

Marlborough Sustainability Action Plan 2011



September, 2011

Produced by the Sustainability Action Plan Taskforce

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Acknowledgements

We'd like to thank and acknowledge the following taskforce members for the time and expertise they provided to making this Sustainability Action Work plan a reality. Without the combined efforts and talents of this diverse group of people, this Action Plan would not be as strong and practical as it is.

2011 Marlborough Sustainability Action Plan Taskforce members:

Name	Affiliation
Municipal	
Priscilla Ryder	Conservation Officer (Co-Chair)
Nancy Savoie	City Planner (Co-Chair)
John Ghiloni	Facilities Director
Tom Temple	Assistant Commissioner (Recycling)
Joe Delano	City Council
Trish Pope	City Council
Residential	
Jennifer Boudrie	Green Marlborough, Founder (Education) - (Co-Chair)
Susie Cerni-Price	Resident/Green Marlborough (Sustainability)
Amy Beaudet	Resident/Green Marlborough (Alternative Energy)
Martin Levins	Resident/Wellness Committee (Business)
Business	
Susanne Morreale Leeber	CEO, Chamber of Commerce
Don Robinson	National Grid
Joanne O'Leary	NSTAR
Rick Bennett	Marlborough Savings Bank

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Sustainability Action Plan 2011

September, 2011

Overview

During the five months between February and June 2010 a dedicated group of fourteen people including city staff, city councilors, local residents and business representatives met to develop a strategy to implement the Sustainability Action Plan which was developed in 2008. This group was called the Sustainability Action Plan Taskforce. The taskforce was established to:

- Review tasks outlined in the 2008 Sustainability Action Plan.
- Identify measurable, achievable goals for the Municipal, Business and Residential sectors.
- Create specific workgroups and workplans to achieve those goals.

The Sustainability Action Plan describes actions the city may make to be a more environmentally sustainable community. It provides the actual “What, Who, How and When” resources to achieve this goal throughout the city and is divided into the three distinct sectors that make up the city:

Residential, Business, and Municipal.

Each sector is further broken down into distinct segments titled:

Energy, Water, Land Use, Transportation, Waste, and Purchasing/Pollution Prevention.

The goal as stated in the 2008 Sustainability Action Plan is for **“the City of Marlborough as a whole to be smarter and more resourceful about the manner in which its buildings use energy, people and goods are transported, and waste is managed. Marlborough is in a position to apply many existing technologies and approaches to address this problem and to take advantage of emerging trends and resources in energy, transportation, land use and waste management that can change for the better the way our city works and the way we live.”**

Environmental sustainability is a concept that ensures a high quality of life for future generations. It can be a source of innovation and value, but companies, residents and the city government itself must figure out among themselves how

it can enhance their efforts. The overarching theme influencing all sectors - municipal, residential and business - is the importance of **engagement, education, communication and advocacy**. The Sustainability Action Plan recognizes that implementing the actions will support local jobs, business development and green economic growth which will contribute to long term environmental sustainability and economic stability in the community.

When putting this Action Plan together it was clear that all sectors have already made successful efforts, for example in energy efficiency, across the board since the initial 2008 report. These actions were driven by the need to reduce costs and improve environmental health benefits. Three examples include: 1) One school piloted the use of green/nontoxic cleaners. This has proved successful and they will be used in all schools which will improve student and staff health, water treatment quality, and savings. 2) Companies such as Sunovian (formerly Sepracor) and Boston Scientific have each upgraded their facilities by updating the heating ventilation and cooling system and retrofitting buildings respectively, reducing electricity use and saving thousands of dollars a year as well. Payback on these investments had been less than a year. 3) Green Marlborough, a citizens' group organized a local "Home Energy Efficiency Team" to teach basic home weatherization and energy efficiency practices to 10 residents. All of these steps collectively serve to reduce waste and save money, and they must continue. This Action Plan specifies the action items needed to continue improvements in each sector.

Each sector produced a plan identifying actions, persons responsible, resources, timelines and ultimate goals. The top priorities are listed below:

The Residential Group

- Create a formal infrastructure to implement this Action Plan
- Work with the city to create a \$40,000 initial fund to hire staff, organize people, and finance projects and materials to implement the Action Plan
- Create a Resource Guide with resources for Residents to incorporate actions listed below
- Create a multifaceted approach to include municipal, business and resident members in a process that includes.... Engagement, Education/Guidance/Communication/Advocacy, Measured Improvement, Compliance/Rewards, Public Reporting

The Business Group

- The City of Marlborough needs to partner with National Grid and NSTAR to identify and implement cost effective energy efficiency measures in 2011 and encourage business participation.

- There is a need to identify key businesses and the name of respective facility directors who can implement items in the plan.
- There is a need to increase awareness of the National Grid and NSTAR websites with energy rebate and energy efficiency programs. Establish a link between the City of Marlborough and MassSave websites (www.marlborough-ma.gov and www.masssave.com). The MassSave website lists programs and rebates for residents, businesses and industries.
- Develop a Business Roundtable group sponsored by the Marlborough Regional Chamber of Commerce to share information and identify issues.
- Create 'Energy It can be an effective mechanism for promoting energy saving tips and other information.

The Municipal Group

- Hire a consultant energy/sustainability manager to track energy use. This person can help put the city on course with tracking the changes, recording energy use reductions and helping to secure grants and other funds to implement items in the Action Plan. Funding from Green Community Grants will be available to help fund this consultant and implementation.
- Work to create "green systems for all schools and municipal buildings" by establishing programs to encourage and track : 1) paper recycling and food waste composting, 2) energy reduction in buildings, 3) green cleaning supplies for all schools and municipal buildings ,and 4) water use reduction after adding meters to all buildings and performing audits.
- Look ahead to change zoning to include pedestrian-scale mixed use development, and to require more tree planting and more open space to be set aside to balance development.
- Promote existing public transportation and shuttle options and encourage more public transportation options such as future railroad use.
- Create Go Green awards city wide to recognize achievements made by each sector - business, residential and municipal and track the city wide progress on a web page to be updated annually.

The next steps will be for the city to lead a citywide campaign to promote a greener community and implement the Action Plan:

1. Form a follow up committee/taskforce to review ongoing implementation. This committee/taskforce should include residential, business and municipal participants and should begin quarterly meetings (and more often as needed) to ensure that the city as a whole stays on target.
2. Implement the Action Plan as described in the charts below for each of the three sectors.

3. Seek funding through state and federal grants, partnerships, city government, businesses and residential groups to implement the plan in all sectors.
4. Develop a tracking system for all sectors and meet the goals of 20% reduction by 2015.*(see below)
5. Submit a progress report to City Council & the Public in writing and on the web site at least annually.
6. Create a "Marlborough Going Green" web page to highlight successes in all sectors updated annually or continuously

Sustainability Action Plans

Below are the Action Plans for each sector to achieve energy use reductions and save money. Additional action items and resource needs will be added and documented as new ideas and opportunities become available.

*The City's ultimate goal is to reduce energy use by 20% by 2014 (the Green Communities goal) for municipal energy. This Action Plan provides the guidance to help meet these goals and become a more environmentally sustainable community.

For us to reach our goals in all sectors we will need to embrace this goal and implement the actions described below to attain it. By making a commitment together for an environmentally healthier Marlborough, we can achieve this target.

The 2011 Marlborough Sustainability Action Plan

RESIDENT GROUP WORKPLAN

Priorities:

- 1. Encourage the formation of a community group* to help implement this Action Plan**
- 2. Work with the city to create or help find funding to hire staff, organize people, and finance projects and materials (estimated \$40,000 needed).**
- 3. Create a Resource Guide to help Residents take actions listed below**
- 4. Continue with a multifaceted approach to include municipal, business and resident members with a process that includes....**

Engagement > Education/Guidance/Communication/Advocacy > Measured Improvement> Compliance/Rewards> Public Reporting

* Note the community group Green Marlborough has been an active member and participant in the creation of this SAP and in particular the development of this resident group workplan. However without dedicated funds to implement the plan they are understandably reluctant to commit to its implementation. Therefore the chart below notes “community groups” in general and not Green Marlborough specifically.

Residential Energy

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Benchmark # of residential energy audits and renewable energy installations	Community group, Don at NGRID or Mass Save; Energy Manager	Ask MassSave, NStar or NGrid for energy audit #s; Colonial power	Fall 2011	Benchmark recent years and set target for future audits/installations	Set target increase 200% or 400 homes.
Promote incentives for Energy Efficiency and Renewable Energy to home/condo owners, landlords/renters	Community Group, Mass Save, NGrid, solar vendors Ask NStar and NGrid about successful ways to promote Home EE Jen & Mike have presented to landlord group.	Link to NStar, NStar & MassSave websites. Incentives: free audits, annual savings. Case studies, community presence (hardware & home improvement stores) Split incentives for landlords/tenants. “Energy month” in fall. CREATE RESOURCE GUIDE FOR RESIDENTS.	2011+	Increase energy audits and solar KW. Measures: total number completed, % increase, KW, kwh	Joanne and Don said go to their website which constantly has updated info. Contact MassSave.org. Incentives: Free audits, annual savings. Asked for case studies, community presence (hardware and home improvement stores). Energy fair. Canvas neighborhoods. Community leaders get energy audits
Presentations to mayor, council, schools,	Community group	Expo – Energy Fair, with	On going	TV show about	Presentation...or events, such

neighborhood associations, community organizations, churches, senior center, ...about energy, environment, sustainability, triple bottom line		recycling, biz to biz, schools, case studies for residents		Inventory & SAP?	as Energy Fair, Expo? One way to reach residents is through the schools.
Advocate for -LEED standards for new construction/residential development -Solar power purchase agreements -Stretch code for residential new construction -Businesses to educate customers on EE	Community group USGBC	USGBC-Worcester Trades-Contractors Real Estate Agents Green M	In process	20% energy reduction in residential homes by 2020	Stretch code was passed November 8, 2010. Marlborough was designated a Green Community by MA DOER on December 16, 2010
Educate about -Life cycle costs	Community Group	Cradle to Cradle concept – add to GUIDE	2011-2012	Reduced waste, green purchasing	
Look for existing videos, guides, websites for education	Community Group	Alt E, NStar, NGrid videos/links	2011-2012	Add to websites and put on TV	Jen contacted NStar, NGrid, Energy Star, MassSave ... need to get media in correct format for use
Create brochure/resource to educate residents	Community Group	Energy, water (water saving kit, audit, leaks, rain barrel, water quality, plants), recycling, haz waste, lawnmowers, etc.....)	2011-12	We have good resources. Green M hired 2 college interns Nov/Dec 2010 to work on this.	Purpose is to gather info and get it to residents on environmental protection – what they can do at home and what local resources they have access to
Petition city council to adopt a sustainability fund to coincide with development	Municipal				Purpose is to finance actions that support energy efficiency, water conservation, walkable neighborhoods, etc.
Ask for city contract with Colonial Power Group to require energy efficiency measures/incentives/education for residents	Municipal		2011		
Support municipal solar/educational display at the public library	Community group, John G,	MTC \$10K funding	2011+	Save money and energy	Amy has contacted John about this
Support municipal ppa – power	Community	Solar vendors	2011+	Save money and	Acton and Hopkinton have this

purchase agreement	Group, John G.			energy	
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Residential Water

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Continue Stream Teams to monitor neighborhood watersheds and stream health	Priscilla, residents	Training program	2007-2011 About 90% are done	Report pollution issues. Reduce pollution.	Nearly complete
Provide water conservation education -annual water audit -check for/fix leaks -install low flow devices and water sense apps -wash car at car wash	Municipal	Get info from DPW and MWRA	2011+	Purpose is to gather info and resource list and get them to residents.	Statistics say 30-50% bldgs have water leaks
Ask DPW for water data to benchmark residential water use. Identify areas for savings.	Municipal	DPW	2011	Set water reduction target	
Show benchmark (from DPW) to residents and note 20+% increase in August. Invite them to provide landscaping tips (drought-resistant plants, rain barrel gardens, lawn watering alternatives)	Municipal		2011+	Community engagement	
Conduct a reusable water bottle campaign and Pledge to buy no water bottles	Community Group,	Media, schools	2011+	Add to guide	This is a simple gateway project
Promote pervious paving	Municipal	Local contractors	2011+		
Promote sustainable lawn care -drought resistant plants, -no lawn watering, - <i>neutron mower</i>	Community groups, municipal	Media, fliers	2011+		

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Residential Land

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Advocate for open space protection, community interconnectivity, and neighborhood parks	Open Space Committee Municipal; community groups	Open Space Plan	In progress	Support Conservation Office Open Space	
Educate about healthy landscaping: -organic landscaping, composting -native, drought resistant plants	Municipal, Garden Clubs	Create an educational site in a park for people to visit	Ongoing	People can go see what a healthy landscape looks like.	Healthy landscapes reduce toxins and invasives.
Promote Energy Efficient (EE) lawn equipment and give incentives	Community Group, Municipal Energy Manager	Monnick, Home Depot, Neutron	In progress	Reduce polluting lawn mowers and replace with EE ones	Ask local stores to sell Neutron
Plant trees – shade, heritage, fruit trees. Promote Arbor Day in April.	Chris White heads the municipal department that cares for trees. He can be a resource to residents and help organize group to help with trees, vines, etc. Municipal	Scouts, Lions, Green M	2011+	Create a community that values trees.	Residents have expressed an interest in trees but leadership is needed to create and manage projects.
Create community gardens	Community orgs Municipal	Residents, Business, City	IES school created garden in 2010. City creating garden at Cider Knoll	Leadership and community engagement	Many people are asking for this.

			2011		
Participate in community cleanups	Residents, City Staff, businesses Municipal	Municipal leadership	Annual ongoing event	Less pollution, improved aesthetics	This is a good model for other community activities...such as invasive vine removal
Analyze litter during clean up. What businesses is it coming from? Require them to participate in clean ups.	Residents, DPW Municipal	Municipal leadership	2011+	Reduce the burden on city/residents.	Analyze the source of the pollution to help stop it
Create invasive plant removal group to save trees	Municipal	DPW, Conservation	2011 ongoing	Organize group dedicated to this	Pilot was in 2009, scouts continued 2011 ongoing

Residential Transportation

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Work with a professional or join a committee dedicated to urban transportation alternatives and improvements	Chamber? 495 Partnership?	Contact MAPC	2011+	Improve short and long term transportation choices	
Advocate for transportation options -bus stops with signs/schedules/shelter/art/ history of immediate area -bus info more visible on city website (stops, routes, costs, schedule of events (mall movies...) -adequate parking -route to Southborough train station -safe sidewalks, paint crosswalks for walkers -install bike racks at bus stops, schools, stores -paint bike lanes -post walkable neighborhoods and	Community Group Municipal, MAPC	Cambridge, MAPC, Mass Rides	2011+	Pedestrian friendly community, safer sidewalks, safer biking, more transit choices, reduced pollution	Bus stops need to have info and be attractive Lower excise tax - a local incentive for people to buy EE cars which are more expensive.

community interconnectivity maps -local carpooling options -walking/biking Safe Routes to School -Public Right of Way Guidelines (PROWAG) to make intersections safe, pedestrian friendly, look and function up to the standard guidelines to encourage safer walking routes for people					
Research transportation alternative opportunities such as www.fhwa.dot.gov/TEA21/sumenvir.htm	Municipal , MAPC	Interns from local colleges? Grant?	2011+		
Create transportation resource info/guide to residents about local transportation options	Community Group, Municipal				Put in Res. Guide
Look into Zip Car option	Community Group			Shared car opp in urban setting	Jen spoke with Zip... they may be months/years away from a Marlborough site
Raise awareness of bike path and it's linkage to neighborhoods NOTE: Put sign at ARRT trail head so people know where to park.	ARRT Inc. , Municipal Community Group	Municipal	In progress	People opt for bikes instead of cars sometimes. Improves health.	2009 & 2010 events were good

Residential Waste

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Create guide for residents -reduce/reuse/recycle/compost -free cycle/swap shop/craigslist/swap shack -resources -benefits	Community Group Municipal Energy Manager	Municipal	2011-12	Educate people and provide resources. Reduce waste and save money.	Lots of good info is available. It just needs to be put together.
Educate residents about the costs of waste to the individual and the city	Recycling Taskforce Municipal	Community Group Municipal	2011	Benchmark costs and plan change	Asked DPW for data but no response

Advocate for -mandatory recycling -littering signs and \$200 fines -bottle bill -reusable bags in local stores -recycling at all apt/condo complexes -recycling at businesses	Community Group, DPW, Conservation, Police Municipal	Ask city for budget to help with waste reduction.		Reduce littering.	Is there a history of prosecuting littering in Marlborough? How much does M spend on waste?
Create tidy community competition	Involve ward councilors? Municipal, Community Group	Martin Levins	2011+	Create community pride	
What can be recycled at stores	Community Group Municipal; Energy Manager	Put in resource guide	2011+		

Residential Purchasing/Pollution Prevention

Actions	Person(s)	Resources	Timeline	Desired Outcome	Comments
Advocate for -green products/service choices in businesses -labels for local, organic, non-toxic products	Community Group, businesses	TURI, Chamber	2011+	Stores will have signs/tables with local/MA produce/products	There are many people interested in this. Some stories are already doing this.
Create a guide -educate about the benefits of local, clean, green products/services -list resources	Find someone to research this for Marlborough, Community Group	Lots of printed and online guides exist.	2011+	Promote local products and services	There are many people interested in this.
Connect TURI to the community	Community Group businesses	Websites, community visit, DPW/schools?			Already connected through Green Marlborough
SHOPPING List what can be recycled at stores/transfer station Take reusable shopping bag - sign at	Community Group, municipal and business		2011+	Provide assistance to shoppers to recycle, reuse bags and buy local	

stores Buy green (local, organic, reduced packaging, made from sustainable/recycled materials)					
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Residential - Food

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Advocate for -green products/service choices in restaurants -local, organic foods	Community Group	Restaurants	2011+	Improved environmental and personal health	Some restaurants are greener than others ...
Create a guide	Community Group		2011+		One is already online at www.GreenMarlborough.org
Create community gardens	Municipal		2011+		
Help people create gardens in their yards	Local orgs, Garden clubs?		2011+		
School Gardens	Wellness Committee		2011+		Started at Kane school in 2010
Create an environmentally friendly home model: neutron lawn mower, energy efficient, water conservation, wildlife area, bat house, rain barrel, organic garden, recycling, etc.	Community Group		2011+		
Educate people about the SAP and invite participation	Community Group		2011+		

The 2011 Marlborough Sustainability Action Plan

MUNICIPAL WORK PLAN

Top Priorities:

1 Hire a consultant energy/sustainability manager to track energy use. This person can track changes, record energy use reductions, and secure grants and other funds to implement items in the Action Plan. Funding from Green Communities grants will help fund this consultant and implementation, too.

2 Work to create "green systems for all schools and municipal buildings" by establishing programs to encourage and track: paper recycling and food waste composting; energy reduction in buildings; green cleaning supplies for all schools and municipal buildings; and water reduction after adding meters to all buildings and performing audits.

3 Look ahead to change zoning to include pedestrian-scale mixed use development, and require more tree planting and more open space to be set aside to balance development.

4 Promote existing public transportation and shuttle options and encourage more public transportation options such as future railroad use.

5 Create Go Green awards city wide to recognize achievements made by each sector - business, residential and municipal. Track city wide progress on a web page to be updated annually or continuously.

Municipal Energy

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
- Meet criteria for the Massachusetts Green Communities program -Apply for Green Community participation in 2009 www.mass.gov/doer/energy/greencommunities	Priscilla Ryder Conservation Officer; John Ghiloni- Facilities Director	VHB planner to provide guidelines Staff to revise/write ordinances	June 2010 all actions to be done	Meet all 5 criteria to be eligible for funding from state "Green Communities program"	Dec. 16, 2010 city was designated Green community! COMPLETED

<p>-Hire an Energy Manager to track energy use or a Sustainability Director to plan and implement sustainable practices.</p> <p>-Identify where we are now and where we want to go to set short and long term goals to track energy use in city buildings and the city fleet.</p> <p>-Conduct annual reviews to update data and gauge progress.</p>	<p>John Ghiloni, Facilities Director to take the lead.</p>	<p>Job descriptions and case studies are available.</p> <p>A professional energy manager- consultant will improve energy efficiency.</p> <p>Funding from grant programs- Green Communities Grant (GCG) can be used to hire a consultant</p>	<p>August 2011 hire energy/sustainability Manager consultant</p>	<p>Have energy manager on board to help evaluate and implement efficiencies and help with grant writing to obtain additional funds to implement energy savings projects.</p>	<p>September 2011 Hired a part time energy manager.</p> <p>COMPLETED and ongoing</p>
<p>Provide outreach/training/tools to municipal employees, both on recycling and energy reduction</p>	<p>Energy/Sustainability Manager working with Tom Temple-DPW;</p> <p>and John Ghiloni-Facilities Director</p>	<p>Develop information and incentive program for school and all municipal buildings.</p> <p>Web site development</p> <p>School education</p> <p>GCG funding and materials may be available.</p>	<p>To be up and running in winter 2011</p>	<p>Have all employees/students understand the need to recycle and reduce energy use, have them feel good about the changes</p>	
<p>Provide resources to teachers for curriculum that includes recycling and energy efficiency</p>	<p>Tom Temple- DPW, John Ghiloni-Facilities Director, School Curriculum coordinator</p>	<p>Information to schools on sample curriculum.</p> <p>Access and training to teachers.</p> <p>Set bench marks to keep</p>	<p>To be up and running in Winter 2011</p>	<p>Have teachers engaged in curriculum for recycling and energy efficiency. Provide incentives</p>	

		track		and tracking tools for each school. Have schools compete with each other.	
Replace city-owned traffic lights with LEDs which are 90% more efficient. \$12K DEP grant rec'd 2/08.	Tom Temple -DPW	Rebates/grants used to pay for replacements	Two remaining lights to do which will be done by August 2010	LED lights in all city owned traffic lights.	Almost complete 5-2010
Organize an Energy and Environmental Task Force to review Action Plan and encourage cross-pollination of ideas and actions from residential, business, municipal, energy, and transportation sectors	Priscilla Ryder- Conservation Officer And other co-chairs	Municipal, Business, Resident, and Energy representatives.	Feb- June 2012	Complete and present Work Plan to Mayor and City Council when completed in June 2012	Sustainability Action Plan Taskforce created in Jan. 2010.- Done Report Done in 2011. Report to be released in 2011
Organize "green teams" within <u>city</u> departments to promote sustainable actions. Fire Department doing a good job & Middle School	John Ghiloni- Facilities Director; Tom Temple- DPW	Set up groups in each building (rather than Dept.) and each school. Set goals for each group to control consumption (energy and waste). Set up tracking system for green teams to report- recycling, energy use, water use etc. (report once a year on	Set up for Winter 2011 roll out with school program too. Goal is to have ALL municipal buildings including schools participate	Engage all municipal employees and schools in "green teams" within each building to help collectively reduce consumption	

		web site or more often)			
Publicize energy efficiency and green energy choices on aggregation website and in municipal aggregate electric bills. Also on city website.	John to talk to Brian Murphy.		Set up web page Jan 2012		How about city website
Work with city contract with Colonial Power Group to require energy efficiency measures/incentives/education for residents.	John Ghiloni, Mayor, Energy Manager; City Council		Jan 2012	Improve energy efficiencies within homes and all energy users under the contract.	
Promote ESCOs (Energy Service Companies) and performance contracting with local vendors to improve energy efficiency and reduce obstacles caused by upfront capital costs.	John Ghiloni - Facilities Director	National Grid incentives and rebates are used to do retrofits to municipal buildings.	2009 and ongoing	Use incentives and rebates to maximize the energy efficiency of all municipal buildings.	Being done and ongoing
Assess condition of current city buildings and seek energy star status when feasible	John Ghiloni Facilities Director-	Work with national Grid to do assessments of all 16 municipal buildings. (As of 4-15-2010, 4 buildings have been done.	2009 began will be ongoing until all buildings are done	All buildings will be assessed to determine what upgrades are needed to make them more efficient and meet energy star status	
Purchase green electricity - or invest in local renewable energy generation. Look into large solar installation like the two in Hopkinton and Acton (400+kw arrays on public buildings) Excellent long term savings. This is called a ppa – power purchase agreement.	John Ghiloni - Facilities Director, Energy Manager; Jen	John will look into this. Ask Scott McClintock at NexAmp in Andover for ppa proposal. They did the Acton project. Also get proposals from	2011 Begin looking into this	Have several solar arrays mounted on municipal buildings where feasible and	

		GroSolar, Rise, and Mass Renewables. Check with Commonwealth Solar		economical.	
Pursue solar energy and other renewable energy installations on city buildings	John Ghiloni - Facilities Director, Energy Manager	Grant/ rebate incentives to purchase equipment solar/wind otherwise it's not economical	Begin planning fall 2010- be ready when funding is available	Install solar panels or other renewable energy items on/in city buildings where it is economically feasible	
Integrate extensive energy efficiency upgrades and renewable energy into city planning (e.g. wastewater treatment plant design plans)	John Ghiloni - Facilities Director, Ron LaFreniere- DPW Commissioner; Energy Manager	Work with building assessment lists and departments to determine what needs to be done- planning for the long term.	began 2009 Upgrades underway at Westerly WWTP Upgrades now in the planning stage for the Easterly WWTP High School will get major upgrade with GCG and rebates in 2012	Ensure that energy efficiency and renewable energy options are considered and integrated into all new projects and all upgrades and renovations as feasible.	
Promote the passage of the Stretch Energy Code to be used in the city. If this is not adopted then use LEED or Energy Star guidelines for all new municipal building	John Ghiloni- Facilities Director; Steve Reid- Building Inspector	Develop guidelines that will encourage LEED or Energy Star standards to go beyond existing code	Fall 2010 city council voted to adopt Stretch Energy Code.	As the city invests in new or renovated facilities the goal	Completed Nov. 2010 ongoing

construction and renovations		(whether Stretch Energy Code is passed or not)		should be to make them as energy efficient as possible for the long term benefit of the city.	
Reduce hot water temperature to 120 degrees F (at tap)	John Ghiloni- Facilities Director; Board of Health; Plumbing inspector; Energy/ Sustainability Manager	Check with Board of Health and work with them on water temperature reductions where possible in municipal buildings	Fall 2011 begin	All buildings are checked and hot water temperature has been reduced in all buildings.	
Retrofit street lights to be more energy efficient	John Ghiloni - Facilities Director; Don Robinson NGrid; Tom Temple DPW	John has data from NGrid and can decide which lights can be retrofitted.	2012 begin	Reduce energy use for street lights	

Municipal Water

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Install water meters on all municipal buildings	DPW to install - contact Tom Temple; Water department	water meters, piping; plumber	DEP deadline requires it done by July 2011	All municipal buildings are metered in order to track water use by building.	
Monitor water bills annually when the meters are installed and the policy is implemented	Water Department and DPW	Annual water use provided for each building	After July 2011	Having the ability to monitor water use in all buildings to see where additional conservation	

				measures can be implemented	
Conduct annual water audits in all municipal buildings. Check all plumbing fixtures for leaks. Replace fixtures (faucet aerators, toilets, shower heads, spray nozzles) with low-flow devices	John Ghiloni- Facilities Director; Water Department DPW	Maintenance staff to check with buildings are cleaned and reported so repairs can be made	July 2012 once meters are in this annual audit will begin. Fixing leaks and checking fixtures is ongoing 2009 onward	Better management of all plumbing fixtures and when replaced with low flow devices	
Provide free water-saving kits to residents. This needs to be promoted more. MWRA provides free fixtures.	Water Dept. DPW- Tom Temple	Water saving kits provided by MWRA Provide to City Councilors also as an education piece and to promote their availability.	Ongoing	Make kits available to everyone.	
Educate residents about watershed and storm water drainage	Priscilla Ryder Conservation Officer; Tom Cullen -City Engineer	Storm drain markers installed on streets when they fade or fall off; annual flyer in water bill; public service announcement on local Cable TV. OAR workshops at Ft. Meadow in summer; Through city web site	2008 ongoing	Create awareness about stormwater and where it goes when it rains. Educate about Lawn and car care to prevent impacts to streams. Have people understand the connection between actions and consequences.	
Educate businesses about water conservation	DPW water Dept.	Once OTA report is			

		out share general ideas with businesses to show how water use reduction can be accomplished for fast return on investment.			
Educate businesses about wastewater reduction. Ask them to reduce chemicals (e.g. soap phosphates) and to seek non-toxic alternatives.	Water Department DPW- pretreatment program; Chamber of Commerce	Have DPW develop and expand on the existing pretreatment program to reduce flow and inputs to the wastewater plants	Begin Fall 2011	By reducing inputs into the wastewater system fewer chemicals are needed at the sewage treatment plant, thereby reducing transportation and treatment costs.	
Organize stream teams to monitor health of neighborhood watersheds and streams pouring into local reservoirs	Stream Team; Priscilla Ryder- Conservation Officer	Conservation, GM, residents	March 2011 and ongoing	Create baseline and monitor stream health	90% completed March 2010
Investigate water conservation measures and retrofit with low-flow devices in all municipal buildings	John Ghiloni- Facilities Director; Plumbing inspector; DPW Water Department	Get donations of retrofit devices to install in all buildings	2011 ongoing	All water devices in municipal and school buildings are retrofitted with low flow devices by 2015	
Provide water conservation education -annual water audit -check for/fix leaks -install low flow devices and water sense apps -wash car at car wash	Community Group, Tom/ DPW water dept.	Get info from DPW	2011 ongoing	Purpose is to gather info and resource list and get them to residents.	Statistics say 30-50% bldgs have water leaks
Create brochure/resource to educate residents about water saving measures. (distribute with annual water notice and post on web site)	DPW work with Community Groups	Coordinate with community group maybe can jointly fund if benefits city	2012	Get the word out to residents about what they can do	

		too.			
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Municipal Land Use

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Change zoning to include pedestrian-scale mixed-use development with residential. Aim for urban density near public transportation. Approach the planning board.	Building Dept: Law Dept. Possible MAPC	City staff or consultant to draft Mixed use overlay for Downtown	Begin spring 2012	Submission of Downtown Mixed Use overlay district to city council and planning board	
Request/require LEED guidelines be used on all new developments /renovations in the city. If the Stretch Energy Code is passed by the City, then the LEED guidelines are in addition to the Stretch Energy Code.	Steve Reid- Building Inspector; Tom Cullen- City Engineer	Change Planning Board Regulations as needed (i.e. street light requirements are not energy efficient) Change other city codes as needed if not addressed in stretch code.	Jan 2012	All new buildings built in the city are energy efficient.	Stretch code passed in Nov. 2010 Completed
Create green standards and green building practices for renovating municipal properties.	Steve Reid- Building Inspector; John Ghiloni- Facilities Director; Energy Manager;	Green Community Grants to help put together standards (if not already covered in stretch code)	Jan 2012	Have renovated buildings throughout the city meet higher energy efficient standards.	
Conduct open space reviews that require open space in all project designs.	Planning Board	Look into ways zoning or planning board ordinances might have to change to accommodate this	Jan 2012	Increase open spaces throughout the city.	
Create additional public green space and plant trees as part of new renovations/developments.	Steve Reid- Building Inspector; Chris White- Tree	Change redevelopment/development rules to require	Green development practices to be	More trees improve air quality of the city and	

	Warden	more trees. Example Katz plaza (stapes and Home Depot) lots of trees were cut and this was OK per city code. Needs to be changed.	reviewed suggested changes to be submitted in 2012	make it a nicer place to live- lessens heat island affect.	
Limit/Expand development to encourage green development that is sustainable only.	Planning board/ city council MAPC	Look at current regulations and recommend changes to accomplish green/sustainable development. MAPC is working on guidelines.	2013	All new or expanded development is "greener"	
Promote farmers market	CDA used to do this? Who now?? Should be MEDC (formerly Marlborough 2010)	Need coordinator and farmer contacts Marilyn Whalley, Executive Director	Summer 2012	Have summer farmers Market in Marlborough once a week in summer months.	
Work with conservation commission to save Marlborough's last farms	Conservation Commission; Open Space and Recreation Committee	Raiano Farm; Gulbankian Fields; Houde Tree Farm	Jan 2012	Save farms for their agricultural values and aesthetic value to the community.	
Implement the Stretch Energy Code in Marlborough	Steve Reid Building Inspector; Mayor; City Council	Adopt stretch code as required for Green Communities Program participation		Have a code in place which requires energy/water efficient building construction	June 2011 concurrence period; Jan 2012 fully implemented Completed
Approve wind turbine zoning/ordinance	Steve Reid -building inspector. Energy manager	Get example wind turbine ordinances to start with. Determine where wind energy (even small home	Jan 2012	Allow wind turbines in the city by right	

		owner ones) can be used.			
Create community gardens	Community orgs; Conservation Commission	Conservation Commission, DPW and Community orgs.	IES school created garden in 2010. 2011 Garden to be started at Cider Knoll Conservation Land	Leadership and community engagement	Many people are asking for this.
Adopt-a-space/planting downtown renovation – create consistent plantings (boxes or hanging plants to spruce up Main Street.	Tom and DPW, or Garden Clubs				

Municipal Transportation

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Employ a green city fleet policy to require purchases of most fuel efficient vehicles. (could be hybrids and alternative fuel vehicles but not required)	Priscilla Ryder-Conservation Officer; Mayor	Energy Efficient Vehicle Policy amended to City needs	Nov 2010	All new administrative vehicles purchased shall be energy efficient	Completed in Nov. 2010 Policy in place
Support a “Walking Bus” health and wellness program for school children	Martin Levins; School department; Wellness Committee	Continue Walking School Bus program	Continue during school season	Increase the number of kids who walk to school	Ongoing and expanding
Extend bicycle paths in the city to connect ARRT, neighborhoods and workplaces.	Tom Temple-DPW; Priscilla Ryder-Conservation;	Create plan to make ARRT connections throughout city ; MAPC Sustainable Communities Grant	Create Plan- Fall 2012	Have a plan to implement to create bike path connections	Summer 2011 MAPC submitted grant for this planning.
Create bicycle lanes on Route 20 and city roadways	Tom Temple and Tom Cullen-	Create a plan to show where bike lanes	Create Plan in 2012	Have majority of roadways have bike	“

	DPW	can/should be included along roadways	Implement plan-2012 ongoing	lanes for experienced bikers to encourage bike commuting.	
Maintain and create major pedestrian walkways. Ensure they are well-marked, clean, and safe. Plant trees to improve aesthetics and provide shade for walkers.	Tom Temple and Tom Cullen-DPW; Chris White- Tree Warden	Create plan to improve walkway connections with sidewalks, through neighborhoods etc. MAPC Grant	Create a plan in 2011 Implement plan after that try to do several connections each year	Make Marlborough a more walkable city by adding walking connections where they don't already exist.	“
Promote education on driving and maintaining public vehicles to reduce emissions. Include information about personal health and environmental benefits.	Steve Senato-DPW fleet division;	Work with Steve Senato at DPW to work on an education program.	Create a program in 2012 Implement program 2013	Have an educated "driving" employee base that can, through better driving and fleet maintenance have more efficient vehicle use.	
Purchase idle/emission reduction devices for municipal vehicles	John Ghiloni Facilities Director; Superintendent of schools; Tom Temple - DPW; Mayor	Need to purchase monitoring device. Share with other departments. Coordinator needed.	Jan 2012	Make idling a thing of the past.	
Implement no idling policy. Retrofit municipal vehicles to ban idling. Enforce anti-idling measures. Especially by school buses and waiting parents	John Ghiloni; Superintendent; School Committee; Mayor	This is a state law. Signage and a program for enforcement to get compliance are needed.	Jan 2012 adopt policy and signage and implement-ongoing	Have no city buses, cars or trucks idling	
Ask for federal and state public transportation	Mayor; State	Continue to support	Ongoing	Improve the	

<p>funding for local public transit</p> <p>Coordinate public transportation options with surrounding communities and MAPC</p>	<p>Senator and Representatives; Marlborough Economic Development Corp.</p>	<p>and expand bus program</p>		<p>availability and use of public transportation</p>	
<p>Reserve garage and public parking spaces for energy efficient vehicles</p>	<p>John Ghiloni-Facilities Director;</p>	<p>Set aside two or three spaces in the parking deck to promote and encourage hybrid use. Sign to say: "Thank you for helping the environment and driving a hybrid/energy efficient vehicle- Please park here!"</p>	<p>Spring 2012 establish two places</p>	<p>Encourage people to drive hybrid or energy efficient vehicles by providing incentives to them.</p>	
<p>Work to ban large trucks on roadways except for limited access highways.</p>	<p>Traffic Commission</p>	<p>Many roads already have truck exclusions. Where appropriate more should be added to the list.</p>	<p>Ongoing</p>	<p>Reduce large truck traffic on smaller roadways to reduce impacts to roads and make smaller roads safer.</p>	
<p>Create vanpools (Federal tax benefits)</p>	<p>Large Businesses</p>	<p>Create incentive program for vanpools to reduce traffic use</p>	<p>Create program in conjunction with Business sector 2012</p>	<p>Work to reduce traffic of single occupancy vehicles</p>	
<p>Modify traffic signals (short cycles or blinking during non-rush hours)</p>	<p>Tom Temple-DPW; Traffic Commission</p>	<p>Continue existing program which modifies light cycle during off peak</p>	<p>Install additional loop detectors where needed at intersections.</p>	<p>Improve traffic flow and reduce longer stops during non-rush hour traffic</p>	

		hours. With Loop detectors	Most intersections already have them. 2011 ongoing	cycles	
Mixed zoning - to encourage mixed use in downtown area - which is a smart growth concept	Planning arm of city. MEDC	Develop new zoning language for review and acceptance which allows mixed uses in downtown areas. This encourages healthier downtowns.	In progress 2010	Provides for as of right mixed use of businesses and residential use in downtown areas. This can help revitalize and improve areas.	
Look into expanding public bus and train options and associated parking to reduce traffic. Extend shuttle to nearest train station. -Add commuter rail (Industrial park rail line) -Increase capacity of Worcester to Boston rail line. -Connect industrial park to rail stations at Southborough and Westborough. -Add shuttle service to Southborough station -Support, promote, expand RTA service; Continue to support \$5 one way bus to Boston	transportation group; Marlborough Economic Development Corp; Transportation Committee; Regional planning agency MAPC; State representatives	Encourage the development of a commuter rail link on the CSX line through the industrial park.	Ongoing advocacy	Create a commuter rail station in Marlborough.	
Expand freight rail. Avoid 8,000 trail trucks/day on Mass Pike and Routes 290/495	Regional Planning Agency MAPC; Chamber of Commerce.	Work with regional planning agency and CSX to promote freight rail use.	Ongoing advocacy	Freight rail is more efficient and less polluting. Saves our roads, saves fuel; reduces emissions.	
Raise awareness of ARRT bike trail. Trailhead signage. Link to downtown.	Conservation Officer; City engineer	Work on development of master plan		Have ARRT used for getting to and from destinations as well as for recreation.	
Create signage with police telephone # to report	Tom Temple			Help raise	

vandalism and graffiti.	DPW; Police Dept.			awareness and reduce vandalism and graffiti	
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Municipal Waste

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Implement waste prevention in all departments. Schools, city hall, and all municipal buildings Educate employees about recycling: What and when, needs/benefits	John Ghiloni- Facilities Director; Tom Temple -DPW; Janitors	Tom and John to develop a program for each building - began with recycling bins; inspect trash and work on promoting more recycling. Educate janitors to help with implementation and enforcement.	Jan 2012 kickoff program at schools (continue) and municipal buildings	Have waste stream be fully separated so ALL recycled materials are recycled, and minimize other trash generation	
Provide recycle bins (paper, plastic) in all departments. Establish pickup schedule. Including events and field use.	John Ghiloni - Facilities Director; Tom Temple - DPW	Recycle bins; system to monitor recycling needs to be established to encourage participation. Need to provide bins for sports events and other city events as well.	Done in 2009- recycle bins in every office and in every school room. Jan 2012 provide bins for all sports and other city events.	Improve recycle rates from all departments; and all city events. Monitor and educate to improve amounts recycled on an annual basis.	2010 recycling bins distributed to all departments.
Increase mandatory recycling program which will limit the volume of trash generated throughout the city (municipal and residential)	Tom Temple - DPW; Mayor; City Council	Research mandatory recycling programs and implement the best one.	Jan 2012 have program in place	Improve recycling rate throughout the city	
Enforce waste bans (no paper in trash)	Tom Temple - DPW; John Ghiloni- Facilities	Develop a policy for enforcement of waste ban for both municipal	Spring 2012 once new systems are in place	Have a way to encourage and work to improve recycling	

	Director; Mayor; City Council	and residential programs.		throughout the city.	
Conduct audits to ensure proper waste and recycling practices.	Tom Temple DPW; John Ghiloni; Waste Collection; Energy Manager	Set up a system with mandatory recycling program to provide audits to determine progress being made & help enforcement	Spring of 2013 once new systems are in place	Audits will help with enforcement and to determine better education campaign to gain compliance.	
Encourage and promote the creation of a program that promotes recycling for commercial and business facilities.	Chamber of Commerce; Energy/Sustainability Manager	Research programs for commercial properties work with Business SAPT sector to get participation and help improve overall city wide recycling	2012 work with businesses on plan 2012-14 implement plan	Have improved recycling and waste reduction for all business sectors throughout the city	
Institute green purchasing policy for all departments. Buy products made from recycled products, e.g. recycled paper, recycled toner cartridges...	Bev Sleeper - Procurement Officer; School Departments; Municipal Departments; Energy manager	Make sure green purchasing policy is enforced and updated at least every 5 years	Jan 2012 review policy update as needed. 2010 ongoing purchase recycled products	Ensure that the city is recycling and USING recycled products to complete the cycle and reduce waste and resource use.	
Trash collectors - energy efficient vehicles can be part of contract	Tom Temple- DPW; Bev Sleeper- Procurement Officer	When contracting the city collection service, ensure to weigh into the cost factor how energy efficient the vehicles are. In most cases fuel costs are passed onto the City, so this would cut costs in the long run.	As contract is bid	Look at long term benefits both in cost, energy use and greenhouse gas emissions reductions.	
Conduct annual cleanups Conduct clean ups 2 x a year	DPW; Mayor's office;	Annual Clean Sweep Invite fast food	Twice annually (if possible)	City looks cleaner because all trash has	

	Conservation	restaurant and convenience store owners to participate. As much trash comes from them.		been picked up regularly throughout the city	
Educate residents about the costs of waste to the individual and the city	Community group; DPW; Recycling Taskforce	Community group; DPW work cooperatively	2012	Benchmark costs and plan change	

Municipal Purchasing/Pollution prevention

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Create sustainability policies/purchasing procedures. Require vendors to provide environmentally preferred products/services, proof of sustainability/best practices, supply chain analysis info (transportation, materials, packaging) that show energy efficiency and sustainability.	NGrid or NStar may have model language for this. Energy Manager				
Purchase fuel efficient vehicles only	Energy/Sustainability Manager	Use state policy have it adopted by Mayor	June 2010	All new administrative vehicles purchased shall be energy efficient. When trucks and police/fire vehicles that are energy efficient become available consider purchase of them as	Completed policy adopted Nov. 2010

				well.	
Purchase energy star or energy efficient appliances when feasible.	John Ghiloni - Facilities Director; Energy/Sustainability Manager	Use utility incentive programs to help purchase the more efficient appliances. Look at life cycle long term costs utility costs when purchasing appliances.	Fall 2010 begin this process	Change the short term "cheaper" appliance purchase thought process to one that looks at the life cycle cost of an appliance when purchasing. Have all new appliances be as energy efficient as possible to reduce energy use.	
Purchase biodiesel and retrofit vehicles or look into ways of reducing energy use in municipal vehicle fleet to retrofit existing vehicles if practical.	Steve Senato DPW fleet division;	Work with DPW to determine if this is feasible and practical; do some research.	Implement when feasible	Have a more energy efficient/ lower emissions city fleet	
Purchase office supplies with recycled content (paper, plastic, toner cartridges)	Sleeper Procurement Officer; School Departments; Municipal Departments	Make sure green purchasing policy is enforced and updated at least every 5 years	Fall 2010 review policy update as needed. 2010 ongoing purchase recycled products	Ensure that the city is recycling and USING recycled products to complete the cycle and reduce waste and resource use	
Purchase green cleaning soaps/detergents only; require contractors to use green cleaning soaps/detergents only	John Ghiloni - Facilities Director;	Pilot program at Middle School 2010 showed great progress in green cleaning. This information is to be used throughout all municipal buildings.	Continue purchasing green cleaning products for all municipal buildings and school facilities. Fall 2010 ongoing	Have all cleaning materials within municipal buildings and schools be green. This means less toxins in the air and water, less exposure to janitors, employees/students; and less cost for	

				treatment at the treatment plant.	
Remove toxic chemicals from schools and all other municipal buildings	John Ghiloni-Facilities Director; School Superintendent; DPW & Fire Dept. ; Energy/Sustainability Manager	This program of purchasing less hazardous materials (or none) and removing them from the school system has been underway for 10 years. This is an ongoing process. DEP grant funding is often available to help with removals.	Ongoing Keep inventory of any toxic chemicals needed	Keep schools toxic chemical free; as well as all departments.	
Purchase organic landscaping chemicals	DPW Parks & Rec.	City currently follows an Integrated Pest Management program. Any pest control used must meet school notification requirements. Currently only used if absolutely necessary and no "non-chemical" option is available.	IPM program for fields is ongoing.	Organic chemicals for health. No chemicals on playing fields. Saves \$.	
Create green purchasing policy/procedure. Run all purchasing through the purchaser.	Bev Sleeper Procurement Officer; Energy/Sustainability Manager	Once green purchasing policy is in place and updated all such purchases would have to go through the procurement officer for verification.	Ongoing	Save money, reduce waste	

<p>General category: Go Green Awards city wide- to recognize achievements by sector - business, residential and municipal</p>	<p>Energy/ Sustainability Manager; Chamber of Commerce; community groups</p>	<p>Create data base and ways to measure "green success"</p>	<p>Once program is up and running, make this annual. Submit applications by Early April, issue awards by mid May of each year</p>	<p>Award will be incentive and way to recognize success in each sector</p>	
<p>Create city wide web site to track, promote, educate residents and businesses about how the city is being sustainable</p>	<p>Conservation; Energy Manager; Facilities Director; schools</p>		<p>2011</p>	<p>Create a central "city wide" web page for sustainability activities, reports etc.</p>	<p>Create city wide web site to track, promote, educate residents and businesses about how the city is being sustainable</p>

The 2010 Marlborough Sustainability Action Plan Taskforce

BUSINESS GROUP WORK PLAN

The Business Group has identified the following top six priorities:

1. The City of Marlborough needs to partner with National Grid and NSTAR to identify and implement cost effective energy efficiency measures in 2010 and encourage business participation.
2. There is a need to identify key businesses and the name of respective facility directors who can implement items in the plan.
3. There is a need for increased awareness the National Grid and NSTAR websites for energy rebate and energy efficiency programs.
4. Develop a Business Roundtable group- sponsored by the Marlborough Regional Chamber of Commerce to share information and identify issues.
5. Create an 'Energy Awareness' month (September) within the Community calendar – focusing on a series of events with schools and community organizations. It can be an effective mechanism for promoting energy saving tips and other information.
6. Establish a link between the City of Marlborough and MassSave websites (www.marlborough-ma.gov and www.masssave.com). The MassSave website lists programs and rebates for residents, business and industry.

Business Energy

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Create Marlborough business group to share transportation and building solutions	Marlborough Chamber of Commerce; MEDC	Grant Programs	begin spring 2012	creation of group	
Promote annual energy audits, energy efficiency programs, and incentives	Ngrid; NSTAR	Link City website to both utilities and MassSave website	spring 2012	\$\$\$ savings	
Use benchmarking to decide where to allocate resources for energy efficiency	NGRID; NSTAR	Building Assessment program	Fall 2012	\$\$\$ savings	

Reach out to largest businesses to participate in voluntary benchmarking program	NGrid; NSTAR	Utility company staff		\$\$\$ savings	
Promote utility rebates/incentives	NGRID; NSTAR	website cable TV	spring 2012	\$\$\$ savings	
Hire energy manager or sustainability director or provide facilities manager training	City of Marlborough	grant funds	Fall 2011	\$\$\$ savings	
Promote solar hot water installations for hotels			Spring 2012		
Train staff about reduced- waste practices.	Companies	personnel depts.	summer 2012-	Develop outreach policies	
Provide business with self checklist for energy conservation and environmental sustainability practices	NGRID; NSTAR	utility websites and MassSave website	beginning spring 2012	\$\$\$ savings	
Pursue funding through Renewable Energy Trust for renewable energy installation.	Company	RET website; DOER utility companies	Spring 2012	\$\$\$ savings	
Calculate carbon footprints for: Energy, Waste, Water, and Transportation	utilities	Building assessment program	Begin fall 2012	\$\$\$ savings	
Create green business organizations	chamber of commerce/ utilities	Establish Round table forums;	Summer 2012	\$\$\$ savings and demonstrated commitment	
Find ways to reduce server energy use	NGRID; NSTAR	websites	Summer 2012	\$\$\$ savings	
Use LEED building guidelines	State Building code	Company facilities dept.	fall 2012	long term savings	
Start green teams or Low Carbon Diet groups in each department.	Chamber of Commerce	facilities dept	spring 2012	\$\$\$ savings	
Create educational forum for developers, contractors, real estate professional on energy-efficient building	City of Marlborough/chamber of commerce	National Grid; NSTAR	begin spring 2012	\$\$\$ savings	
Provide list of approved local ESCOs for retrofits	Utilities to provide list	website; brochures	Immediate	\$\$\$ savings	
Provide a sustainability assessment and resources program for businesses	NGRID; NSTR	website; brochures	Spring 2012	\$\$\$ savings	

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Business Water

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Inventory and monitor water bills- including hotels and large and small users.	Company's facilities dept	staff time	immediately	\$\$ cost savings	
Conduct an annual water audit. Check for and fix leaks on all plumbing fixtures. Retrofit fixtures with low flow (faucet aerators 1.5gpm, toilets 1.1-1.6gpf, 0-1gpf urinals, hose nozzles, shower heads 2.5gpm)	""	staff time	Immediate	\$\$ cost savings	
Plant low-maintenance landscapes with native, drought resistant plants that require no watering	Individual companies	Brochures and printed materials re: plantings;	Immediate	attractive; desirable facility;	

Business Land

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Plant trees	Company facilities dept	Trees, soil	Immediate	Increase value	
Plant low maintenance landscapes with native, drought resistant plants that require no watering	company facilities dept	trees, plant material	Immediate	Increase value	
Plant trees in parking lots	company facilities dept	trees; soil	Immediate	Lower temperature	
Plant shade trees to reduce AC in summer	company	trees, soil material	Immediate	\$\$ cost savings; Lower temperature	

Business Transportation

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Promote TDM (Travel Demand Management)	Chamber recently hired	TransAction Associates	Spring 2012	more efficient and environmentally	

	TransAction Associates, Inc			sound transportation policies	
Request walking and biking opportunities on city roadways for local employees commuting to work.	Transaction Associates and sustainability Task force	City officials and staff- DPW	2011 and beyond	plan for inclusion of walking and biking opportunities	
Request public transportation in the city.	Sustainability task force	MWRTA	Fall 2011	increased bus routes	
Promote transportation options at work (public transportation, carpool incentives...)	TransAction associates	staff time	Begin 2012	reduce amount of cars/ pollution	
Provide special hybrid and carpool parking spaces	company facilities director	staff time/ budget to make physical improvements	fall 2012	incentives for environmentally sound practices	
Create a community business transportation group to discuss better transportation choices	Chamber of Commerce and TransAction associates	staff resources	begin fall 2012	develop round table for best practices	
Encourage telecommuting to reduce travel	TransAction Assoc.	staff	fall 2011	reduce carbon footprint	
Plant trees in parking lots	Company facilities director	trees and materials	2011 and beyond	improve environment; lower temperature	
Adopt a no-idling policy for all company vehicles and all employee vehicles at work. Retrofit company vehicles with no/low idling devices	Respective companies	corporate leadership; funding for retrofit	begin 2011	reduce carbon footprint	
Analyze upstream and downstream transportation costs of products purchased or made/distributed. Make/create choices that reduce transportation energy costs.	Respective companies	TransAction associates	begin Fall 2011	sound environmental policy	
Employ a Employee Transportation Coordinator to help employees	respective companies	TransAction associates	begin fall	reduce cars/ pollution	
Provide transit schedules, commuter choices, free services	TransAction associates	staff time	begin Fall 2011	reduce cars/ pollution	

Offer telecommuting opps	company	staff	fall 2011	reduce cars/pollution	
Hire locally	Company	personnel policy	fall 2011	reduced carbon footprint	
Help staff find local housing	company to work with City's Community development authority	staff resources	fall 2011	reduced carbon footprint	

Business Waste

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Promote and implement company waste prevention and recycling measures	facilities managers	create educational campaign to encourage activity; brochure/materials	fall 2011	Policies and procedures put in place	
Implement green purchasing policies	purchasing dept	educational campaign; brochure/materials	fall 2011	adoption of green purchasing policies	
Adopt a commercial recycling program	facilities managers	recycling bins	fall 2011	recycling program put in place	The trash hauler/vendor can help with this

Business Purchasing/Pollution prevention

Action	Person(s)	Resources	Timeline	Desired Outcome	Comments
Purchase "green" materials/products (non-toxic chemicals, locally-made products to reduce transportation burden, products made of recycled or renewable materials...)	Company purchasing directors	Energy Fairs	Fall 2011 and beyond	Improve environment; support local companies; reduce carbon footprint	

Make green products and offer green services to prevent pollution	Corporate leadership	staff	begin Fall 2011	reduce/prevent pollution	
Ask vendors for green products/services	Sustainability task force	volunteers	fall 2011	companies to promote green products/services	
Make a list of green vendors	Chamber of commerce	volunteers from sustainability task force	2012 and beyond	list of companies with environmentally sound policies	
Look into Environmentally preferred products (EPP)...green purchasing practices	company purchasing directors	EPA website will direct staff to EPP resources.	2012 and beyond	adoption of green policies	
Actively seek a downtown "green store"	Marlborough Economic Development corp.	staff	Fall 2011	green store located in downtown	
General category: Go Green Awards city wide- to recognize achievements by sector - business, residential and municipal (by department??)	Sustainability Energy Manager	Create data base and ways to measure "green success"	Once program is up and running make this annual. Submit applications by Early April, issue awards by mid May of each year	Award will be incentive and way to recognize success in each sector	

END