



**Town of Bolton
Massachusetts**



Green Communities Action Plan

September 2010

Prepared by:





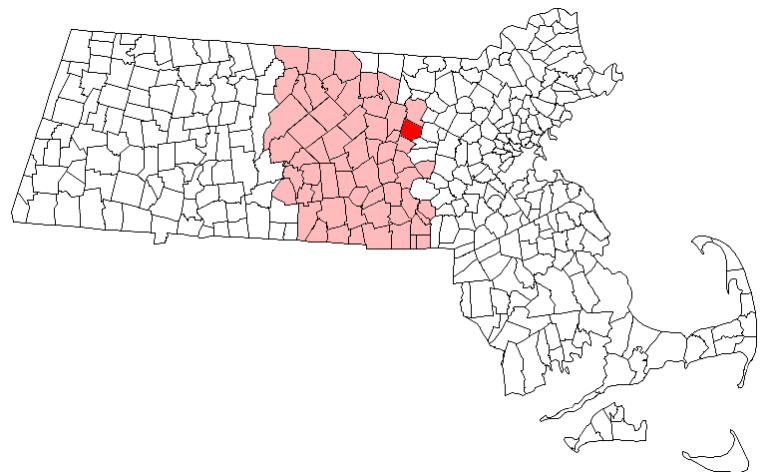
Town of Bolton
Green Communities Action Plan

Introduction

The development of this Green Communities Action Plan provides the Town of Bolton with a set of actions to meet each of the five required criteria to achieve the Green Community designation. The Action Plan provides a comprehensive summary of all the actions that town departments and Bolton’s Energy Committee have already taken to date and identifies the critical remaining steps to meet all five criteria and successfully become a Green Community. With the Green Community designation, Bolton will become formally recognized as a sustainability leader in the Commonwealth, gain financial and environmental benefits through municipal energy savings and reduction of greenhouse gas emissions, and potentially attract new economic development opportunities within a rapidly expanding green economy. Lastly, as an official Green Community, the Town of Bolton will qualify for Green Communities grants for studying, designing, constructing or implementing energy efficiency and renewable or alternative energy projects including but not limited to:

- Energy conservation measures and projects
- Procurement of energy management services
- Installation of energy management services
- Adoption of demand side reduction initiatives
- Adoption of energy efficiency policies.
- Financing the siting and construction of renewable or alternative energy projects on municipally-owned land

Bolton is bordered by Harvard to the north, Stow to the east, Hudson and Berlin to the south, Clinton to the southwest, and Lancaster to the northwest. Bolton is a residential and agricultural community on the east slope of the Nashua River Valley on an historic east-west corridor. With many hills but few streams for power, it developed as an agricultural community. Rich forests and lime deposits also supported limestone quarries and kilns which once produced potash, lime, and brick products.





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After the devastation of early Lancaster in the 1675-76 massacre, the land to the east of the river began to be settled by displaced settlers and new English immigrants who built prosperous farms for a population that increased slowly after King Philip's wars. In 1681 the earliest birth was recorded in the Bolton Territory, and in 1738, the town was incorporated. By the 1800's, the economy added orchards and dairy farming. Much of its rural heritage is preserved in its current form as a residential suburb for nearby industrial communities and an exurb of Greater Boston..

Town of Bolton Facts	
Population (2000 US Census)	4,148
Date Incorporated as a Town	1738
County	Worcester
Total Land Area	18 square miles
Regional Planning Commission	Metropolitan Area Planning Council (MAPC)
Housing Units (2000 US Census)	1,424
Number of Municipal Buildings	16
Number of Municipal Vehicles	35

The Town of Bolton currently owns 16 buildings for municipal use. Bolton is part of the Nashoba Regional School District, which also includes the towns of Stow and Lancaster. Bolton's elementary school is the Florence Sawyer School, located off Main Street behind Emerson School, and includes grades K through 8. The high school for Bolton students is the Nashoba Regional High School located on Route 117 on the west side of Bolton, which includes students from Bolton, Lancaster and Stow.

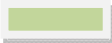
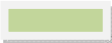
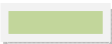
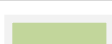
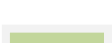
In April 2007, the Bolton Board of Selectmen voted to approve the composition of the "Energy Committee" as an advisory board to the Town. As stated on the committee's webpage, the Bolton Energy Committee Mission is to explore ways to reduce the quantity used and the cost of all fuels to the town and to implement equipment or operating changes that are proven to be cost effective. The goals of the Energy Committee are to save town money on energy costs; take advantage of federal, state and other grants and funding to reduce the town's energy costs; document building operating procedures for Town Buildings to reduce energy consumption; and develop metrics and methods to quantify energy use and reduction in municipal buildings.

In the summer of 2009, an application for Green Communities Planning Assistance was submitted for Bolton to the Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs (EEA) Department of Energy Resources (DOER). The application included a letter of commitment from the Town Administrator of Bolton to meet all five criteria within 12 months of the submittal of the Action Plan.



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The application established and provided evidence that the Town met some of the requirements of the Green Communities criteria (meeting one or more is required for eligibility). A summary outline of the application is provided below:

Status of the Five Criteria At A Glance	
As-of-Right Siting/Zoning	 Needed
Expedited Permitting Process	 Needed
Energy Baseline and Reduction Plan	 Needed
Fuel-Efficient Vehicles	 Needed
Efficient New Construction/Stretch Energy Code	 Needed

- **As-of-Right Siting.** Research and development (R&D) and manufacturing uses are allowed as-of-right (no special permit required) in Bolton’s Industrial District.
- **Expedited Permitting Process.** Bolton’s bylaws do not include an expedited permitting process (ie, Chapter 43D) in place at this time. A Site Plan Review process administered by the Board of Selectmen is utilized for review of major projects. It appears that nothing in the Town’s bylaws will preclude issuance of permits for renewable energy or alternative energy (RE/AE) R&D or manufacturing within 12 months.
- **Established energy baseline for all building, vehicles and streetlights and commits to reducing baseline by 20% over five years.** Bolton’s Energy Committee has conducted an energy use inventory and is knowledgeable about the extent of the Town’s energy use. The Energy Committee is in the midst of inputting information within the MassEnergyInsight tool, the DOER’s energy information reporting system, to confirm an energy baseline.
- **Procure Fuel Efficient Vehicles.** A policy for the procurement of fuel-efficient vehicles for municipal vehicles has not been adopted in Bolton.
- **Require all new construction to minimize life-cycle cost of the facility by utilizing energy efficiency, water conservation and other renewable or alternative energy technologies.** The Energy Committee has been reviewing details and implications of adoption of the Board of Building Regulations and Standards (BBRS) Stretch Energy Code.

1. Summary of Initial Site Visit

On January 21, 2010, VHB, the consultant providing the Energy Committee and town staff with technical assistance in support of its Green Communities Action Plan, met with the Town Planner, Jennifer Burney, and members of the Energy Committee. Kelly Brown, Regional Coordinator for Green Communities, also attended the meeting. Felipe Schwarz, Project Manager of VHB first provided an overview of the Green Communities Planning Assistance program and the goals of the technical assistance that will be provided. VHB’s team also includes a subconsultant, Demand Management Institute (DMI), who provided technical assistance on the energy baseline and reduction and Stretch Energy Code outreach tasks.



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The consultant team reviewed the application for planning assistance in Bolton. The Energy Committee and Town Planner provided additional clarification on the town's progress on each of the criteria. The group brainstormed on how to further the town's progress toward meeting the designation requirements during the planning assistance program and identified possible gaps or challenges. The consultant team further clarified and provided guidance on how the Energy Committee and town staff might meet the designation requirements.

After a thorough review of the application, the group discussed possible presentation or workshop topics that would be helpful as part of the technical assistance program. The consensus was that a technical presentation on the Stretch Energy Code, including a question and answer session would be helpful. Appendix A provides detailed meeting notes and a sign-in sheet of the initial site visit.



1

As-of-Right Siting for Renewable/ Alternative Energy Facilities

Green Communities Criterion #1

Provide for the as-of-right siting of renewable or alternative energy generating facilities, renewable or alternative energy research and development (R&D) facilities, or renewable or alternative energy manufacturing facilities in designated locations.

1. Background

A municipality must provide for as-of-right siting of renewable energy or alternative energy (RE/AE) generating facilities, RE/AE research and development (R&D) facilities, or RE/AE manufacturing facilities in designated locations. Green Communities Program guidance outlines the definitions of RE/AE as well as the requirements for R&D and manufacturing facilities. Additionally, the Green Communities Program has identified specific types of RE/AE generation facilities that are applicable to this criterion. They include:

- wind turbines (minimum of 600 kW in size);
- single ground-mounted system of solar photovoltaic (minimum 250 KW); or
- biomass combined heat and power generation in a stand-alone building (minimum of 5 MW).

As-of-right siting refers to the allowance of a particular use, such as those described above, by right within the zoning bylaws/ordinances. In short, the bylaws/ordinances do not unreasonably regulate such development nor do they require a Special Permit. As described in the criterion, the as-of-right siting is only required in the location(s) designated by the community for the use(s) selected. In some cases, the placement of these uses may already be allowed by right in the current zoning bylaws/ordinances as a permitted use for specific locations identified by the community, such as an



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Industrial District. In other cases, the zoning bylaws/ordinances may need to be amended to allow as-of-right siting for the particular facility(ies) in the location(s) designated by the community. This may be accomplished in different ways, such as a change to the existing use table or the creation of a new zoning overlay district. Any zoning amendment would require the applicable local legislative approval method, as required by the Commonwealth's Zoning Act (M.G.L. Chapter 40A). If already allowed or once enacted, the as-of-right siting will allow an individual, business, corporation or governmental entity to establish the RE/AE facility identified in a specified location selected by the community, by right and without unreasonable regulation or special permit. Other permits may continue to be required for construction (such as conservation commission permits, air quality permits, building permits, fire code standards) or doing business (such as state or local licenses).

2. Progress to date

According to the Town of Bolton's Zoning Bylaw, Section 2.3.2 Types of Districts and Permitted Uses defines the town's Industrial District which may include "research and development laboratories, light manufacturing industries..." Within the table in Section 2.3.4 of the Zoning Bylaw, both uses are shown to be classified as permitted uses, thus considered as of right uses.

Situated along Main Street (Route 117) near the Stow border, Bolton's Industrial District currently includes three properties that would be considered "available" should a company or organization be interested in siting a RE/AE R&D or manufacturing facility. Based on information provided by the Town Planner, property located at 41 Main Street (72.4 acres) contains approximately 200,000 square feet of vacant space; and property at 117 Main Street (28.4 acres) and property known as the Gen Rad parcel (10.78 acres) are current vacant lots.

3. Method for Meeting Criterion

Type of as-of-right zoning

As described in the previous section, Bolton's Zoning Bylaw contains language that addresses the criterion with regard to providing as-of-right siting for the development of RE/AE R&D and/or manufacturing facilities. In addition, land within the Industrial District is current available for such uses.

The Town's Zoning Bylaw does not currently allow as-of-right renewable energy/alternative energy (RE/AE) generation uses. However, the Energy Committee, with assistance from the Town Planner, has been evaluating how the Zoning Bylaw might be amended to include RE/AE generation uses by right either through the creation of overlay districts or a bylaw specific to renewable energy generation. Based on the Massachusetts Clean Energy Center Wind Energy Site Screening Tool, some locations exist in Bolton that are designated Higher Wind Resource Areas, which have adequate wind speeds for energy development (annual wind speeds of at least 6 meters per



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second at a height of 70 meters in the large-scale development viewer).¹ However, it has been determined that the wind turbines sites analyzed may not contain sufficient area and may not be practical for siting purposes. Current vacant industrial property in the northeast section of Bolton may offer opportunities for RE/AE generation siting in the future after evaluation by the Energy Committee.

Documentation

A letter from Town Counsel confirming that the Town of Bolton’s Industrial zoning districts allow for R&D and manufacturing of RE/AE activities as defined by DOER will be required as part of the Green Communities designation documentation. In addition, the letter will provide yield calculations or statements that adequately zoned sites are available for RE/AE facilities, demonstrating that there is land available for the construction of a facility or facilities of 50,000 square feet or larger. Additionally, the letter from the Town Counsel will confirm that any permitting procedures that require a Special Permit are not required for RE/AE R&D or manufacturing uses that may be proposed within Industrial-zoned sites.

4. Steps Completed During Planning Assistance

The following steps were completed during the Planning Assistance:

- VHB reviewed the Bolton Zoning Bylaw.
- VHB provided model bylaws as guidance.
- VHB confirmed that a letter from Town Counsel is required.
- VHB reviewed zoning and map of Industrial zoning districts.
- VHB reviewed current zoning for siting as-of-right RE/AE generation.

5. Action Items & Schedule

In order to apply to become designated as a Green Community, the following tasks are required to meet this criterion and submitted to DOER as part of a Green Community Designation documentation package.

Action Item	Person Responsible	Completion Date
Submit the required documentation for Green Communities Designation Application including the following materials:	Town Planner/Town Counsel	Within 6 months
1. Letter from municipal counsel certifying that the existing zoning complies with the RE/AE Facilities criterion	Town Planner/Town Counsel	Within 6 months
2. The applicable section of zoning bylaw/ordinance	Town Planner	✓

¹ Source: MA Clean Energy Center Wind Energy Site Screening Tool (website: <http://maps.massgis.state.ma.us/wind/>)



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3. Copy of zoning map that shows area zoned	Town Planner	✓
4. Important zoning definitions	Town Planner	✓
5. The relevant section of the use table and any key that will help DOER interpret the use table	Town Planner	✓
6. Any related local regulations applicable to facilities sited under the bylaw/ordinance—such as site plan review regulations—so that DOER can confirm that the related local regulations are non-discretionary;	Town Planner/Town Counsel	Within 3 months
7. Yield calculations must be either included in the text of the letter or attached.	Town Planner/Town Counsel	Within 6 months

✓ Provided in Appendix B



2

Expedited Permitting

Green Communities Criterion #2

Adopt an expedited application and permitting process under which these energy facilities may be sited within the municipality and which shall not exceed 1 year from the date of initial application to the date of final approval.

1. Background

To qualify as a Green Community, a municipality must adopt an expedited permitting process for RE/AE facilities sites identified in Criterion #1. The expedited timeframe for permitting shall not exceed one year from the date of initial application to the date of final approval. By adopting an expedited permitting process, the municipality is committing to making local permitting decisions within one year. The one year deadline will be established with an effective enforcement mechanism which is the inclusion of constructive approval provisions within local bylaws/ordinances or regulations. An expedited permitting process is accomplished by providing a transparent and efficient process for municipal permitting by various boards, including but not limited to, the Planning Board, Conservation Commission, Historic Commission, Zoning Board of Appeals, Fire Chief, and Board of Health. The result is a streamlined procedure that is efficient for municipal staff and boards to implement, and that will provide a predictable schedule for decision making for the applicants.

2. Progress to Date

In order for a RE/AE R&D or RE/AE manufacturing facility, as discussed in Criterion #1, to be permitted in Bolton, one of the major project review/permit process required is Site Plan Review (Section 2.5.5.6 of the Zoning Bylaw, provided in Appendix C). Site Plan Review in Bolton requires the review and approval by the Board of Selectmen. The Board must review and act upon a Site Plan Review application within 30 days, which clearly meets the requirements of Criterion #2. Additionally, other local permitting procedures in place may apply such as the



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Wetlands Bylaw (ie, local wetland bylaw) and review under the Flood Plain District. Depending on the site selected and impacts associated with a potential proposed RE/AE facility, those permitting procedures may be required. Based on discussions with the Town Planner, previous permitting and review activities within the Town have rarely extended beyond 12 months.

3. Method for Meeting Criterion

Type of Expedited Permitting

Bolton's bylaws do not include Chapter 43D Expedited Permitting at the moment. Permit-issuing boards and commission will continue to rely upon its established permitting procedures to meet the one-year requirement pursuant to the Green Communities Program.

Documentation

A letter from Town Counsel affirming that nothing within the municipality's rules and regulations precludes issuance of a permitting decision within one year along with the language addressing procedures and associated timing from any applicable bylaws or regulations will be required as part of the Green Communities designation documentation.

Once a community is designated a Green Community, DOER will enact reporting requirements which will include reporting on all permitting actions associated with proposed RE/AE R&D or RE/AE manufacturing projects within the past year within as-of-right zoned districts. If there is evidence that permit-issuing boards and commissions within Bolton have not adhered to the one year decision-making requirement, Green Communities designation may be revoked.

4. Steps completed during Assistance

- VHB review the Town's permitting process including Site Plan Review and other regulations within the Town's regulations.



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5. Action Items & Schedule

In order to apply to become designated as a Green Community, the following tasks are required to meet this criterion and submitted to DOER as part of a Green Community Designation documentation package.

Action Item	Person Responsible	Completion Date
Submit the required documentation for Green Communities Designation Application including the following materials:	Town Planner	Within 6 months
1. Letter from Town Counsel affirming that nothing within the municipality's rules and regulations precludes issuance of a permitting decision within one year along with the language addressing approval procedures and associated timing from any applicable bylaws or regulations	Town Planner/Town Counsel	Within 6 months
2. A copy of the applicable map(s) showing that the areas where the expedited permitting applies coincides with the as-of-right zoned areas for Criterion 1	N/A	N/A

3

Energy Use Baseline Inventory and Reduction Plan

Criterion #3

Establish an energy use baseline inventory for municipal buildings, vehicles, street and traffic lighting, and put in place a comprehensive program designed to reduce this baseline by 20 percent within 5 years of initial participation in the program.

1. Background

To fulfill Criterion 3, a municipality must establish an energy use baseline inventory for municipal buildings, vehicles, street and traffic lighting, and put in place an Energy Reduction Plan designed to reduce this baseline by 20 percent within five years of initial participation in the program. The energy use baseline inventory should be applied in the aggregate across buildings, streetlights, traffic lights and vehicles on a million British Thermal Units (MBTU) basis. There are a number of acceptable tools for performing the inventory including:

- **MassEnergyInsight:** In 2010, the DOER developed a new energy information reporting tool created MassEnergyInsight, a robust, easy-to-use, energy information system with customized electricTown, natural gas and oil usage details for cities and towns across Massachusetts. This web-based tool is provided at no cost to the municipality and offers a wealth of information that provides the foundation for critical decision making,
- **Energy Star Portfolio Manager:** This is a free energy and water consumption tracking software available on the Energy Star website. This program allows an entity to track and assess energy and water consumption within individual buildings (generally consisting of at least 5,000 square feet) as well as across numerous buildings. This program does not assess the energy consumption of vehicles, street or traffic lighting.
- **ICLEI Software:** The ICLEI software, Clean Air and Climate Protection (CACPP) Software, is a one-stop emissions management tool that calculates and tracks emissions and reductions of greenhouse gases and criterion air pollutants. This



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tool is available, free of charge, to members of ICLEI and has the capability to assess buildings and facilities, vehicle fleets, waste, wastewater treatment, employee commute, street and traffic signals, and port and airport facilities.

- Other tools proposed by the community and deemed acceptable by DOER.

Once the energy use baseline inventory has been established, the community must develop an Energy Reduction Plan to decrease energy consumption by 20 percent consisting of a number of key components which would enable a municipality to establish energy reduction goals and develop a structure to meet those goals over a five year time frame.

2. Quantification of Energy Use

This section includes descriptions of municipal assets, current energy purchasing agreements, methods of tracking energy use, how results are to be presented, and those persons who will be responsible for overseeing the energy consumption review and reporting process. Reductions in energy use will be calculated relative to a baseline year. It is important that the same methodology and data sources are used to quantify energy consumption for the baseline analysis and future analyses to ensure a fair comparison of energy performance.

Town Assets and Management

The Town of Bolton has relatively few municipal buildings and recently combined public safety services into a single facility and rebuilt the library.

The list of municipal properties presented below includes assets the Town directly controls and a contact name to discuss energy management matters.

Bolton Department of Public Works

Contact: Shelly O' Toole, Administrative Assistant/Recycling Coordinator

- DPW Building
- Old Fire Station
- Houghton Building
- Town Hall
- Public Library (recently renovated and expanded)
- New Public Safety Building
- Athletic fields and playground (except school properties)
- Street Lights
- Traffic Signals
- Vehicles (DPW, Fire, Police, Town)



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Nashoba Regional School District

The Town is part of the Nashoba Regional School District which serves Bolton, Stow and Lancaster. The Town owns two elementary school buildings (Emerson, Florence Sawyer) within the district. The regional high school is located in Bolton and approximately 30 percent of the high school students are from Bolton. The operation and maintenance of these facilities are under the control of the district. The Energy Committee is planning to include the two elementary schools in the energy baseline but exclude the high school.

The Town of Bolton is not served by a drinking water utility. Wastewater treatment for most of the town is provided by on-site septic systems.

Wastewater generated by some of the town buildings include the library, public safety building, Florence Sawyer Elementary School and Emerson is treated by a treatment facility. The installation includes two blowers that operate continuously with a typical power demand of around 11 kW. Operation of the treatment facility is handled through the Florence Sawyer School electric service with no billing passed on to the Town. The treatment facility has future capacity allocated for Town use.

Capital intensive upgrades to municipal property must be approved by the Town's Board of Selectmen and Town Meeting.

All 322 street lights in Town are municipally owned and operated. These lights will be included in the Town's energy budget.

The school district owns and operates five school beacons, and these are to be included in the energy budget.

Emergency generators serve several of the schools but there are no generators on the town-operated buildings.

Energy Providers and Sources of Energy Data

Electricity for the all town-owned buildings is provided by National Grid (for delivery) and Easy Energy (for supply). The Town holds electrical generation purchasing contracts with TransCanada Marketing for school buildings.

Natural gas is not available at any town buildings.

Heating oil contracts are organized by the Merrimack Educational Collaborative and is currently purchased through a single contract with Global Montello for all schools. Knight Fuel Company supplies heating oil for all other municipal buildings.



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Propane is not used for any municipally operated buildings.

Diesel for vehicles and equipment is purchased through the state bid list from Global Montello. Fueling for DPW diesel vehicles occurs at the highway barn. Fuel consumption is tracked for each vehicle using an electronic key system.

Calculation Methodologies

Prior to involvement in the Green Communities process, Bolton's Energy Committee has been consolidating energy billing data in a spreadsheet to track electric and heating fuel consumption for municipal buildings. This data base included all of the large accounts but did not take into account fuel use or street lighting.

Going forward, Bolton's Energy Committee and Town staff plan to use MassEnergyInsight, the DOER's energy information reporting system. MassEnergyInsight allows for instant download of electricity and natural gas consumption information from large utilities. Monthly consumption of gasoline, diesel, and heating oil will need to be entered manually by Town staff.

At the time that this planning document is being written, DOER has yet to provide specific guidance regarding normalization of heating fuel data relative to heating degree days. DOER also has yet to provide specific guidance regarding how site-stored heating fuel is to be reported (e.g. heating oil, propane, LNG, wood, coal).

The overall energy consumption of all municipal buildings, fleets, and other holdings will be combined into a single value that will represent the energy consumption of the Town for one year.

Energy Use Baseline

The baseline year can be selected from either 2008, 2009 or 2010, and can report energy consumption based on the calendar year or fiscal year. The target for achieving a 20 percent reduction in energy use is five years after the end of the baseline year.

At this time, the Energy Committee anticipates calculating savings for each calendar year relative to the consumption data for calendar year 2008 (the period January 1, 2008 through December 31, 2008). The Energy Committee and town staff will need to develop a Energy Reduction Plan to achieve a 20 percent reduction in energy use by December 31, 2013 as part of their Green Community Designation documentation.



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Exempt energy end uses include the following:

- Commercial space and vehicles that are leased by the Town
- Street light fixtures and signals that are owned by the state or electric company

New Construction, Renovations and Replacement of Buildings

In order to address issues within a municipality's proposed Energy Reduction Plan related to new buildings or renovations or additions to municipal buildings, the following provides guidance for all communities as they draft their plans:

- For building stock added after the energy baseline was completed but during the Energy Reduction Plan timeframe (five years), the additional energy load from these buildings will not be added into the consumption profile and therefore the additional load will not be factored into the 20 percent reduction target. However, the MassEnergyInsight tool will be able to monitor the performance of these buildings, which will be built to the Stretch Energy Code, and if a community is designated, it will be expected to monitor the performance of this building under its Green Communities reporting to verify that it is performing as designed and modeled. If it is not, a corrective action plan must be developed and implemented to correct the building's performance.
- Renovations that occur after completion of the baseline but during the Energy Reduction Plan timeframe (five years) will be factored into the 20 percent reduction. This is not additional space and should be done such that the space will be more efficient than it was before the renovation.
- For additions that occur after completion of the baseline but during the Energy Reduction Plan timeframe (five years), after the addition comes on line, the energy load for that building counted towards the 20 percent reduction target will be pro-rated based on the building square footage. For example, if an addition provides an additional 30 percent square footage for the building, then 70 percent of the energy bills will be accounted for in monitoring the community's progress towards meeting the 20 percent reduction target.
- For communities that select to use a baseline that goes back two years, and then after the baseline year new buildings came on line, the additional load from these buildings will not be added into the consumption profile and therefore the additional load will not be factored into the 20 percent reduction target. However, as part of the Green Communities designation application and the Energy Reduction Plan, the community should address these buildings separately, noting how these building were built to be as energy efficient as possible and what the energy performance of the building was designed to meet. The Energy Reduction Plan must include a separate monitoring program for these buildings to ensure that they are



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performing as designed and modeled, and include a plan for corrective actions if they are not.

- For buildings that are removed from the building stock after the baseline was completed but during the Energy Reduction Plan timeframe (five years) and are not replaced by a new building, once these buildings are removed, the baseline will be readjusted to subtract that building and the 20 percent reduction target will be revised accordingly.
- For buildings originally included in the baseline that go offline and are replaced by a new building, the baseline will not change, and the new building will be included in the 20 percent reduction target.
- At any time, a community can petition DOER to consider modification of its baseline. For example, a community may replace an existing smaller school with a new school that is significantly larger, with a pool added, etc, and they may wish to adjust its baseline to take this added square footage and energy use data into consideration. DOER reserves the right to approve or deny any such petition.

Presentation of Results

An annual energy use report will be completed by the Director of Public Works within six weeks of the end of each calendar year (February 15th). The purpose of this annual report is to do the following:

- Provide a status update on progress toward the 20 percent reduction goal
- Explain factors that either increased or decreased total Town energy consumption
- Describe efforts undertaken during the previous year to reduce energy use
- Describe efforts that will be undertaken during the coming year
- Describe changes to the original Energy Reduction Plan if it is found that the original scope of effort is unlikely to result in the 20 percent energy reduction target

DOER is planning to release specific reporting guidelines for reporting content and format. In the absence of this guidance, the Energy Committee and town staff will include the following items in annual energy reports:

- A bar chart illustrating how the overall energy use of the Town has varied over past years. The 20 percent energy use reduction target will be indicated by a horizontal line passing across all of the columns. MassEnergyInsight is capable of producing this chart.



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- A chart illustrating the distribution of energy use among the major end use groups listed below. Additional charts will be included that further break down energy use within each major end use group. MassEnergyInsight is able to produce these charts.
 - Town Buildings
 - Town Vehicles
 - Water and Wastewater, as appropriate to the town
 - Street Lights & Signals, as appropriate to the town
- Tables presenting normalized energy use for each end use account
 - Buildings will be compared on a MBTU/yr·ft² basis
 - Vehicle fuel will be compared based on gallons consumed
 - Street lights and signals will be compared based on annual kilowatt-hours
 - Wastewater systems will be compared based on MBTU gallons handled during the year

3. Energy Reduction Strategies

The third goal of the Green Communities process is to reduce municipal energy use by 20 percent within five years of the baseline year. This document serves as a roadmap that describes steps that have already been taken by Town departments, current plans for on-going optimization, and potential future modifications that can help achieve the target reduction.

The Town will create an Energy Reduction Plan within one year of the submission of this Action Plan that will include specific projects to be undertaken and their estimated impact on energy use.

The following sections provides a snapshot at previous energy reduction measures, current initiatives, potential measures to be considered within a future Energy Reduction Plan and resources that the Energy Committee and town staff may consider when creating the required Energy Reduction Plan.

Past Efforts

2007 – Established an energy committee and the Board of Selectmen issued an Energy Efficiency Directive.

2007 - Worked with National Grid to identify energy efficiency improvement and incentive opportunities.

2008-2010 – Implemented many 'low hanging fruit' upgrades such as lighting retrofits, installation of programmable thermostats, automatic lighting controls, insulated windows, and parking lot lighting timers.



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2007-2010 – the DPW collects used motor oil to be used in the building’s waste oil burner to offset the use of No. 2 heating oil.

2009 – Conducted a baseline energy audit and the Board of Selectmen voted to undertake a number of standard energy efficiency upgrades to town properties.

2009 – The Town provided (recycled police car from the police department) a shared car for Town employees to use for Town business, allows for car pooling.

2009 – The Town participated in DOER’s Energy Audit Program and is working toward implementing the recommendations provided as part of the review.

2009 – Added \$13,000 worth of upgrades to the Public Safety facility design to improve energy performance (improved insulation, automatic lighting controls).

2009 – Improved the exterior of the public library building as part of the expansion project.

Current Efforts

The Town has recently applied to become a Green Community and is in the process of implementing this Action Plan.

The Town is in the process of implementing previously identified energy conservation measures identified by National Grid and the DOER Energy Audit service provider.

Potential Measures for Energy Reduction Plan

HVAC & Controls Improvements

All buildings should be reviewed to identify systems or equipment that are not operating as designed.

- The buildings should be reviewed for these potential issues:
 - Excessive ventilation rates
 - Poor control of ventilation scheduling (e.g. bringing fresh air into unoccupied buildings)
 - Inoperable economizer controls
 - Broken damper linkages
 - Overridden setpoints in control systems
 - Timeclock schedules that do not correspond to actual use patterns
 - Pumps operating against partially closed valves



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- Static pressure and differential pressure setpoints that are higher than necessary
- Consider hiring a testing and balancing contractor to review problematic buildings with a history of occupant comfort complaints or in systems with variable speed controlled fans/pumps that operate at high speeds when system loads are low.
- Review facility operation during unoccupied hours to identify equipment that is operating unnecessarily. Lights, large HVAC equipment, and pumping systems are common culprits.
- Install programmable thermostats to control all systems where setback is possible, and program the thermostats to allow space temperatures to be set back to 60°F or cooler and 85°F or warmer. Care should be taken to ensure proper freeze protection. Equipment rooms with electric unit heaters commonly have broken controls or controls that are set warmer than necessary. Mail-in rebates from Energy Star may be available for these thermostats.
- Air sealing of buildings is a standard approach to reducing heating costs. Care needs to be taken when reducing infiltration to prevent conditions favorable to mold formation. Improved ventilation control may be required in some cases. Energy recovery ventilators can reduce operating costs associated with increased mechanical ventilation airflow rates.
- Spaces with high design occupancies, such as auditoriums, may be over-ventilated relative to the number of people who are actually present for many business hours. Demand controlled ventilation controls allow ventilation rates to be reduced without compromising indoor air quality.
- Energy recovery ventilators are cost effective in situations where the outside air fraction must remain above 60 percent during non-economizer hours. For systems that do not require this much outside air, demand controlled ventilation controls are generally more cost effective.
- Ensure that all pipes, valves, and system components are insulated for space heating systems and domestic water heating systems.
- Consider installing thermostatically controlled valves or autovalves on radiators serving buildings with limited space temperature control capability. Digital control systems are an alternate approach that provide increased management and monitoring flexibility but at a higher cost.
- Place exhaust fans on timeclock or occupancy sensor control to minimize unnecessary exhausting of conditioned air.



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- Engage a company knowledgeable about the latest boiler and burner technology to review existing heating plants to determine whether cost-effective improvements can be made. The installation of advanced combustion controls with sealed air intake can improve overall system performance and reduce building infiltration.
- Implement policies requiring specific guidelines for unoccupied equipment operation in buildings. Regularly tour unoccupied buildings to ensure compliance.

Lighting Improvements

- Drive through Town and identify street lights and other exterior lights that are operating unnecessarily during the day.
- Turn off street lights if it is acceptable to residents and does not pose a public safety or property damage issue. Street lights can also be retrofitted with lower wattage, higher efficiency lamps and ballasts.
- Continue to take advantage of utility lighting efficiency programs to upgrade interior lighting systems. Improvements include reballasting and relamping with high efficiency T8 technology, the installation of occupancy sensors, and implementation of daylighting controls near exterior windows.
- Identify spaces that may be over-lit relative to illumination levels required for typical tasks. Replace fixtures or lamps as needed.
- Modify lighting system circuits to allow for multi-level switching. For example, allow fixtures along exterior walls with windows to be turned off.
- Utilize task lighting rather than general lighting provided that the changed light levels do not pose safety issues.

Building Envelope Improvements

- Fill uninsulated walls with an insulation product such as cellulose or foam. Care needs to be taken to manage condensation and avoid the creation of indoor air quality problems.
- Utilize the Energy Star Thermal Bypass Checklist to identify areas where infiltration is most commonly found, and properly seal voids, gaps, and cracks.
- Replace old single-pane windows with Energy Star rated windows. The greatest energy impact will be in buildings with low internal heat gains and leaky, double-hung windows.



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- Review historic buildings that may have been constructed with gravity air distribution systems to ensure that old chases are completely blocked at the roof and pickup points. If buildings still rely upon gravity systems, consider installing ductwork, dampers, and fans to bring ventilation rates under control.
- Retrofit exterior doors to minimize infiltration. In entrance areas that are routinely under-heated during the winter, consider installing a second set of doors to create an unconditioned air lock.

Process Equipment Improvements

- Review lab hood systems at the schools to ensure that safe ventilation rates are maintained and that the hoods do not operate excessively.
- Review exhaust systems serving vehicle bays to ensure that safe ventilation rates are maintained and that conditioned air is not unnecessarily being exhausted. Automatic controls utilizing carbon monoxide sensors could be of use.
- Review pumping systems to ensure that throttling valves are more than 90 percent open; consider the installation of VSDs on systems that are routinely more heavily throttled.
- Kitchen equipment upgrades present many opportunities for energy and water use reductions:
 - Convert electric booster systems to be gas fired.
 - Purchase dishwashing units that use final rinse water for pre-rinse cycles.
 - Recover waste heat from the dishwasher drain to pre-heat makeup water.
 - Install variable flow hood and makeup air controls that automatically adjust flowrates based on cooking activity.
 - Place all refrigeration equipment on central refrigeration racks served by evaporative heat rejection equipment.
 - Reduce the number of standing pilot lights.
 - Place all refrigeration condensing units outside the building envelope for improved equipment performance and lower interior heat gain.
 - Enact policies that limit or minimize the use of fume hoods to those periods when they are required to operate.
 - Use induction cooking equipment where possible for reduced space heat and lower cooking energy requirements.



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- Install VendingMiser controls on soda machines so equipment can cycle off when nobody is present to sell product to.

Vehicle Improvements

- Review the age and mileage performance of trucks, buses, and cars that the Town owns and determine whether the lower operating costs associated with new, fuel efficient vehicles would justify replacement of older models. There may be grant programs for improving bus fleets.

Alternative Energy Systems

- Solar hot water systems are the most cost effective option in the alternative energy market and should be considered for sites with good solar exposure, a moderate to heavy service water load, and an older or inefficient hot water generation system.
- Photovoltaics should not be pursued until all efficiency projects in the Town are complete and there is money to spare.
- Ground-coupled heating and cooling systems are commonly called 'geothermal' systems and are mistakenly regarded as a kind of renewable energy. Ground-coupled heat pump systems can lead to reduced heating costs but retrofits of existing heating systems are generally not cost effective.

Energy Reduction Plan Resources

The major gas and electric utility companies offer considerable expertise and resources for municipalities searching for ways to improve energy performance. Facility managers should remain in contact with their utility representatives and fully understand the requirements of the prescriptive and custom incentive programs. One major benefit of working with utilities is the offer of free or reduced cost scoping studies and their standard 50/50 cost sharing offer for focused engineering studies.

Municipalities can independently hire consultants to perform comprehensive operations and maintenance (O&M) reviews of Town buildings and facilities. These services can help managers prioritize projects relative to budget constraints, risks to equipment/building longevity, and energy performance goals. It is important that these consultants be aware of utility incentive program requirements/opportunities and the Town's goal of reducing energy consumption by 20 percent.

MassEnergyInsight will allow each building within the Town to be compared on a Btu/ft² basis. Additional benchmarking resources exist that allow a



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building's annual energy use to be compared to other buildings within the geographical region. Energy Star's portfolio manager provides a performance score for specific building types (e.g. schools, office buildings) based on historical utility data and building use details. More information can be found at the following website:

http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfolio_manager_benchmarking

Subscribing to National Grid's Energy Profiler Online service to access historical 15-minute demand data for facilities on the large commercial rates (monthly demand >200 kW) should be considered. This data can be reviewed to determine a facility's demand profile during unoccupied hours. If unoccupied demand is more than 10 percent of the normal occupied period demand, then there may opportunities for setting back or turning off equipment. This data is also useful in identifying equipment response to programmed building schedules and past changes in operating strategies.

4. Method for Meeting Criterion

Continued participation by the Energy Committee and town staff with the MassEnergyInsight tool will help generate the energy baseline required. Fuel use data will need to be entered into the system. Additional inputs include the conditioned floor area of each building. Upon completion, MassEnergyInsight will create the baseline energy consumption number that town departments will work against over the five year reduction period. The results of the baseline analysis will be contained in an initial energy use report. This report will be submitted to DOER when the Energy Committee submits its Green Communities Designation documentation.

Then, the Energy Committee and town staff will need to determine which steps they will be taking to achieve the required 20 percent reduction in municipal energy. The approach will need to be documented in an Energy Reduction Plan that must be filed with DOER's Green Communities Program. Since steps to reduce energy use have already occurred, the Energy Committee will need to review past measures to quantify the energy saving already realized so that it be counted in the energy reduction strategy.

The Energy Reduction Plan will include summaries of the recommendations prepared by various consultants and vendors as well as opportunities already identified. Estimates of energy savings and costs for each action will be included in the plan.

Upon completion, the Energy Reduction Plan will need to be approved by the Board of Selectmen, or whoever has the authority to approve such an Energy Reduction Plan. In addition, since the baseline will include Bolton schools, DOER requires approval of the Energy Reduction Plan by the appropriate Nashoba Regional School District representative in accordance with appropriate procedures.



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Documentation

The Energy Committee will provide DOER with the MassEnergyInsight energy baseline results and an approved Energy Reduction Plan that describes how a reduction of municipal energy use by 20 percent over the next five years will occur.

5. Steps completed during Assistance

- VHB/DMI identified the necessary information required to develop the energy baseline.
- DMI reviewed all energy data submitted for review.
- VHB/DMI discussed energy information data with Energy Committee members to better grasp the extent of municipal energy use and initiatives.

6. Action Items & Schedule

In order to apply to become designated as a Green Community, the following tasks are required to meet this criterion and submitted to DOER as part of a Green Community Designation documentation package.



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Action Items	Person Responsible	Completion Date
Attend MassEnergyInsight training session	Energy Committee	✓
Configure MassEnergyInsight tool, review account numbers and enter fuel data for baseline	Energy Committee	✓
Identify specific improvement opportunities	Energy Committee	Within 8 months
Draft an Energy Reduction Plan	Energy Committee	Within 8 months
Compile the required documentation for Green Communities Designation Application	Energy Committee	Within 8 months
Submit the required documentation for Green Communities Designation Application including the following materials:	Energy Committee	Within 8 months
1. Identification of inventory tool used	Energy Committee	Within 8 months
2. Provide documentation of results of inventory	Energy Committee	Within 8 months
3. Copy of plan / specific Actions to be implemented and timeline with milestones to achieve required energy reductions	Energy Committee	Within 8 months
4. Documentation that both the general government and regional school district have adopted the Energy Reduction Plan	Energy Committee	Within 8 months



4

Procurement of Fuel Efficient Vehicles

Green Communities Criterion #4

Purchase only fuel-efficient vehicles for municipal use whenever such vehicles are commercially available and practicable.

1. Background

To qualify as a Green Community, the municipality must enact a policy to purchase only fuel-efficient vehicles for municipal use, whenever such vehicles are commercially available and practicable. The purpose behind this criterion is to reduce carbon dioxide emissions by municipal vehicles, which has a positive impact on the environment and results in costs savings for the municipality. Exempt from this policy are heavy-duty department of public works trucks, police cruisers, fire trucks and school buses. In communities that only have vehicles exempt from the policy, alternate policies to support fuel efficiency are required; such as policies that encourage municipal employees to utilize alternate transportation modes (for example, bicycle, transit) or carpooling.

Based on the most recently published US Environmental Protection Agency data on fuel efficient vehicles, vehicles to be considered “fuel efficient” to meet this Criterion are to have a combined city and highway MPG no less than the following:

- 2 wheel drive car: 29 MPG
- 4 wheel drive car: 24 MPG
- 2 wheel drive small pick-up truck: 20 MPG
- 4 wheel drive small pick-up truck: 18 MPG
- 2 wheel drive standard pick-up truck: 17 MPG
- 4 wheel drive standard pick-up truck: 16 MPG

DOER NOTE: The EPA maintains a database on vehicle fuel efficiency that is updated occasionally throughout the year, as new models are released. As increasing numbers of fuel efficient vehicle models are released, the minimum



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combined MPG requirements of the Green Communities Program may be revised. This policy may be updated from time to time to reflect any changes to the MPG requirements. The latest fuel efficiency MPG ratings are available through Massachusetts Department of Energy Resources Green Communities Program.

2. Progress to Date

According to data provided, the Town of Bolton owns approximately 35 vehicles representing four different departments or functions within the Town. Upon review of the total inventory, four town-owned vehicles that are considered “non-exempt”, thus subject to a fuel efficient vehicle policy.

Bolton does not yet have a purchasing fuel efficient vehicles policy. The inventory of non-exempt vehicles will be completed with the required information by Town staff and submitted as part of a forthcoming Green Communities Designation Application.

Upon completion of the vehicle inventory table, the fuel efficient vehicle policy (with completed inventory table for non-exempt vehicles) will need to be approved by the Board of Selectmen or whoever has the authority to approve such a policy.

Since the inventory does not include non-exempt vehicles under the control of the regional school district, approval of the fuel efficient vehicle policy by the regional school district is not required. However, if vehicles owned and managed by the regional school district are included in the inventory in the future, then the fuel efficient vehicle policy would need to be approved by the regional school district.

Additionally, the Bolton Police Department has six vehicles classified as police cruisers which would be subject to the adopted fuel efficient vehicle policy once fuel efficient police cruisers are commercially available. DOER has stated that municipalities must commit to purchasing fuel efficient cruisers when they become commercially available, however no timetable or specific guidance has been established by DOER at this point. It is expected that town officials will be notified by DOER in advance if and when commercially available cruisers are required to be part of a vehicle replacement plan.

Typically Bolton police cars are recycled or passed down to other departments. Once fuel efficient police cars are purchased they will eventually be recycled to other town departments. Currently, the town staff car, EMT program car, the Director of the DPW and general DPW car are all former police cars. If a fuel efficient vehicle policy is adopted, these vehicles, when taken out of service, must be replaced with those that meet the fuel efficient vehicle policy.

3. Method for Meeting Criterion

Documentation

Once adopted by the Board of Selectmen, the Energy Committee will provide DOER a copy of the adopted Fuel Efficient Vehicle Policy as well as an inventory of existing fleet (model, year, estimated mpg) with plans for replacement with fuel efficient



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vehicles as part of its Green Communities Designation documentation. Below is a draft version of the required table.

Table 1
Non-Exempt Municipal Vehicle Inventory

Model	Make	Model Year	Year Purchased	Drive System	Weight Class	MPG ¹	Annual Miles Driven	Total Fuel Consumption	Vehicle Function
Crown Victoria	Ford	2005		Auto					Town Staff
Crown Victoria	Ford	2005		Auto					EMT Program Ambulance Car
Crown Victoria	Ford	2003	2003	Auto					DPW Director
Silverado	Chevy	2003	2003	Auto					General DPW

DOER Note: Departments/Divisions may use EPA combined MPG estimates or actual combined MPG. Inventory is for non-exempt vehicles only. Exempt vehicles include: 1) Heavy-duty vehicles such as fire-trucks, ambulances, and public works trucks 2) Police cruisers are exempt from this criterion. However, municipalities must commit to purchasing fuel efficient cruisers when they become commercially available. Police department administrative vehicles must meet fuel efficient requirements.

¹ Includes combined City and Highway MPG calculated as: $=1/((0.43/City\ MPG)+(0.57/highway\ MPG))$

4. Steps completed during Assistance

- VHB provided DOER’s model vehicle policy.
- VHB reviewed the Town’s vehicle inventory to determine which vehicles would be considered exempt and non-exempt.



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5. Action Items & Schedule

In order to apply to become designated as a Green Community, the following tasks are required to meet this criterion and submitted to DOER as part of a Green Community Designation documentation package.

Action Item	Person Responsible	Completion Date
Complete the vehicle inventory table and determine which vehicles would be subject to a Fuel Efficient Vehicle Policy	Town Planner/Energy Committee	Within 8 months
Adopt a Fuel Efficient Vehicle Policy	Board of Selectmen	Within 8 months
Compile the required documentation for Green Communities Designation Application	Town Planner/Energy Committee	Within 8 months
Submit the required documentation for Green Communities Designation Application including the following materials:	Town Planner/Energy Committee	Within 8 months
1. A copy of the policy or other mechanism adopted for purchasing only fuel efficient vehicles	Town Planner/Energy Committee	Within 8 months
2. Inventory of existing fleet (model, year, estimated mpg) with plans for replacements with fuel efficient vehicles	Town Planner/Energy Committee	Within 8 months
3. Documentation that the general government has adopted the fuel efficient vehicle policy.	Board of Selectmen	Within 8 months



5

Minimize Life-cycle Costs in Energy Construction

Green Communities Criterion #5

Require all new residential construction over 3,000 square feet and all new commercial and industrial real estate construction to minimize, to the extent feasible, the life-cycle cost of the facility by utilizing energy efficiency, water conservation and other renewable or alternative energy technologies.

1. Background

To qualify as a Green Community, the municipality must require all new residential construction of more than 3,000 square feet and all new commercial and industrial real estate construction to minimize the life-cycle cost of the facility by utilizing energy efficiency, water conservation and other renewable or alternative energy technologies.

One method to satisfy this criterion is to adopt the Massachusetts State Building Code's new appendix called the Stretch Energy Code (780 C.M.R. Appendix 120 AA). The Stretch Energy Code was approved as an appendix at a meeting of the Massachusetts Board of Building Regulations and Standards (BBRS) in May 2009. Based on the International Energy Conservation Code (IECC) 2009, the purpose of the Stretch Energy Code is "to provide a more energy efficient alternative to the base energy code applicable to the relevant sections of the building code for both new construction and existing buildings." For municipalities that choose to adopt this appendix, they would meet this Green Communities Program criterion. Whereas Green Community designation applies only to new residential construction over 3,000 square feet and all new commercial and industrial real estate construction, the Stretch Energy Code applies to all residential buildings of any size for both new construction and redevelopment.



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Another method to satisfy this criterion is to establish an alternate policy that meets the requirements of the Green Communities Program and would require approval by the DOER. At this time, model policies or regulations that may be an acceptable alternative to adopting the Stretch Energy Code is not available from the DOER.

2. Progress to Date

The Town of Bolton does not currently meet this criterion. Upon request by the Energy Committee and Town Planner, VHB held a technical presentation on the Stretch Energy Code to the building inspector, representatives of the Energy Committee and Planning Board, and the general public. The presentation highlighted the code itself in detail and associated costs. It is anticipated that the Stretch Energy Code may be brought forth before Town Meeting for consideration in 2010 or 2011.

3. Method for Meeting Criterion

Type of Method

As described in the previous section, the Energy Committee is exploring the details and implications of proposing and, if successful, adopting the Stretch Energy Code (Appendix 120 AA to the MA Building Code 780 CMR) at a future Town Meeting.

Documentation

Assuming adoption is successful, DOER will require documentation that the Town Meeting approved adoption of the Stretch Energy Code.

4. Steps completed during Planning Assistance and to be completed

- VHB held a technical presentation on the Stretch Energy Code and answered follow-up questions.

5. Action Items & Schedule

In order to apply to become designated as a Green Community, the following tasks are required to meet this criterion and submitted to DOER as part of a Green Community Designation documentation package.



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Action Item	Person Responsible	Completion Date
Building Inspectors attend BBRS Stretch Energy Code training	Building Inspector	✓
Conduct public outreach meeting on Stretch Energy Code	Energy Committee	✓
Adopt the Stretch Energy Code at Town Meeting	Town Meeting	Within 12 months
Submit the required documentation for Green Communities Designation Application including the following materials:	Town Planner	Within 12 months
1. Documentation of Town Meeting vote adopting MA Board of Building Regulations and Standards (BBRS) Stretch Energy Code.	Town Planner	Within 12 months



Summary of Action Items

Action Item	Person Responsible	Completion Date
CRITERION #1		
Submit the required documentation for Green Communities Designation Application including the following materials:	Town Planner/Town Counsel	Within 6 months
1. Letter from municipal counsel certifying that the existing zoning complies with the RE/AE Facilities criterion	Town Planner/Town Counsel	Within 6 months
2. The applicable section of zoning bylaw/ordinance	Town Planner	✓
3. Copy of zoning map that shows area zoned	Town Planner	✓
4. Important zoning definitions	Town Planner	✓
5. The relevant section of the use table and any key that will help DOER interpret the use table	Town Planner	✓
6. Any related local regulations applicable to facilities sited under the bylaw/ordinance—such as site plan review regulations—so that DOER can confirm that the related local regulations are non-discretionary;	Town Planner/Town Counsel	Within 3 months
7. Yield calculations must be either included in the text of the letter or attached.	Town Planner/Town Counsel	Within 6 months
CRITERION #2		
Submit the required documentation for Green Communities Designation Application including the following materials:	Town Planner	Within 6 months
1. Letter from Town Counsel affirming that nothing within the municipality's rules and regulations precludes issuance of a permitting decision within one year along with the language addressing approval procedures and associated timing from any applicable bylaws or regulations	Town Planner/Town Counsel	Within 6 months
2. A copy of the applicable map(s) showing that the areas where the	N/A	N/A



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Action Item	Person Responsible	Completion Date
expedited permitting applies coincides with the as-of-right zoned areas for Criterion 1		
CRITERION #3		
Attend MassEnergyInsight training session	Energy Committee	✓
Configure MassEnergyInsight tool, review account numbers and enter fuel data for baseline	Energy Committee	✓
Identify specific improvement opportunities	Energy Committee	Within 8 months
Draft an Energy Reduction Plan	Energy Committee	Within 8 months
Compile the required documentation for Green Communities Designation Application	Energy Committee	Within 8 months
Submit the required documentation for Green Communities Designation Application including the following materials:	Energy Committee	Within 8 months
1. Identification of inventory tool used	Energy Committee	Within 8 months
2. Provide documentation of results of inventory	Energy Committee	Within 8 months
3. Copy of plan / specific Actions to be implemented and timeline with milestones to achieve required energy reductions	Energy Committee	Within 8 months
4. Documentation that both the general government and regional school district have adopted the Energy Reduction Plan	Energy Committee	Within 8 months



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Action Item	Person Responsible	Completion Date
CRITERION #4		
Complete the vehicle inventory table and determine which vehicles would be subject to a Fuel Efficient Vehicle Policy	Town Planner/Energy Committee	Within 8 months
Adopt a Fuel Efficient Vehicle Policy	Board of Selectmen	Within 8 months
Compile the required documentation for Green Communities Designation Application	Town Planner/Energy Committee	Within 8 months
Submit the required documentation for Green Communities Designation Application including the following materials:	Town Planner/Energy Committee	Within 8 months
1. A copy of the policy or other mechanism adopted for purchasing only fuel efficient vehicles	Town Planner/Energy Committee	Within 8 months
2. Inventory of existing fleet (model, year, estimated mpg) with plans for replacements with fuel efficient vehicles	Town Planner/Energy Committee	Within 8 months
3. Documentation that the general government has adopted the fuel efficient vehicle policy.	Board of Selectmen	Within 8 months
CRITERION #5		
Building Inspectors attend BBRS Stretch Energy Code training	Building Inspector	✓
Conduct public outreach meeting on Stretch Energy Code	Energy Committee	✓
Adopt the Stretch Energy Code at Town Meeting	Town Meeting	Within 12 months
Submit the required documentation for Green Communities Designation Application including the following materials:	Town Planner	Within 12 months
1. Documentation of Town Meeting vote adopting MA Board of Building Regulations and Standards (BBRS) Stretch Energy Code.	Town Planner	Within 12 months

✓ Indicates task complete.