

Stretch Energy Code
Public Hearing - February 1, 2010 at 7 p.m.
Acton Town Hall, Faulkner Room

Frequently Asked Questions
Version 4: Jan 27th, 2010

In Massachusetts, cities and towns are required to follow a single state building and energy code. However as concerns mount about rising energy costs, national dependence on foreign energy sources, and climate change, many municipalities have asked the state for the right to adopt a code with a stronger energy efficiency component. As part of the Green Communities Act of 2008¹, Massachusetts has developed a second tier building code that gives cities and towns the ability to choose stronger energy performance in buildings.

This optional energy code is known as the 'stretch code'. This 'stretch code' increases the energy efficiency code requirements in municipalities that adopt it.

1. Does the Stretch Code affect an existing house or a house that is for sale?

No. The stretch code has no effect on a house that is for sale. It has no effect on an existing house unless the owner undertakes a renovation that would normally trigger building code requirements.

2. What construction projects would be impacted?

- New construction of residential buildings three stories or less
- Substantial residential renovations that would normally trigger building code requirements. Code triggers are essentially the same in base and stretch code communities.
 - Code requirements only apply to systems being altered in renovations/repairs. For example, if you are changing your windows you need code-compliant new window but if you are changing your heating system you can keep your old windows. Replacing broken windows or storm windows does not trigger building code compliance requirements.
 - If an addition is built, then the new code only applies to the addition
- New commercial construction over 5,000 square feet floor area
- Affordable Housing projects constructed under Chapter 40B

3. How much more efficient would a building be if it was built to satisfy the stretch code?

	Increased energy efficiency²
New Residential Buildings	20% - 35% more efficient
New Commercial Buildings	20% more efficient

¹ <http://www.mass.gov/legis/laws/seslaw08/sl080169.htm>

² <http://www.mass.gov/Eoeea/docs/doer/gca/Stretch%20Energy%20Code%20FAQ%202010-30-09.pdf>

4. Would existing buildings or historic buildings have to be upgraded to comply with the stretch code?

No. The stretch code appendix does not change the sections of the state base building code that apply to existing buildings and historic buildings. Specifically historic buildings listed in state or national registers, or designated as a historic property under local or state designation law or survey, or with an opinion or certification that the property is eligible to be listed, are exempt from both the base energy code and the stretch appendix to the energy code.

5. How would I comply with the stretch code?

If the project involves new construction, then it must follow the performance track which is based on a Home Energy Rating System (HERS) rating (see below for explanation of HERS rating). If the project involves a renovation, it can comply by following either the performance or prescriptive track

6. What is the ‘performance track’ and the ‘prescriptive track’?

The stretch code defines two methods to satisfy its requirements: the ‘performance’ track which measures the energy efficiency of the building and the ‘prescriptive’ track which requires installing specific energy efficiency measure.

- **New Residential.** The stretch code is roughly equivalent to meeting the Energy Star for Homes (Tier 2) standard for new buildings. In 2008, approximately 15% of all MA new residential construction satisfied this criterion. Under the stretch code, new new homes must undergo third party testing to determine their energy efficiency rating (*see HERS section below for details*).
- **Existing Residential Renovations.** The stretch code is roughly equivalent to meeting the Energy Star base standard for building renovations. Building renovation projects may be evaluated with the ‘prescriptive’ track if the owner chooses. Typical projects to meet this requirement involve adding insulation and air sealing. The stretch code does not require the replacement of existing boilers and furnaces. (*see Residential Section below for more detail*).
- **New Commercial.** Most commercial buildings would require a set of specific energy efficiency improvements. Many of these changes have been endorsed by the federal Department of Energy and are likely to be incorporated into the next International Energy Efficiency Code (IECC) in 2012. New commercial buildings will be evaluated using the ‘prescriptive’ track. (*See Commercial Section below from more detail*).

7. Will it save me money to comply with the stretch code?

Type	Initial Cost (estimated)	Positive Cash Flow (if financed with a mortgage)	Pays for itself (estimated)
Typical Single Family Home (new)	\$8,100	immediate	6 years
Commercial Buildings (new)	1% - 3%		1 – 2 years

Yes. For example, the additional initial cost for a typical 3 bedroom single family home to comply with the stretch code would be approximately \$8,100, according to ICLEI modeling. This home would save approximately \$1,360 in annual energy costs. If this home was financed with a 30-year mortgage, the extra annual cost in the mortgage is

approximately \$530. This results in an annual savings for the homeowner of approximately \$830 dollars per year. The entire upfront investment would be paid off in approximately 6 years.

The electric and gas utilities in the state provide financial incentives that further reduce the upfront costs of high performance buildings, and allow for even faster returns on the investment in energy saving measures.

Energy efficient mortgages are available that allow for additional borrowing taking into the account the net savings incorporated into a more energy efficient home.

Case studies of commercial buildings following the energy efficiency recommendations on which the commercial code changes are based have shown paybacks of 1 to 2 years, when standard incentives from electric utilities are included on the benefits side.

8. If adopted, when would the Stretch Code take effect?

Optional (property owner's choice)	Mandatory
July 1, 2010	Jan 1, 2011

9. Why is Acton considering adopting the Stretch Code?

In recent years, energy costs have risen significantly for residents and commercial property owners. Higher building code standards can be an effective means of spurring the implementation of energy efficiency measures, reducing costs for current and future owners and renters, and mitigating energy costs for residents and the costs of doing business.

Beginning in 2008, The Board of Selectmen unanimously agreed to make the Greening of Acton a top priority. The Board of Selectmen created the Green Advisory Board to establish a plan to improve Acton's energy profile.

The Green Advisory Board has recommended that Acton become a Green Community. Adopting the stretch code is one of the requirements for becoming a Green Community. Green Communities will be eligible for state grants that will provide up to \$10 million annually to fund programs such as efficiency initiatives, renewable energy projects and innovative programs.

10. What Massachusetts cities and towns have adopted the stretch code?

Cambridge. Newton. Over 100 Massachusetts cities and towns have committed to adopting the stretch code within a year.

11. What are some of the expected benefits of a more stringent energy code?

Adopting the Stretch code would mean that new construction and significant remodeling projects in Acton would be more energy efficient. This will save money for individual homeowners and businesses.

Adoption of the stretch code will also reduce Acton's production of greenhouse gases:

- Buildings represent approximately 40% of US carbon emissions
- Buildings last a long time.
- Building codes are an ideal way to address building energy consumption

12. If installing energy efficiency measures is such an obvious benefit, why do we need the stretch code, why can't the market just take care of the problem?

The market is far from a perfect communicator of the benefits of energy efficiency. For example:

- The home builder and the home buyer are generally not one in the same, (home builders are often more concerned with reducing construction costs and home buyers are concerned with construction costs and operating costs). It is much more difficult and expensive to install energy efficiency measures after a structure is built.
- Disseminating information is not costless; and estimation of the benefits is difficult. Many are not aware of the availability of energy efficient mortgages, nor tax incentives, nor utility rebate and incentive programs. Additionally there are hassle (time and effort) costs associated with incorporating energy efficient measures into a home or business.
- The retail cost of energy does not incorporate all the societal costs of consuming a gallon of home heating oil or a cubic foot of natural gas. The cost of home heating fuel does not incorporate all the environmental costs of drilling, refining, transporting and burning the fuel (e.g., green house gases which help cause global warming), nor does it incorporate the billions of dollars in military expenditures to protect foreign oil supplies, nor does it incorporate the cost the national security risks maintaining relationships with some foreign oil countries.

13. How is the stretch code different from the existing energy code?

The stretch code is more stringent than the state's base building code. For commercial buildings, it is similar to the latest International Energy Conservation Code (IECC 2009), with enhancements that require about 20% greater building energy efficiency. For residential buildings it is roughly equivalent to meeting the Massachusetts requirements of the National Energy Star for Homes (Tier 2) standard for new buildings and the Energy Star base standard for building renovations, and includes provisions for third party testing and rating of building energy performance.

Home Energy Rating System (HERS)

14. What is a HERS rating?

Under the stretch code new homes must undergo third party testing to determine their energy efficiency rating, a HERS scoring. HERS is the acronym for Home Energy Rating System. It is a scoring system established by the Residential Energy Services Network (RESNET), a national non-profit organization recognized as a national standard by such organizations as the Federal IRS, EPA, and the Mortgage industry. The scoring index is a scale from 0 up to around 200, with 100 representing the score for a 2006 code standard (the IECC 2004 with 2005 amendments) new home of the same size and type compared to the new home being evaluated. A score of zero would represent a home that uses zero net energy (e.g., a zero net energy home). Each 1 point decrease in the HERS index corresponds approximately to a 1% reduction in energy consumption. For example, a home that achieves a HERS rating of 85 would be 15% more energy efficient than the standard new code built home in 2006. Older, unimproved homes typically have ratings well over 100. The lower the score, the more efficient it is. The score is determined by energy modeling of the buildings structure and systems by a certified HERS rater.

The HERS index has been in use for many years by programs such as Energy Star Homes, and LEED for Homes, and by the Federal IRS for tax credits and energy efficient mortgages.

15. How is a HERS rating determined?

A home energy rating involves an analysis of a home's construction plans and onsite inspections. Based on the home's plans, the Home Energy Rater uses an energy efficiency software package to perform an energy analysis of the home's design. This analysis yields a projected, pre-construction HERS Index. Upon completion of the plan review, the rater will work with the builder to identify the energy efficiency improvements needed to ensure the house will meet ENERGY STAR performance guidelines. The rater then conducts onsite inspections, typically including a blower door test (to test the air-leakiness of the house) and a duct test (to test the leakiness of the ducts). Results of these tests, along with inputs derived from the plan review, are used to generate the HERS Index score for the home.

16. What training do HERS raters undergo?

HERS raters are typically experienced building design professionals who additionally undergo an intensive one to two week training course and must rate 5 homes under the supervision of an existing certified HERS rater in order to be certified by RESNET. They must also be part of a HERS rating agency or organization that provides quality assurance, liability insurance and ensures that raters meet ongoing continuing education requirements.

17. How do I find a HERS rater?

NSTAR can assist contractors and owners in finding a HERS rater. They are also listed at <http://www.natresnet.org/directory/raters.aspx>. 4

Residential Construction

18. What residential construction projects will be affected?

New construction and renovations of residential buildings three stories or less would be subject to the residential portion of the stretch code. New construction projects would be required to use the Home Energy Rating System (HERS) and achieve an index level of 65 if the building is over 3,000 square feet or 70 if the building is smaller. A HERS index of 65 means that the home is estimated to use 65% as much energy as the same home built to the base energy code, or a 35% annual energy savings.

19. How would the construction of a new house be impacted by the stretch code?

The new construction would need to satisfy the current requirements for an 'energy star' home. In 2008, 15% of all MA new residential construction satisfied this criterion.

20. What is the anticipated cost to the property owner of complying with the code for new construction?

In almost all cases, expected energy savings from complying with the stretch code will exceed the cost. New construction projects that are designed to meet the HERS rating targets can do so cost effectively, as many builders have already demonstrated through the voluntary Energy Star Homes program.

Additional construction costs for a new, three bedroom home are estimated to be \$8,100. The additional costs can be incorporated into an energy efficient mortgage (EEM), which would result in immediate annual savings for the homeowner of \$830 / year (fuel savings less the higher mortgage costs). Home buyers who qualify for an energy efficient mortgage generally qualify for a higher mortgage payment because the lender recognizes the operational savings that result from a more energy efficient home. Much more on energy efficient mortgages can be found here: http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.energy_efficient_mortgage

21. What is the anticipated cost to the property owner of complying with the code for additions and renovations?

In the case of building additions and renovations there are more design constraints, but lower standards to meet. Typical projects involve adding insulation and air sealing and will see relatively rapid paybacks. If major equipment upgrades are selected, then the payback could be longer. However, for renovations, equipment such as boilers and furnaces would not be required to be replaced, although the owner may have other reasons to do so.

22. How will the Stretch Code impact residential remodeling / renovation projects?

Applicability of the stretch code to remodeling projects is limited to the extent of the work. Remodeling projects (e.g., renovations) have two options to meet the stretch code:

- i. The same "performance" approach as new construction but requiring a HERS index of 80 or less for significant changes to homes over 2,000 square feet, or 85 or less for homes below 2,000 square feet.
- ii. A "prescriptive" approach, where specific efficiency measures are required rather than a HERS index number. This utilizes the Energy Star for Homes program prescriptive requirements, and insulation at least equal to International Energy Conservation Code (IECC) 2009.

For example for the prescriptive approach (no HERS rating), if windows are being replaced, then the windows must meet the code's prescriptive standards and any exposed wall cavity must be filled with insulation to the required level. But the remainder of the building would not be required to be upgraded. Similarly, if a ceiling or wall cavity is opened, then the required level of insulation must be installed, but the remainder of the building's ceiling and wall cavities are not required to be upgraded with insulation. If you are replacing your boiler, you would be

required to install one that meets the stretch code standard, but you would not be required to upgrade the buildings insulation. Also, certain work is exempt, including re-roofing, installation of storm windows, alterations involving less than 50% of light fixtures in a space.

23. What are the prescriptive measures that can satisfy the stretch code?

For residential projects, the prescriptive measures consist of the Energy Star Builders Option Package (BOP), which includes the Energy Star Thermal Bypass Checklist. The BOP describes the insulation and air sealing to cut infiltration for an efficient building envelope, efficiency standards for cooling and heating equipment, allowable leakage rates for ductwork, and standards for windows, water heaters, lighting appliances, and thermostats. Energy Star rated equipment, appliances, windows, and lighting that meet the standards. The thermal bypass checklist involves visual inspection of areas in the building where air leakage could take place to ensure that sealing is effective. Copies of the Energy Star for Homes BOP and Thermal Bypass Checklist can be found at http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.homes_guidelns

24. Would Existing buildings or Historic buildings have to be upgraded to comply with the stretch code appendix?

No. The Stretch code does not change the sections of the state base building code that apply to existing buildings and historic buildings. These sections also have remained unchanged in the base code between the 7th edition and the proposed 8th edition of the Massachusetts energy code. Specifically historic buildings listed in state or national registers, or designated as a historic property under local or state designation law or survey, or with an opinion or certification that the property is eligible to be listed, are exempt from both the base and the stretch appendix to the energy code.

25. What low-cost interventions can I do to meet the stretch code?

For renovation projects, most projects will be able to meet the stretch code by adding insulation and performing air sealing, measures such as applying caulk and adding storm windows. For new construction, the stretch code would require incremental improvements in measures and equipment installed the cost of which will be quickly paid back in energy savings.

26. Will implementing the stretch code save me money on utilities?

Yes. The stretch code is designed to tighten the building envelope and utilize efficient lighting, appliances, and equipment. As a result, the cost of heating, cooling, will decrease.

27. Currently, utilities offer rebates if a construction project exceeds energy code requirements. If Acton adopts the stretch code, will Acton residents still qualify for energy rebates?

Almost certainly. This was the intent of the stretch code. However, the official determination has not been issued by the Department of Public Utilities. We expect a definitive answer prior to implementing the stretch code.

28. Where can I find more about the utility incentives for energy efficient measures?

For NSTAR, Acton's electric utility surf to the following,

- Residential programs: http://www.nstaronline.com/residential/energy_efficiency/electric_programs/
- Non-residential programs: http://www.nstaronline.com/business/Default.asp?menu=business_energy_efficiency&

For National Grid, Acton's natural gas utility surf to the following,

- Residential programs: <https://www.powerofaction.com/efficiency/>

- Non-residential programs:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MA74F&re=0&ee=1 provides a good overview,
- Go to this page and pick the applicable non-residential entity.
<https://www.powerofaction.com/efficiency/>

29. Are Tax credits and deductions available for energy efficiency measures?

Yes, on Federal taxes. A good summary can be found at
Federal: <http://www.dsireusa.org/incentives/index.cfm?state=us&re=0&EE=1>

Commercial Construction

30. How will this impact new Commercial Construction?

The stretch code applies a performance-based code to commercial buildings, with the option of a prescriptive code for small and medium-sized commercial buildings.

Large buildings of any type over 100,000 square feet, and “specialty” buildings over 40,000 square feet are required to meet a performance standard set at 20% below the energy usage of the commonly used ASHRAE 90.1-2007 code⁴, demonstrated through modeling by methods and software approved by the BBRS.

Medium-sized commercial buildings, which include residential buildings of 4 stories or more, but that are less than 100,000 square feet, have the option of meeting the same 20% better than ASHRAE 90.1-2007 performance standard, or using a simplified, prescriptive energy code.

The prescriptive code is based on Chapter 5 of the IECC 2009 energy code, and adds incremental efficiency improvements primarily through:

- a. Building envelope elements (walls, roofs, windows, insulation, etc.)
- b. Commissioning requirements to ensure that buildings energy systems operate as designed.
- c. More efficient lighting power densities and improved lighting controls.
- d. A choice of one of three compliance paths: high efficiency HVAC equipment, further lighting energy reductions, or on-site renewable energy.

This prescriptive option for commercial buildings between 5,000 and 100,000 sq. ft. was developed from the Core Performance program of the New Buildings Institute. This program has been developed and used for utility incentive programs in Massachusetts for the past couple of years. The Core Performance program used over 30,000 energy modeling runs to evaluate and rank the most cost effective modifications to the ASHRAE 90.1 code, and has been run specifically with Boston climate data to represent Massachusetts. Certain areas of this prescriptive option were also updated to reflect recent energy code development for future iterations of ASHRAE and IECC codes and refined for specific application in Massachusetts where they are cost-effective.

31. How will this impact existing local businesses?

Buildings smaller than 5,000 square feet are exempt, as are building renovations, and “specialty” buildings – supermarkets, laboratories, and warehouses – below 40,000 square feet in size, due to their widely differing energy needs. These exempt buildings remain subject to the “base” Massachusetts energy code (IECC 2009 and ASHRAE 90.1-2007).

32. How much will this cost for new commercial construction?

Initial adoption of a higher performance standard for buildings is likely to result in slightly higher first costs for construction, estimated to be approximately in the 1% to 3% range for commercial buildings. However, after energy cost savings on heating and electricity are included these higher performance standards save money. In addition, the electric and gas utilities in the state provide financial incentives that further reduce the upfront costs of high performance buildings, and allow for faster returns on the investment in energy saving measures. Case studies of commercial buildings following the energy efficiency recommendations on which the commercial code changes are based have shown paybacks of 1 to 2 years, when standard incentives from electric utilities are included on the benefits side.

33. How do the benefits and costs from the commercial stretch code standards compare to the baseline code?

Case studies of specific buildings by Massachusetts utility companies National Grid and NSTAR show that the savings in reduced energy costs far exceed the greater initial construction costs. If the costs are included in a mortgage, then owners would see immediate cash-flow savings. Moreover, the utilities offer generous incentives that make the efficiency improvements even more profitable. For example, on one mid-sized office building in Warwick, Rhode Island, the additional cost was \$91,000, while the annual energy savings were \$29,500, for a three year payback. But NGRID provided a rebate of \$63,100, reducing the initial cost to \$28,000, which is covered by the first year's energy savings. More generally, we anticipate that any additional upfront costs incurred in construction should be recovered from energy savings with a payback after rebates of less than three years.

34. What kinds of technical and financial help are available to property owners and contractors?

In addition to the trainings that will be offered by the state, owners and contractors will have access to the energy efficiency services, including financial incentives and loan programs, accessible through NSTAR for electric measures and National Grid for natural gas measures.

For NSTAR, Acton's electric utility surf to the following,

- http://www.nstaronline.com/business/Default.asp?menu=business_energy_efficiency&

For National Grid, Acton's natural gas utility surf to the following,

- Go to this page and pick the applicable non-residential entity.
<https://www.powerofaction.com/efficiency/>
- For a good overview of all programs go here:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MA74F&re=0&ee=1 provides a good overview,

35. What building types does the stretch code apply to?

The commercial parts of the stretch code apply only to new construction. Renovations of existing commercial buildings do not trigger the application of the stretch code.

36. What is required for large new commercial buildings above 100,000 square feet?

The stretch code would apply to the construction of new commercial buildings over 5,000 square feet in size, including multi-family residential buildings over 3 stories. Specialized facilities with unusual energy usage requirements such as supermarkets, laboratories, and warehouses up to 40,000 square feet are excluded; they are covered by the base code. Specialized facilities over 40,000 square feet are covered by the stretch code unless a waiver is obtained from the BBRS. Other building types with unusual energy usage profiles can also apply for a waiver from the stretch code from the BBRS.

The designed energy use in large commercial buildings is required to be at least 20% below the use expected based on the building code energy modeling standards contained in ASHRAE 90.1 2007,4 which is the latest version of the national model code for commercial buildings. This would be determined by computer modeling of the building, taking into account factors such as air sealing, insulation, and efficiency of the cooling and heating systems, ventilation, and lighting design. Builders have the flexibility to choose the set of energy efficiency features they prefer, as long as modeling shows that overall they yield the 20% reduction relative to the base ASHRAE 90.1-2007 requirements for the same building.

37. What is required for new commercial buildings between 5,000 and 100,000 square feet?

Builders of such buildings have two choices. First, they can use the same modeling as for buildings above 100,000 square feet, and meet the same standard of 20% below ASHRAE 90.1 2007. Alternatively, they can choose a set of “prescriptive” requirements for particular efficiency measures, based on the new base energy code for commercial buildings (International Energy Conservation Code 2009), supplemented by cost-effective energy saving enhancements taken from the Core Performance program developed by the New Buildings Institute. 5 The Core Performance program and the newly updated Core Energy Code are nationally-recognized standards already in use by Massachusetts gas and electric utility companies as the basis for providing financial incentives to commercial building developers.

For more information please see the New Buildings Institute press release available here:

<http://www.newbuildings.org/downloads/press/MAAdoptsStretchCode.pdf>

38. What would be required of small new commercial buildings, below 5,000 square feet?

Such buildings would be exempt from the Stretch Code requirements.

39. How are new commercial buildings with special energy needs handled?

Supermarkets, laboratories, and warehouses above 40,000 square feet in size must meet the performance modeling requirements of the stretch code that apply to regular commercial buildings greater than 100,000 square feet. Because these buildings often have large and unusual energy loads they are likely to have their energy usage modeled, so meeting the standard of 20% below ASHRAE 90.1-2007 via energy modeling should be a relatively straightforward compliance approach.

Supermarkets, laboratories, and warehouses below 40,000 square feet are exempt from the stretch code requirements, but must still meet the base energy code. Other specialty buildings could apply for waivers based on evidence that they have unusual energy loads, and that they are not typically built using energy modeling.

40. How do the benefits and costs from the commercial stretch code standards compare to the baseline code?

Case studies of specific buildings by Massachusetts utility companies National Grid (NGRID) and NSTAR show that the savings in reduced energy costs far exceed the greater initial construction costs. If the costs are included in a mortgage, then owners would see immediate cash-flow savings. Moreover, the utilities offer generous incentives that make the efficiency improvements even more profitable. For example, on one mid-sized office building in Warwick, Rhode Island, the additional cost was \$91,000, while the annual energy savings were \$29,500, for a three year payback. But NGRID provided a rebate of \$63,100, reducing the initial cost to \$28,000, which is covered by the first year’s energy savings. More generally, we anticipate that any additional upfront costs incurred in construction should be recovered from energy savings with a payback after rebates of less than three years.

41. What categories do multi-family residential buildings fall into?

Residential multi-family buildings that are above 100,000 square feet and at least four stories tall have to follow the same performance path (20% better than the ASHRAE standard 90.1-2007) as other commercial buildings larger than 100,000 square feet. Residential buildings between 5,000 and 100,000 square feet and at least four stories tall would be classified with commercial buildings between 5,000 and 100,000 square feet. Multi-family buildings with one to three stories of any size fall under the residential stretch code standards. In the rare case of a multi-family building of three stories or less that is larger than 100,000 square feet, the developer may elect to be treated either as a residential or as a commercial building.

42. What training and materials are available on these standards?

In addition to the websites referenced in the answer to the last question in this FAQ, the state will provide training on the IECC 2009 base energy code and an introduction to the stretch code appendix to all municipal code officials (at no cost), as well as to interested building professionals (at a cost). In addition, the major Massachusetts electric and gas utilities offer training on New Building Institute (NBI) Core Performance for commercial buildings.

43. Does the stretch code apply to major renovation projects as well as new construction?

It does not apply to renovation projects in commercial buildings. Due to the wide variety in types and conditions of commercial buildings, at this time there are no widely-accepted standards for renovating such buildings, so only new commercial buildings are covered by the stretch code requirements.

44. Does the stretch code apply to minor additions to existing buildings?

Additions to existing buildings that are large enough to require code compliance are treated in the same way as new construction for commercial buildings. Addition projects can elect to follow the performance approach to code compliance or a simplified prescriptive path.

45. What happens to buildings not covered by the ‘stretch’ energy code?

Building types that do not fall under the stretch code scope, such as small commercial buildings under 5,000 sq ft, or specialized use buildings like small laboratories, will follow the existing base code requirements, which are also changing to the 8th edition of the MA building code in 2010.

Other Questions

46. How would the stretch code be implemented and enforced?

Once the stretch code is adopted by a town or city, it supplants the base energy code language and becomes the binding energy code language for building projects in that municipality. Implementation and enforcement of the code is similar to existing code, where the developer is responsible for submitting documentation of compliance to the Inspectional Services Department for review, and the building inspector conducts a site review.

47. If the state is making the statewide energy code more stringent, why should Acton adopt the stretch code?

The state’s base code is a minimum standard. Technology is readily available to achieve significantly greater levels of efficiency. The stretch code would be about 20% more efficient than the state’s base code. So it would save more energy and further reduce greenhouse gas emissions.

Codes also “even the playing field” for property owners and developers. Some builders and developers choose to take advantage of short term savings by avoiding initial costs or passing on building operating costs to renters and lessees. If codes set a low standard, owners and developers that implement energy efficiency measures that have initially higher costs but later payoff with operating savings to their occupants they are put at a disadvantage relative to other developers.

More Detailed Information about the Stretch Code

The Stretch code is Appendix 120.AA of the 7th Edition of the Massachusetts State Building Code. The stretch code is based on the International Energy Conservation Code (IECC) 2009 energy code. The stretch code requires approximately 20% greater building efficiency than the base code. The Energy Stretch Code in its entirety can be found here: http://www.mass.gov/Eeops/docs/dps/inf/appendix_120_aa_jul09_09_final.pdf;

the full Massachusetts Building Code can be found here

http://www.mass.gov/?pageID=eopsterminal&L=4&L0=Home&L1=Consumer+Protection+%26+Business+Licensing&L2=License+Type+by+Business+Area&L3=Construction+Supervisor+License&sid=Eeops&b=terminalcontent&f=dps_bbrs_building_code&csid=Eeops)

A Stretch code overview can be found here

http://www.mass.gov/Eeops/docs/dps/inf/stretch_code_overview_jun05_09.pdf

A webinar answering many questions can be found here:

<http://www.mass.gov/Eoeea/docs/doer/gca/MA%20stretch%20code%20Wed19%20webinar.pdf>

A summary table of Stretch code can be found here:

http://www.cambridgema.gov/cdd/et/stretchcode/stretch_summarytable.pdf