energy-efficient-construction





#1 Energy Efficiency Provider in the Nation

BE+ High-Performance Building Procurement Toolkit.

This toolkit was created to support municipalities, developers, and building owners when they're identifying companies and procuring services needed for their highperformance building or retrofit projects.

The toolkit specifically includes resources that municipal representatives can use when discussing new project proposals with developers. These resources aid to help these municipal representatives explore the sustainability, resiliency, and climate mitigation objectives of the developers' proposals, particularly with regard to energy efficiency, embodied and operational carbon, indoor air quality, and grid interactivity. Just like with our municipal representatives, developers will also find similar support within for having robust engagement with their project teams.

Zero Energy Buildings

Saving Money from the Start

in Massachusetts:

2019 REPORT

READ IT HERE



Our 2019 Cost Report that Started it All.

Our report, Zero Energy Buildings in MA: Saving Money from the Start, assessed in 2019, zero energy (ZE) upfront building costs, model performance, and life-cycle costs in Massachusetts. With buildings being a major source of greenhouse gas emissions, scientists, advocates, and local leaders are working to curb emissions and reduce energy use in the built environment by both retrofitting existing buildings and constructing new buildings to achieve Zero Energy Standards. While stakeholders and decision makers frequently cite high costs as the primary barrier to ZE buildings, we and report lead Integral Group found that many types of ZE buildings can be built with no added upfront cost and some commercial buildings can see return on investment in as little as one year.

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