Stretch Appendix to the Building Energy Code in Massachusetts

Question and Answer (Q&A) – August 2010

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General Questions

1. What is the 'stretch' code?
The 'stretch code' is an optional appendix to the Massachusetts building energy code that allows cities and towns to choose a more energy-efficient option. This option increases the efficiency requirements in any municipality that adopts it, 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.

2. How is the stretch code different from the existing 'base' energy code?
The stretch code appendix offers a streamlined and cost effective route to achieving approximately 20% better energy efficiency in new residential and commercial buildings than is required by the base energy code. This is largely achieved by moving to a performance-based code, where developers are required to design buildings so as to reduce energy use by a given percentage below base code, rather than being required to install specific efficiency measures. Developers have flexibility to choose cost effective and appropriately designed solutions. New residential construction must use the performance-based approach, but residential renovations and most commercial buildings may instead opt to follow a 'prescriptive' route that specifies a set of minimum energy efficiency requirements for different building materials and systems. In the commercial case these add up to approximately a 20% improvement over the base code. Many of these changes have been endorsed by the federal Department of Energy and are likely to be incorporated into the commercial chapter of the next International Energy Conservation Code (IECC) in 2012, so to a large degree the stretch appendix is an opportunity for early adoption of the future statewide base code.

3. Why did the Board of Building Regulations and Standards (BBRS) create this option?
There have been mounting calls for additional stringency in the building energy code, linked to the desire to reduce energy costs, cut dependence on imported fuels, and address concerns about climate change and national security.

Several towns and cities asked for the ability to adopt their own stronger energy code, and/or proposed legislative changes to allow municipalities to strengthen their building code and zoning options.

In response to this, the BBRS, along with the state's energy and environmental agencies, collaborated with regional and national code experts to develop one 'stretch' code that is consistent across the state, in order to meet demands for a stricter code without having multiple standards in different cities and towns.

4. What are some of the expected benefits to a municipality of a more stringent energy code?
The stretch code allows municipalities to take meaningful action on energy use and climate change; it will yield significant cost savings for local residents and businesses, and will increase design and construction firm competitiveness in the growing green building marketplace.

5. What is the anticipated cost of the stretch code?
Construction costs are estimated to rise approximately $3,000 for a typical single family home, and by 1% to 3% of total costs for commercial buildings. However, after energy cost savings on heating and electricity are included these higher performance standards save money. In addition, the state's electric and gas utilities provide financial incentives that further reduce the upfront costs of high performance buildings.

For example, a residential home purchased with a 30-year mortgage would typically result in net savings to the homeowner in the first year due to energy bill savings that are larger than the increase in mortgage payments from construction and financing costs. Case studies of commercial buildings utilizing the improvements 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.

6. Where can I find and read more about the stretch code appendix?
The stretch code appendix language is freely available on the Massachusetts BBRS website,[1] Along with a 2-page summary[2] of the code and other explanatory documents. In addition the stretch code appendix 780CMR 120.aa can be found with the rest of the Massachusetts energy code in the state bookstore. As the commercial stretch code in particular amends the base energy code, they are best read together. The base energy code is now the International Energy Conservation Code, 2009 edition (IECC 2009) available from the ICC website[3] and other online bookstores.

Scope

7. What building types does the stretch code apply to?
The stretch code applies to both residential and commercial buildings:
a) Residential buildings from single family homes up to and including buildings 3 stories or less of any size. It applies to new construction, additions, and major renovations. Historic buildings are exempt from both the stretch code and the base code.
b) New commercial buildings over 5,000 square feet in size, including multi-family residential buildings over 3 stories., Supermarkets, laboratories, and warehouses are exempt if they are below 40,000 square feet. Other building types with unusual energy usage profiles can also apply for a waiver from the stretch code from the BBRS.

8. Does the stretch code apply to major renovation projects as well as new construction?
For commercial buildings: no, for residential buildings: yes. The stretch code has less stringent energy performance requirements for renovations than for new buildings. In addition, those doing additions and renovations have the option of using a simple 'prescriptive' path to code compliance. The prescriptive path specifies a set of minimum energy efficiency requirements for different building materials and systems, instead of requiring energy performance modeling and testing. This flexibility is available due to the greater design constraints involved in working with an existing building. 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 build-

[1] Stretch code language: http://www.mass.gov/Eeops/docs/dps/inf/appendix_120_aa_jul09_09_final.pdf
[2] Stretch code 2-page summary: http://www.mass.gov/Eeops/docs/dps/inf/stretch_code_overview_jun05_09.pdf

[3] The IECC 2009 code book is available for purchase from the ICC website at: http://www.iccsafe.org/e/prodshow.html?prodid=3800S09&stateInfo=fEadjxjbnWjcdbaj1729l5

ings are covered by the stretch code requirements.

9. 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, and in the same way as renovations in residential buildings. In both cases those doing additions can follow the performance approach to code compliance or a simplified prescriptive path. For residential additions, the prescriptive path is very similar to the base energy code but also requires the use of a checklist to ensure quality installation of insulation and air sealing, use of Energy Star windows, doors and skylights as appropriate, and tighter duct sealing for new heating and cooling systems.

10. What happens to buildings not covered by the stretch code?
Building types that do not fall under the stretch code scope, such as small commercial buildings under 5,000 sq. ft., will follow the existing base energy code requirements, which changed in July, 2010 to the IECC 2009 code with minor Massachusetts amendments.

11. 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 below 100,000 square feet and at least four stories tall are classified with commercial buildings between 5,000 and 100,000 square feet. Multi-family homes 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.

12. Does the stretch code apply to historic buildings?
Both the stretch code and the base energy code exempt 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.

Standards

13. What standards are the stretch code appendix based on?
The residential stretch code is based on the pre-existing 'Energy Star for Homes'[4] program developed by the federal EPA and Department of Energy, and customized for Massachusetts. This Energy star program is in turn built upon the Home Energy Rating System (HERS) which is developed and administered by the national Residential Energy Services Network (RESNET).[5]

The Commercial stretch code for buildings from 5,000 square feet to 100,000 square feet is based on the International Energy Conservation Code (IECC 2009), which is now the base energy code for Massachusetts, with further improvements derived from the New Buildings Institute (NBI) Core Performance program for commercial buildings (recently revised and published as the Core energy code).[6] Above 100,000 square feet commercial buildings are required to show a percentage reduction below ASHRAE 90.1-2007 energy standards.[7] This performance approach is also an option for smaller commercial buildings.

14. What training and materials are available on these standards?
In addition to the websites referenced in the prior question, training on the IECC 2009 base energy code and an introduction to the stretch code appendix has been offered to all municipal code officials (at no cost), as well as to interested building professionals (at a discounted cost), beginning in January 2010 and continuing through 2011. In addition, the Massachusetts

[4] The Massachusetts New Homes with Energy Star program website is: http://www.energystarhomes.com/
[5] The RESNET website is: http://www.natresnet.org/
[6] The Core energy code is available online at: http://www.newbuildings.org/codes.htm
[7] The ASHRAE 90.1-2007 standard is readable online in a Java enabled browser at: http://openpub.realread.com/rrserver/browser?title=/ASHRAE_1/ashrae_90_1_2007_IP_1280

Energy Star Homes program provides training covering HERS and other requirements of the residential stretch code, given the large overlap with the Energy Star Homes program. The major Massachusetts electric and gas utilities also offer occasional training on the New Buildings Institute (NBI) Core Performance program and their customized incentive programs for commercial buildings.

Process

15. How would a town or city adopt the stretch energy code?
Towns and cities in Massachusetts may choose to remain on the base energy code or to adopt the stretch code as their mandatory energy code requirement. As of July 1st 2010, 44 municipalities had adopted the stretch code. Interested municipalities must hold a public hearing to get input on and raise awareness about their intention to adopt the stretch code. Following a public hearing the city or town can then adopt the stretch appendix by a vote of their appropriate elected officials: typically the town meeting in a town; or in a city the mayor and the city council or aldermen.

16. How soon after a town or city adopts it would the stretch code take effect?
In order to provide consistency among communities, once adopted the stretch code can only go into effect on January 1st or July 1st, and there must be at least six months between adoption and when the stretch code becomes mandatory. For example: if Town A voted to adopt in November 2010, then on July 1st 2011 the stretch code would become mandatory. During the interim period the stretch code would be an option for builders to use.

Enforcement/Requirements

17. How is the stretch code implemented and enforced?
Implementation and enforcement of the code is similar to existing code, where the developer is responsible for submitting documentation of compliance to the building inspector for review, and the building inspector conducts a plan and site review.

18. What is the role of a building code official and a HERS rater for residential projects?
Residential buildings meeting the stretch code through a HERS rating and thermal bypass checklist require independent certification by a HERS rater. The rater will produce a report detailing the energy systems in the building and will provide a HERS index score, together with proof of whether the home qualifies for any federal tax credits. Submission of the HERS report, together with a completed Energy Star Thermal Bypass checklist, are the steps required to demonstrate compliance with the energy portions of the code, and must be submitted to the local building inspector prior to receiving a certificate of occupancy. In this way the local inspector retains their oversight role but the additional energy requirements do not place a significant additional burden on their time.

19. What happens in 2012/13 when the base energy code changes?
In late 2011 the next IECC base energy code (IECC 2012) will be published and the Green Communities Act requires that Massachusetts adopt it within one year i.e. in 2012. During that one year transition period the BBRS will consider adoption of an updated stretch code to maintain a gap between the base and the stretch energy requirements. Once a new stretch energy code is available the old stretch appendix will be rescinded by the BBRS and municipalities will have to go through the adoption process to adopt the new Stretch energy code.

Residential Building Questions

R1. How do I meet the residential stretch code for new homes?
For new residential homes including multi-family homes of 3 stories or less, builders essentially follow the 2006 Energy Star for Homes program requirement in Massachusetts, and must show that each unit meets or is below a maximum HERS index score. For new homes greater than 3,000 ft^2 in size the maximum HERS score is 65 (Energy Star tier 2), for smaller homes less than 3,000 ft^2 the maximum HERS score is 70. In addition the homes must be inspected using the Energy Star Thermal Bypass Checklist and similarly to the new base

energy code may require duct testing. These inspections ensure that the home is well air sealed, while the HERS rating ensures that the home is designed to be well insulated with efficient heating, cooling and lighting – all measures that save energy and reduce utility bills.

R2. What is a HERS rating?
HERS stands for 'Home Energy Rating System,' and is a national standard that uses information on the design of the energy systems in a home to calculate, via computer modeling, the average energy needs of that home and give it a rating score. The HERS Index was developed by the non-profit Residential Energy Services Network (RESNET) for the mortgage industry, and is utilized by the Federal Internal Revenue Service (IRS) and the LEED for Homes program. On the HERS 2006 index scale smaller numbers are better, with 0 representing a net zero energy home, and 100 representing a home built to meet the national model energy code in 2006 (the IECC 2004 with 2005 amendments). A HERS rating of 65 means that the home uses about 35% less energy than the same size home built to the 2004/2005 IECC code requirements. The Residential Stretch code is based on the nationally successful 'Energy Star for Homes' program requirements, which utilize HERS ratings.

R3. Do I have to get a HERS rating?
New homes built under the stretch code must get a HERS rating. Renovations and additions to homes have the option of the HERS rating or a 'prescriptive' approach, whereby specific efficiency measures are required, but no computer modeling is done. The HERS performance-based approach provides an excellent way to ensure that homes are not only well designed but also well built. As part of the HERS rating the home will be tested for air leakage, and under both the base and the stretch code homes with heating and cooling ducts may also have those tested for leakage. Combined with the thermal bypass checklist the HERS rater, builder and building inspector can have confidence that the completed homes really are energy efficient.

R4. How do I meet the residential stretch code when making renovations to existing homes?
Existing homes being renovated or expanded have two choices when it comes to stretch code compliance. The performance option is based on a HERS rating, while the prescriptive option uses the base IECC 2009 energy code, but in addition requires quality assurance with the Energy Star Thermal Bypass checklist and the use of Energy Star windows doors and skylights where replacements are made. If the prescriptive option is chosen, then you only need to meet code for the systems that are being replaced. This means that adding a new efficient boiler does not require changing the windows, and adding wall and attic insulation does not require modifying the basement – although it may often make sense to combine measures where that is cost-effective.

Choosing to follow the HERS rating approach used by new construction often makes sense when doing a whole house renovation. While using the same HERS approach as new homes, existing homes have an easier standard to meet. The maximum allowable HERS score is 80 for home renovations greater than 2,000 ft^2 and 85 for renovated homes less than 2,000 ft^2.

R5. If I'm doing a small remodeling project, like a kitchen or a bathroom renovation, will I have to meet the stretch energy code?
If a small renovation involved replacing a couple of windows and opening part of a wall cavity, then those new windows and wall cavity would have to be brought up to the stretch code, just as the plumbing in the kitchen or bathroom being remodeled would have to comply with the plumbing code. However, improving a kitchen or bathroom would not trigger required changes to the rest of the home such as attic insulation or a new heating system. Only the systems being modified have to be brought up to code. Despite not being required, your contractor, utility company and code official may suggest cost-effective changes (often with tax and rebate incentives to reduce your energy bills) that you may want to consider doing at the same time.

R6. How do I find a HERS rater?
HERS raters work with the residential builder/developer/design team, and should be included in the team from the outset. An updated

list of HERS provider companies is available on the Energy Star Homes website. The Energy Star for Homes program staff can also help you to contact a HERS rater in your region.

R7. What training and certification do HERS raters undergo?
HERS raters are typically experienced building professionals, who in addition take a week- or two week-long intensive training course in residential energy efficiency. After completing the training, learning how to use HERS rating software, and passing a test,[8] new raters must also complete at least 5 ratings with an experienced HERS rater before being able to independently award ratings. In addition to this initial training and certification, HERS raters must be affiliated with a company that is certified as a HERS provider, and is responsible for ongoing code education and quality assurance oversight of the HERS rater's work. The HERS providers also carry liability insurance and allow builders to request a review from a second HERS rater in the rare case of disputes.

R8. What testing equipment is required to meet the residential stretch code?
HERS ratings require testing of the air leakage rate of residential units. In addition, for homes that have forced air heating and central air conditioning systems that have ductwork running outside of the heated portion of a house, a duct leakage test is needed. These tests help calculate how much energy is needed to heat and cool a home, and help builders to identify possible problems before a home is completed, when there is still time to fix them cost-effectively.

R9. Are there enough HERS raters and testing equipment available, and what do they cost?
In 2008 over 15% of all new homes in Massachusetts were built through the Energy Star for Homes program, in 2009 that climbed to 34%, without any noticeable shortages. The majority of these homes used HERS raters and testing equipment to achieve a HERS rating. The growing interest in HERS ratings has led to more building professionals going through HERS training and certification and expanded sales of blower door and duct testing equipment. The Massachusetts Energy Star Homes website now lists several new HERS provider companies,[9] and many more builders as Energy Star Homes partners. There is already in place an active market for HERS raters and testing equipment, and we don't anticipate demand for HERS raters exceeding the supply.

Costs for HERS ratings currently range from around $600 to $1,200 per unit in Massachusetts, and they are also subsidized by the utility-sponsored Energy Star for Homes program. The price variation may reflect differing levels of technical assistance to the builder depending on their needs and preferences.

R10. How much more does it cost to build to the stretch code, and how does this compare to the energy savings?
For new construction additional first costs are estimated at around $3,000 for a 2,700 square foot single family home, including the cost of a HERS rater. This is reduced to about $1,700 after receipt of $1,300 in utility rebates, which translates into around $125 a year when rolled into a 30-year mortgage at 6% interest. But these investments reduce energy bills by about $500/year, resulting in net annual savings to the homeowner of about $400. For a larger 4,400 ft^2 home the additional costs are higher but so are the energy savings, resulting in a net annual savings of $1,100. This is an excellent value for the home buyer and a marketing opportunity for builders who are looking for another way to differentiate new homes from existing ones.

In the case of renovating a 3-unit urban triple-decker, the minimum additional construction costs for all three units combined relative to meeting the new base energy code is only around $1,400, while the annual energy savings are over $130 per year, yielding small but immediate net cash savings to the unit owners. Larger annual savings could be achieved by more aggressive energy efficiency improve-

[8] More information on the HERS rater test is available here: http://www.resnet.us/rater/tests/rater.htm

[9] http://www.energystar.gov/index.cfm?fuseaction=new_homes_partners.showStateResults&s_code=MA

ments, but the stretch code requirements for renovations are modest.[10]

R11. What financial savings/rebates are there from building to the stretch code?
The stretch code is designed to allow builders to maximize use of the Energy Star Homes program with its full range of training, support and financial incentives. A new home with a HERS rating of 65 or less currently qualifies for $1,250 from the Energy Star utility sponsors, and additional rebates are available for installing high efficiency heating and cooling equipment, appliances and lighting. The utility companies also provide $650 to partially or fully cover the cost of hiring a HERS rater to work with the builder.

For existing home renovations there are tax credits for the homeowner as well as the same 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. [11]

R12. How is the MA stretch code different from the existing Energy Star for Homes program?
The Energy Star for Homes program is a voluntary program for home builders. In Massachusetts it is currently administered by ICF International on behalf of the major electric utilities in the state, and has over two hundred builders enrolled.[12] The program accounted for 15% of all new homes in Massachusetts in 2008 and 34% in 2009. There are currently 3 tiers to the Energy Star program. The stretch code essentially makes the current (2006-2010) Energy Star program requirements mandatory in any adopting municipality, and sets a specific minimum HERS index rating of 65 or 70 based on size for new homes, and less strict requirements for renovations.

R13. Do I have to use the Energy Star program?
The Energy Star Homes program is strongly recommended, but not required. Residential builders in stretch code communities will be required to get a HERS rating for new homes. In the case of renovation or additions to existing buildings builders may instead utilize the prescriptive option – using only Energy Star qualified new windows, doors and skylights and carefully sealing ducts that are outside the heated space if installing new heating systems. In both cases builders must also complete the Energy Star Thermal Bypass Checklist. In order to simplify qualification for the rebates, training and technical assistance that are offered we recommend that builders participate in the Energy Star Homes program, but it is not mandatory.

R14. How does the building official in my town/city check whether I met the stretch energy code?
For several years, under both the 7th edition and the 8th edition base energy code in Massachusetts it has been possible to show code compliance by achieving a HERS rating and/or Energy Star Homes certification, and submitting a copy of the HERS report and Energy Star paperwork to the local building code official to demonstrate this. The stretch code expands the use of this existing code compliance option to all residential construction. Building code officials have been receiving free training on the new base energy code and the stretch code. The same training[13] is also open and available to interested building professionals for a small fee to cover costs.

R15. How does the stretch code work with LEED for Homes?
LEED for Homes is a voluntary residential green building program that includes a significant energy efficiency component. The mandatory energy and atmosphere requirements of the LEED for Homes program are the minimum

[10] Separate documents are available that summarize the detailed cost-benefit analysis that has been undertaken to help set the appropriate level of energy efficiency for the stretch code. These calculations do not include substantial financial incentives available both from utilities in Massachusetts and through federal tax credits (see next question).
[11] http://www.masssave.com/residential/
[12] http://www.energystar.gov/index.cfm?fuseaction=new_homes_partners.showAreaResults&s_code=MA&msa_id=all

[13] The MA building energy code training home page is at: http://www.cetonline.org/Events/events.php?id=124

Energy Star Home requirements of a HERS 85 rating and a completed Thermal Bypass Checklist. Homes can then gain additional points for achieving a lower HERS score. Because LEED for Homes and the stretch code share the same HERS and Energy Star underpinnings they are fully compatible.

Commercial Building Questions

C1. What building types are covered by the commercial stretch code?
New buildings, and new additions to existing buildings covered by the commercial energy code, that are greater than 5,000 ft^2 in size are covered by the stretch code appendix. New commercial buildings smaller than 5,000 square feet, as well as renovation to existing commercial buildings are exempt from the stretch code and remain covered by the base energy code.

C2. What is required for large new commercial buildings above 100,000 square feet?
The designed energy use in large commercial buildings is required to be at least 20% below the use expected based on the energy modeling standards contained in ASHRAE 90.1 2007,[14] which is the latest version of the national model code for commercial buildings. This is determined by computer modeling of the building energy use, taking into account factors such as air sealing, insulation, efficiency of the cooling and heating systems, and lighting design. Builders have the flexibility to choose the set of energy efficiency features they prefer, as long as modeling shows that overall these features yield the required 20% reduction relative to the base ASHRAE 90.1-2007.

C3. 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 approach as buildings larger than 100,000 ft^2, and show that the expected energy use is at least 20% below the code requirements of 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 (IECC 2009 Ch.5), supplemented by enhancements taken from the Core Energy Code developed by the New Buildings Institute (NBI). [15] The Core Energy Code and its precursor the Core Performance Guide 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.

C4. What is required of small new commercial buildings, below 5,000 square feet?
Such buildings are exempt from the Stretch Code requirements.

C5. How are commercial renovations handled by the stretch code?
Commercial renovations are exempt from the Stretch Code requirements.

C6. How are new commercial buildings with special energy needs handled?
Supermarkets, laboratories, and warehouses **above 40,000** ft^2 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 developers are likely to model their energy usage as a standard design practice, so meeting the standard of 20% below ASHRAE 90.1-2007 via energy modeling should not require a new compliance approach.

Supermarkets, laboratories, and warehouses **below 40,000** ft^2 are exempt from the stretch code requirements, but must still meet the base energy code. Other specialty buildings can apply to the Mass. BBRS for waivers based on evidence that they have unusual energy loads, and that they are not typically built using energy modeling.

[14] Specifically: ASHRAE Standard 90.1-2007 Energy Standard for Buildings Except Low-Rise Residential Buildings, Appendix G.

[15] For more information please see the New Buildings Institute press release available here: http://www.newbuildings.org/downloads/press/MAAdoptsStretchCode.pdf

C7. 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 Leominster, Mass, the additional cost was $101,000, while the annual energy savings were $27,600, for a three year payback. But the utility energy efficiency program provided a rebate of $66,600, reducing the initial cost to $34,000. As a result, the energy savings pay for the extra costs in just over one year. 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.

C8. How does the stretch code work with LEED buildings?

The commercial stretch code has two code compliance pathways. Both of these qualify for LEED new construction points, and require no additional work because of the stretch code. If pursuing the performance approach, then achieving the stretch code standard of 20% below ASHRAE 90.1-2007 uses the same baseline and modeling as the 2009 LEED program and qualifies for 5 out of 19 LEED energy and atmosphere points. Many LEED buildings will go significantly beyond these energy efficiency requirements, in order to obtain additional LEED points. Similarly, meeting the stretch code through the Core Performance-based prescriptive approach qualifies for LEED points.

C9. Does the stretch code require 3% renewable electricity or solar panels?

There is an option under the prescriptive path of the stretch code to meet one of the requirements of the code with onsite renewable electricity generation. However, this is not a requirement for all buildings, it is merely one of three options under the prescriptive approach, and builders may also choose to meet the commercial stretch code requirements using the 20% better than ASHRAE 90.1-2007 modeling approach. The three options which appear in section 507 of the prescriptive code option for buildings between 5,000 and 100,000 square feet are:

a) More efficient heating and cooling equipment – widely available and with utility rebates that offset much of the incremental cost.
b) More efficient lighting – also widely available and eligible for significant utility rebates.
c) Providing at least 3% of the onsite electric load from onsite renewable generation – which qualifies for both large federal tax incentives and significant state renewable energy incentives administered by the Department of Energy Resources[16] and the Massachusetts Clean Energy Center[17] (MA CEC).

[16] http://www.mass.gov/?pageID=eoeeaterminal&L=5&L0=Home&L1=Energy%2c+Utilities+%26+Clean+Technologies&L2=Renewable+Energy&L3=Solar&L4=RPS+Solar+Carve-Out&sid=Eoeea&b=terminalcontent&f=doer_renewables_solar_about-the-rps&csid=Eoeea

[17] http://www.masscec.com/index.cfm?pid=11159