



Stretch Code Background and reasons for adoption



Background

Needham is considering seeking designation as a “**Green Community**,” a status which brings both technical help and money from the State to promote local energy-saving and clean energy projects. There are five requirements to becoming a Green Community, and Town Meeting action is required for one of those requirements – adopting the Stretch Code.

The Stretch Code is an optional appendix to the base energy code which increases efficiency requirements for all new residential and many new commercial buildings, as well as for those residential additions and renovations that would normally trigger building code requirements. Stretch Code buildings achieve approximately 20% better energy efficiency in new residential and commercial buildings than is required by the base energy code.

After four months of meetings, the Selectmen-appointed [Green Communities Study Committee](#) recommended that Needham adopt the stretch code and join the Green Communities program. The Selectmen later voted 3-2 to recommend adoption of the Stretch Code to Town Meeting. The Selectmen will not vote on joining Green Communities until after Town Meeting makes a decision on the Stretch Code.

For an explanation of the advantages of becoming a Green Community and an update on how Needham can meet the other four Green Community requirements, [click here to access the Green Communities Study Committee Report](#).

The information in this document, along with other documents and links to sources, is also available [on the web through Green Needham's web site](#).

Top 5 reasons why Green Needham believes our Town should join the 97 Massachusetts communities that have already approved the Stretch Code

1. High quality homes with verified energy performance

For **new** construction, following the Stretch Code results in a home that is approximately 20% more energy efficient than a home built to the current code. Rather than mandating particular energy efficiency measures, the Stretch Code moves to a performance-based code that **gives builders and consumers the choice to decide how they will meet the energy efficiency goals**.



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The Stretch Code requires that new construction be rated by an energy expert, called a HERS (Home Energy Rating Systems) rater. Partnering with builders and designers, the HERS rater suggests energy-saving options, inspects the builder's work, does diagnostic testing to measure the energy efficiency of the home, and provides a certified report to the Building Department. This not only ensures that the home performs the way it should; it also should catch any problems before the home is finished, at a time when problems can be more easily remedied.

With communities such as Wellesley, Dedham, Newton, and Natick adopting the Stretch Code, it is likely that home buyers will come to expect a house that is highly energy efficient. As a Stretch Code community, Needham would be able to stay competitive.

Under the Stretch Code, Needham housing inspectors would still have the final word, but the HERS rater's role as a troubleshooter should clear up problems and make the housing inspection process simpler, not more complex.

(Note: Requirements for renovations and additions are much simpler, allowing the homeowner and the contractor to instead submit a simple energy efficiency checklist, applying only to those areas affected by the project. They can still choose to employ a HERS professional, but this is not required.)

2. The stretch code saves money and supports local jobs

The Green Communities Study Committee estimated a 2-4% additional cost for new construction or major renovations that meet the Stretch Code, with utility rebates possibly lowering that figure. The State's estimates are slightly lower. Regardless of which estimates are used, however, with the increased cost spread out over the life of a mortgage, the State estimates that lower utility costs will more than cover the increased mortgage payment, generating a positive return on investment. In many cases, the homeowner will see a positive cash flow in the first year. Whether the payback period is immediate or takes a few years, the improvements will add value to the home and save money in the long run. The same is true for commercial and municipal buildings.

Also, homeowners should remember that the additional energy efficiency measures (such as more insulation or a better furnace) means that money is going to the local economy and supporting local jobs, rather than going to out-of-state or foreign energy companies.

3. Builders will be better able to delivery energy efficiency

Raising the bar for energy efficiency will mean that all builders will have to be better informed about the various ways to build more energy efficient homes. This will give consumers better choices in finding a builder. All builders will be adhering to the same



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high standards. As explained above, the Stretch Code also provides consumer protection to homeowners and renovators. As stated by the Green Communities Study Committee, adopting the Stretch Code would “level the playing field in home construction Contractors who already provide high quality, energy-efficient construction will no longer be at a competitive disadvantage.”

4. Green Community Status

Adopting the Stretch Code will pave the way for Needham to become a Green Community, with all the advantages. If Needham became a Green Community, it is estimated that the town would receive an initial grant of \$150,000 - \$175,000 for clean energy or energy efficiency projects. After that, Needham would be eligible to submit grant applications in a competitive process.

The advantages to Green Community status go beyond the grant money, however. One of the requirements is that Needham submit a plan to reduce municipal energy use by 20%. (Needham has already hired a consultant who is working on this plan.) Lower energy **use** means lower energy **costs**, freeing up tax money for education, public safety and roads, rather than burning it up in unnecessary energy expenses.

5. Needham would be part of the solution

Greater energy efficiency will stimulate the market for green products, such as better furnaces, insulation, and building materials – a situation which will benefit consumers in Needham and in all other communities.

Additionally, passing the Stretch Code and becoming a Green Community would make Needham an active participant in our State’s exciting initiative to reduce greenhouse gas emissions from the use of fossil fuels. The [Massachusetts Clean Energy and Climate Plan for 2020](#) details how Massachusetts will reduce energy costs, build our green economy sector and reduce greenhouse gas emissions 25% below 1990 levels by 2020. According to a [just-issued report by the Massachusetts Clean Energy Center](#), the clean energy sector (which includes energy efficiency) employs more than 64,000 people, grew employment **6.1%** in the last year and is expected to increase jobs at a **15.2%** rate from July 2011 to July 2012.

Addressing some common concerns

1. Too much hassle

There is concern that the Stretch Code will cause delays, complications, and additional enforcement costs in the building department. One of the reasons to include the



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requirement for a HERS rater is to ensure the quality of energy efficiency measures and make sure that problems are solved at an early stage. This should make it easier, not harder, for the building inspector. While the code does add some requirements, it also clarifies and simplifies some existing requirements.

As far as costs to the Town are concerned, the Green Communities program funds training at no cost to code officials and builders. The Town has estimated that the Stretch Code would require, at least in the first year learning period, 200-400 hours of extra time to educate developers and home owners, with a total cost of \$8,000 to \$12,000. The Green Communities division has indicated that Needham can use part of its grant to pay these costs.

2. The Stretch Code will make renovations too costly and complicated

The stretch code recognizes that achieving whole-house energy savings would be difficult for this type of project. So the code provides a **prescriptive option** for these projects which applies only to the systems and parts of the home affected by the project. The goal is to ensure that the homeowner is getting the full benefit of the current energy code. It has three requirements.

1. Completion of a one-page [thermal bypass checklist](#). The checklist verifies that a visual inspection of framing areas and insulation has been done.
2. New windows, doors or skylights that are installed must be [Energy Star v5.0 compliant](#) (u rating of .30 or better for windows, .55 for skylights and .21-.32 for doors, depending on the amount of glass they contain).
3. Newly installed ducts passing through unconditioned space must be tested for leakage.

Also, for existing home renovations there are tax credits for the homeowner as well as utility incentives on efficient equipment, appliances, and windows. There are also major incentives available to add insulation and reduce air leakage in existing homes, through the MassSave program sponsored by the gas and electric utility companies.

3. If increased energy efficiency is such a great idea, let the market take care of it rather than forcing consumers to build more energy efficient houses

The problem is that houses are often built for an unknown future buyer who has had no say in the building process. Builders tend to be more concerned with the upfront cost of a house rather than the operating costs, so the motivation to strive for more energy efficiency is lacking. With no diagnostic testing of energy performance, a home buyer cannot be as confident that all efficiency measures were properly installed. And of course, once the house is built, it is much more difficult to retrofit improved energy



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performance measures. Inefficient use of energy increases demand and raises the bills for all of us.

4. Rather than adopting the Stretch Code, we should just wait for the 2012/13 base energy code, which will have similar energy efficiency guidelines.

1. The unique aspect of the Stretch Code, as opposed to a base energy code, is the requirement that a HERS rater be involved for new construction. As described above, this is a boon to consumers, adding the guidance and diagnostic tools of an energy expert to make sure the house is performing as it should.
2. Adopting the Stretch Code would guarantee a 6-month transition period. If Needham adopts the Stretch Code in November, it will start in January, 2012, but for 6 months (until July, 2012), the Stretch Code will run concurrently with the current base energy code. It will be up to the builders and homeowners to decide which system they want. This gives an 8-month period to work out problems before the Stretch Code goes fully into effect.
3. Needham cannot reap the advantages of being a Green Community without adopting the Stretch Code. (Please note that municipalities have the option to rescind their Stretch Code adoption if future Stretch Codes are not acceptable to the Town.)

In addition the predictions are for higher energy costs in the coming months. Consumers shouldn't have to wait for the advantages of the stretch code, including energy savings.

5. Homes built to the stretch code will be too tight

The Stretch Code does not require homes to be built any tighter than homes built under the current base energy code. However, the builder may opt to make the house tighter and include additional ventilation features to ensure adequate air exchange. Those who do will be acquiring valuable experience toward meeting the 2012 base code, which will have additional building tightness requirements.

6. The Stretch Code may encourage the construction of larger houses

The Stretch Code does not encourage larger houses. In fact, houses over 3000 square feet have to meet a stricter energy efficiency standard than smaller houses – a HERS rating of 65 for large house and a rating of 70 for smaller ones.