

Frequently Asked Questions about the *Stretch Energy Code*

What is the Stretch Energy Code?

Codified by the Board of Building Regulations and Standards as 780 CMR Appendix 115.AA of the Massachusetts building code, the Stretch Energy Code is an appendix to the Massachusetts building code. The Stretch Energy Code provides guidance for cost-effective **new** construction that is more energy efficient than the Base Energy Code. It is updated periodically in order to maintain the "stretch" to greater energy efficiency. Note that the Stretch Code only applies to **new** construction for homes and new large commercial buildings. Needham considers additions that are more than 50% of the current building size as new construction.

What is Needham's current energy code?

Building construction in Needham currently has to meet the Base Energy Code, which specifies certain standards that all building projects must achieve regarding their energy consumption. All buildings in Massachusetts must follow the Base Energy Code, unless the optional Stretch Code is adopted. The Base Energy Code, which is updated about every 3 years, is based on the International Energy Conservation Code (IECC)'s most current version.

Why is Town Meeting Considering Adopting the Stretch Energy Code?

Adoption of the Stretch Energy Code is an option that requires approval by a majority vote of Town Meeting. The primary reasons for adopting the Stretch Code are:

- To ensure that newly constructed buildings in Needham are more energy efficient, thus minimizing the yearly energy costs.
- To meet one of the five criteria for Needham to achieve Green Community status. See Green Communities explanation on other sheet.

How do the Base and Stretch Energy Codes currently differ?

The Base Energy Code provides two options builders may use to meet energy efficiency requirements:

- **Prescriptive Method**, installing elements with specific energy efficiency levels (e.g., windows, or wall & roof insulation, furnace, etc.), or
- **Performance-based Method**, building to ensure the home performs to a specific level of efficiency, measured through a **HERS** (Home Energy Rating System) analysis both pre- and post-construction. The builder can decide how to design the house to reach the performance target

The Stretch Energy Code simply requires that builders use the **performance-based method**. Measuring the home in this way verifies it is performing as expected, which is an **important protection for the home owner and for any future buyer**. Some builders in non-Stretch Code communities choose to use the performance-based method required by the Stretch Code because of the greater flexibility it provides.

How does the HERS rating predict how much energy a building will require?

The HERS rating is a measure based on a home's total expected energy use and overall efficiency. It is calculated by a certified HERS rater using accredited software, which uses information on the design of the energy systems in a home to calculate the annual energy needs of the home and give it a rating score. As part of the HERS rating, the HERS rater tests the home for air leakage and inspects insulation installation, which helps ensure that the home performs as designed.

How much will the Stretch Code add to the cost of new construction?

This will vary case to case, but generally, building a home to the Stretch Code adds roughly \$2,000 to the price of construction primarily for the cost of the added services provided by the HERS rater. Building to the Stretch Code generates savings in the form of reduced energy costs to heat, cool, and power the home, which in most cases outweigh the added construction costs in year one of ownership. Some, if not all, of the HERS Rater costs may be reimbursed to the builder through the MassSave program.

Are Needham builders familiar with the Stretch Energy Code?

All the communities abutting Needham have adopted the Stretch Code, and local builders should be accustomed to working with it. As of December 2018, 250 of the 351 cities and towns in Massachusetts had adopted the Stretch Code, which represents 79% of Massachusetts residents and 71% of Massachusetts municipalities.

What will the impact of the Stretch Code be on additions and renovations?

The current Stretch Code only applies to new construction. Determination on whether a project is a renovation, addition or new construction is made at the discretion of the local building official. In Needham, the general guideline is that if a renovation or addition project exceeds 50% of the original structure, it is considered to be new construction and would thus be subject to the Stretch Energy Code, if adopted.

Once Needham adopts the Stretch Code, does the Town need to follow this permanently?

No. The Town can revoke the adoption of the Stretch Code at any time. By revoking the Stretch Code, the town would be giving up Green Community status.

Town Meeting did not pass the Stretch Code in 2012. What is different in 2019?

There are three major differences:

- In 2019, the Stretch Code applies only to new construction, defined in Needham as all new construction, or additions that are more than 50% of the current building size.
- The Base Code has become more stringent since 2012 and is now similar to the Stretch Code aside from the HERS rating requirement of the Stretch Code.
- Surrounding communities have adopted the Stretch Code, and builders are generally building to this code.

What town resources will be required to implement the Stretch Code?

No additional town resources are needed to implement the Stretch Code.

Frequently Asked Questions about the Green Communities Program

What is the Green Communities program?

In 2008 the Massachusetts Legislature passed two landmark laws to combat climate change, reduce energy use, and lower carbon emissions: The Global Warming Solutions Act and the Green Communities Act. The Green Communities Act established a program to provide municipalities with an opportunity to obtain grant funding for energy efficiency and renewable energy projects, as well as publicly demonstrate their commitment to clean energy efforts at the local level.

The first 35 communities were designated as Green Communities in 2010, with 240 achieving the designation as of December 2018.

The Green Community designation is given to municipalities meeting the following five criteria:

- Create a plan to cut municipal energy use by a goal of 20 percent over 5 years;
- Pass zoning in designated locations for the as-of-right siting of renewable or alternative energy generating facilities, research and development facilities, or manufacturing facilities;
- As a second criteria relating to renewable energy development, adopt an expedited application and permitting of one year at most, under which facilities interested in locating their facility in a designated renewable zone may be sited within the municipality;
- Purchase fuel-efficient vehicles for municipal use, whenever such vehicles are commercially available and practicable;
- Reduce life cycle costs of new construction (Adopt the Stretch Energy Code)

In Needham, all of the above criteria are either complete or in process.

What are the benefits of being a Green Community?

Programmatic benefits include:

- Receipt of an approximately \$149,000 designation grant.
- Eligibility for annual \$250,000 competitive grants.
- Annual energy savings that free up town resources to help fulfill other core missions.
- A more flexible, comprehensive approach to facilities & infrastructure management.
- Immediate savings to new home buyers in Needham through lower utility bills.'
- Lower greenhouse gas emissions.

Other benefits: Inspires cities and towns to undertake additional energy-related initiatives, improve coordination between municipal staff and departments, and increase messaging with the public at large about energy-related issues and actions. Needham would be joining other municipalities in a regional effort to address climate change.

In 2012, Needham had taken steps to become a Green Community, but Town Meeting failed to pass the Stretch Energy Code. What was the impact to the Town?

In 2012 Town Meeting did not pass the Stretch Code, voting to refer it back to the (then) Board of Selectmen. Without the Stretch Code in place, Needham was not able to join the Green Communities program. As a result, Needham could not apply for Green Community

Grants to support municipal and school energy efficiency and reduction projects. Based on the experience of comparable communities that became Green Communities at that time, Needham has potentially forgone \$1 million in grants since 2012.

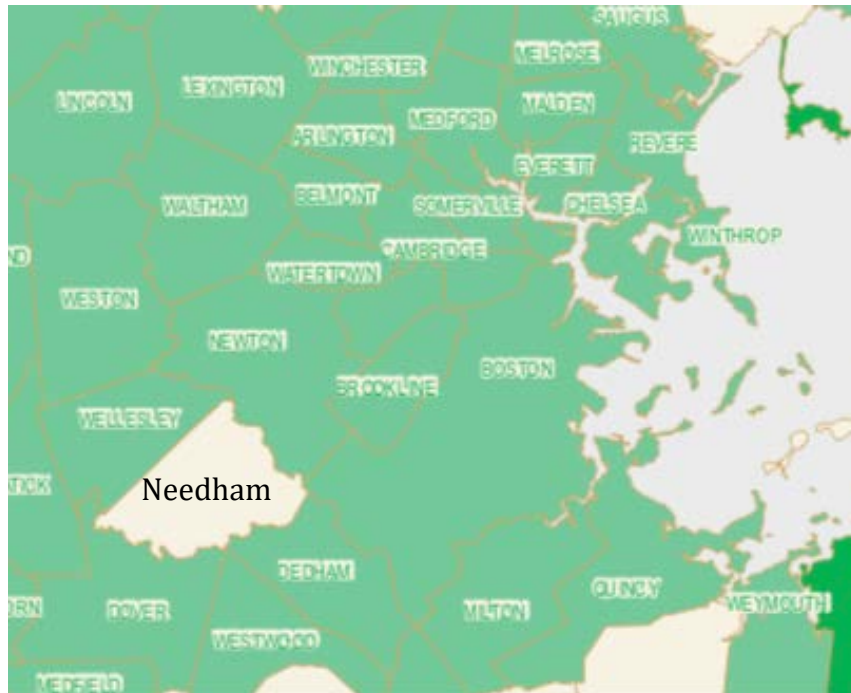
Does Town Meeting Need to Vote on Becoming a Green Community?

No, Town Meeting only needs to adopt the Stretch Code, one of the five criteria. The other criteria are either already in place or will be developed by the Town Manager and staff at the direction of the Select Board. The Select Board makes the final decision to apply for Green Community status. Applications for Green Community status are accepted in October of each year.

What cities and towns are Green Communities?

As of December 2018, 240 of the 351 Massachusetts cities and towns are Green Communities, representing two-thirds of the population. Newton, Wellesley, Dedham and Dover are all Green Communities.

Green Communities in Eastern Massachusetts



Source: https://www.mass.gov/files/documents/2019/01/08/map-summary-green-communities-240_0.pdf

List of 20 towns Needham routinely uses for comparisons and whether Green Communities.

Belmont	Yes	Holliston	Yes	NEEDHAM	No	Wayland	Yes
Brookline	Yes	Hopkinton	Yes	Newton	Yes	Wellesley	Yes
Concord	Yes	Lexington	Yes	Norwood	No	Weston	Yes
Dedham	Yes	Medfield	Yes	Sherborn	Yes	Westwood	Yes
Dover	Yes	Natick	Yes	Walpole	No	Winchester	Yes
Framingham	Yes						