

ROADMAP AND ACTION PLAN:

Toward Energy Efficiency and Conservation



Prepared for the

HAMPTON FALLS ENERGY COMMITTEE

by the Rockingham Planning Commission

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1.1 Local Energy Commissions in New Hampshire

In 2008, Hampton Falls was one of 163 municipalities that passed the New Hampshire Climate Change Resolution that calls on the federal government to prioritize climate change policy and enables the formation of a local energy committee to address energy efficiency and conservation, emission reductions, and other energy related issues. The generation and use of energy and emissions from energy use - whether for our homes, businesses, transportation or recreation - has a very significant impact on our environment, and the health and welfare of the community.

Local energy committees are an important way to help inform decisions makers and residents about how to advance cost-effective strategies that save energy, reduce costs and help protect the environment. Through new initiatives and strong policies, the community with assistance from the local energy committee can move toward a sustainable and clean energy future.

1.2 Hampton Falls Energy Committee

The Hampton Falls Energy Committee (HFEC) was appointed by the Board of Selectmen in April, 2008. The HFEC consists of seven members represented by the Board of Selectmen, the Planning Board and volunteer citizens. The HFEC will maintain nine active members and invite 3-4 persons to work with the HFEC on specific projects and initiatives as ad-hoc members as needed.

Hampton Falls Energy Committee Mission Statement

The mission of the Hampton Falls Energy Committee is:

“to advise the Board of Selectman on energy conservation measures the town can implement to reduce its energy use and emissions that contribute to climate change; and to recommend alternative and renewable sources of energy for the purchase of reducing cost to the town and to create energy independence.”

Role of the HFEC

The role of the HFEC in achieving energy efficiency and conservation is to:

- coordinate efforts among municipal officials, town departments, businesses, residents, and community organizations
- develop and manage improvement projects
- acquire sources of funding including regional, state and federal grants, and organize fundraising activities for energy related projects and improvement
- recommend revisions to regulatory and planning documents
- coordinate outreach and awareness activities in the community

Goals of the HFEC

The HFEC will focus on the following goals which will guide development of an energy action plan:

- Collect, organize and evaluate annual municipal energy data (including fuels, electricity, vehicles and lighting)
- Provide to the Board of Selectmen an annual report of energy use and cost
- Raise awareness of residents about energy efficiency and conservation
- Utilize the town’s bi-monthly newsletter and, possibly in the future, cable/public information channel for public outreach and education
- Encourage community participation in the *New Hampshire Carbon Challenge* program
- Implement energy efficiency and energy conservation measures for municipal buildings and in the community
- Develop elementary school programs focused on energy conservation including composting, recycling, lifestyle choices, school energy conservation projects and other educational events
- Evaluate and make recommendations to amend master plan, zoning ordinances and regulations to enhance energy efficiency and energy conservation options
- Increase and/or maintain membership of the HFEC

1.3 HFEC Community Partners

The HFEC has formed partnerships with the following local representatives:

Local Partners	Roles/Responsibilities
<i>Board of Selectmen</i>	Coordinate development of energy policy; authorize improvements to municipal facilities; approve grant funds and other financial arrangements to complete projects and outreach
<i>SAU Superintendent</i>	Assist with energy audit of school and implementing facility improvements and educational activities
<i>Building Inspector</i>	Coordinate permitting of alternative energy systems; work cooperatively to develop energy efficiency standards for construction
<i>Planning Board</i>	Work cooperatively to develop zoning ordinances and regulations, and Energy Chapter for the Master Plan; coordinate discussion of planning, land use and resource protection relating to energy use and conservation
<i>Conservation Commission</i>	Coordinate discussion of planning, land use and resource protection relating to energy use and conservation

The HFEC has formed partnerships with the following regional and state agencies and organizations:

Regional Agency/Organization	Roles/Responsibilities
<i>Rockingham Planning Commission</i>	Assistance with energy inventory, Energy Report, and Roadmap
<i>Clean Air-Cool Planet</i>	Assistance with using the Small Town Carbon Calculator; education and outreach in the community
<i>Jordan Institute</i>	Conduct and provide guidance about energy audits of municipal buildings
Utility Providers	
<i>Unitil (electricity)</i>	Coordinate collection of energy use data and investigate street lighting replacement program
<i>Lamprey Oil Company (heating oil)</i>	Coordinate collection of energy use data
<i>North Shore Carting (waster/recycling management)</i>	Coordinate collection of energy use data; coordinate increase in participation in recycling among residents and businesses

1.4 HFEC Accomplishments

Since its formation in April 2008, the Local Energy Committee has completed the following activities:

1. Contracted with the Jordan Institute to complete an energy audit for the Lincoln Ackerman Elementary School.
2. Continued creation of a “baseline energy use” profile for the town using Portfolio Manager from the EPA Energy star website.
3. Conducted research about potential renewable energy solutions for the town.

Municipal Facilities

The HFEC has compiled information about municipal facilities in order to begin an inventory and arrange for energy audits to be completed for each facility. This information is present in Table 1 below.

Table 1. Summary of general information about municipal facilities

Facility	Location	Age	Area (sq ft)	Comments
Lincoln Ackerman Elementary School	Rte 88 (Exeter Rd)	59 yrs (main) 23 yrs (addition)	44,000 sf	Energy Assessment completed in 2009
Town Hall	1 Drinkwater Rd	100yrs (new 9 yrs)	3,100 sf	
Safety Complex	3 Drinkwater Rd	20 yrs	9,000 sf	
Library	7 Drinkwater Rd	8 yrs	5,500 sf	

1.5 HFEC Projects

Current Projects

The HFEC contracted with the Jordan Institute to conduct an energy assessment of the Lincoln Ackerman Elementary School (see report dated February 20, 2009). This facility was chosen as the first energy efficiency project due to the age of the building (main building 59 years, addition 23 years) and the inefficiency of its antiquated heating and cooling systems. The assessment identified the following improvement projects and initiatives for the Lincoln Ackerman Elementary School project:

- Research energy saving improvements, their costs and predicted savings;
- Evaluate recommended building repairs and renovations to achieve energy efficiency and environmental sensitivity;
- Advocate for renewable energy alternatives and cost efficiency in designing new construction and building repairs; and
- Make recommendations to the school board and town administration to make the school more energy and cost efficient.

Proposed Projects

The HFEC has identified the following **priority** energy related projects to pursue within the next year (not arranged in order of priority).

1. Develop applications for federal/state Stimulus funds to implement improvements to municipal buildings.
2. Complete the municipal building and facilities energy inventory and Energy Report.
3. Develop an Annual Energy Report to submit to the Board of Selectmen.
4. Evaluate potential for installation of renewable energy sources for municipal buildings, and develop a proposal to address identified opportunities.
5. Conduct an energy and home energy efficiency fair in the community.
6. Install solar window shades at the Library.
7. Develop an informational mailing to encourage participation in energy conservation activities by residents.

2.1 What is the Purpose of a Road Map and Action Plan?

The purpose of a Road Map and Action Plan is to provide in one document a comprehensive statement of community goals and expectations for energy efficiency and conservation, and actions identified to achieve them. The document serves as an outreach tool within the community and to inform other communities in the region, partners, and potential funding sources of the community’s vision for energy planning and conservation. The Road Map and Action Plan should be updated regularly to reflect achievements, policy changes and new initiatives on the local state and federal levels.

2.2 Consistency with the Master Plan

Following is a summary of energy related support and goals as included in the Hampton Falls Master Plan. The Master Plan references in general terms the relationship of energy and energy use, environment and air quality with respect to transportation and natural resources.

Chapter 1 – Community Vision

The town’s vision statement describes the guiding principles of the Master Plan:

“Our vision is to preserve our rural character, our natural, historical and cultural resources, while providing municipal and commercial services, recreational facilities and housing options which support the needs of the community in a fiscally, socially and environmentally responsible manner.”

Chapter 5 - Transportation states:

“The transportation system is one of the chief determinants of physical settlement patterns, and its location, design and modes have major impacts on land usage, *air quality*, plant and animal habitat, *environment*, noise, *energy use*, community appearance and other components.”

Chapter 10 – Conservation and Preservation under Section 4.0 Natural Resources states:

“Forest land is a major renewable resource, providing both commodity (i.e. wood products and maple syrup), and non-commodity benefits (i.e. water resource protection, *air quality* maintenance, *energy conservation*, wildlife habitat, recreation and scenic quality).”

Planning for a sustainable energy future requires that energy be considered in all decision relating to municipal services, land use, environmental protection and economic development. Therefore, this Roadmap will help advance the principles articulated by the Master Plan vision statement to “support the needs of the community in a fiscally, socially and environmentally responsible manner” while addressing the critical energy needs of the town. Energy – its future use, cost, and availability – will have a significant influence on the future of the community to prosper and maintain a vibrant and healthy way of life.

2.3 Research and Inventory

The HFES has completed an initial energy inventory for municipal buildings and facilities (including vehicles and streetlights). The result of this inventory are documented in the report *2008 Municipal Energy Use Baseline Report and Energy Action Plan (2009)*.

The HFEC will continue to conduct research to help identify opportunities and potential barriers to implementing best practices and resource efficient technologies to achieve energy efficiency and conservation. Identifying ways the community might save energy and reduce costs should include: inventory of municipal energy usage by energy type and for individual municipal facilities, infrastructure and/or user (includes map of user and usage locations); energy audits of buildings, equipment, lighting, vehicles and other infrastructure; development of a community wide energy baseline (may also include historical information about energy usage, sources and costs); and tracking of energy reductions, savings and other energy conservation benefits from project implementation.

2.4 Energy Planning

Long range planning, including adopting an energy chapter in the master plan, is a positive step for communities to take to ensure positive outcomes - cost savings, energy efficiency and energy conservation - as well as to ensure the availability of reliable sources of energy into the future. Energy planning requires consideration of all aspects of municipal planning including regulatory, voluntary and economic sectors of the community. Regulatory planning may include zoning, land use, building codes, natural resources, transportation, open space and conservation, and drinking water supply. Economic strategies may include inclusion of energy planning and facility improvements in the municipal budget, including the town's Capital Improvement Plan. Voluntary strategies may include open space planning and promoting participation in energy conservation across the community. Developing an energy policy to address all sectors and strategies involved in long range energy planning is an effective tool for a community to first define and then to meet its energy goals for the future.

Energy Policy

Broad based energy policies will be developed to inform future energy related planning initiatives including ordinances and regulations, capital improvements, equipment purchasing, land use, growth and development, transportation, and resource management and conservation. Energy policies can address a wide range of energy related issues including energy supply and type, enabling regulatory measures, public awareness and conservation, land use and growth patterns, proximity to transit options, building design and construction, and transportation systems.

Master Plan

Energy policies should form the framework for development of a Master Plan Energy Chapter. The purpose of an Energy Chapter is to establish the rationale for energy efficiency and conservation, define goals and objectives with respect to energy, and to establish policies that will enable the community achieve its energy goals and enable long-term energy planning. The

Energy Chapter can also include an action plan or implementation plan that lays out short term and long term strategies to achieve energy efficiency, energy conservation and emission reductions. An action and implementation plan can also function as a guidance document, separate from the Master Plan, which can be easily updated on an annual basis or as necessary.

Short-Term. Short-term goals focus on low cost measures that can be implemented and provide cost savings within a year. Measures include basic weatherization improvements, energy efficient light bulb and thermostat installations, energy conservation strategies, and conducting regular infrastructure maintenance.

Long-Term. Long-term goals focus on measures that require significant funding, engineering and planning such as building construction and renovation, development of new energy sources, or ongoing strategies such as public outreach and awareness programs that promote energy conservation over many years.

Zoning and Regulations

Zoning ordinances and site plan and subdivision regulations should enable and encourage energy efficiency and conservation in the built environment. Examples include:

- development of alternative fuel sources and fuel production, transmission and distribution facilities
- installation of small-scale renewable energy sources as accessory uses to residential and non-residential principal uses, and larger-scale renewable energy sources as principal uses
- development of transportation systems that are accessible to the community, conserve energy and maximize efficiency, provide alternative and multi-modal choices, and reinforce energy efficient land use patterns
- incorporation of energy efficient code and sustainable development practices in construction
- reuse and recycling of construction materials
- use of sustainable construction materials and construction material produced locally or within the region

2.5 Communication and Outreach

It is important to recognize that community stewardship and voluntary participation is a critical component to achieving community goals for energy efficiency and conservation. Regulatory and planning strategies can produce tangible results, but public involvement is necessary in changing perspectives, attitudes and practices about the power of individuals and households in contributing to and embracing energy efficiency and conservation in the community. Following is a brief overview of tools and strategies for implementing an effective communication and outreach program at the local level.

Communication Plan

Discussion of energy encompasses many complex topics ranging from efficiency, conservation, emission reductions, cost savings, new technologies, building construction, transportation, climate change, and public health to name a few. An effective Communication Plan with a coordinated message can help reach a large audience and appeal to a broad spectrum of public

and stakeholder concerns. The most powerful messages are clear and succinct, offering positive outcomes, tangible results and benefits to the community. The Communication Plan should utilize multiple outlets for dissemination of information so that the message becomes familiar and integrated by the community and stakeholders.

Municipal Support

The HFEC seeks to work cooperatively with elected officials and municipal staff to implement energy related strategies throughout the community. Energy policies should be adopted at all levels of municipal government and implemented universally through municipal policies and procedures, capital improvements, purchasing, construction, planning, regulation and education.

Community Outreach and Involvement

A community wide reduction target of energy consumption can only be reached through a commitment by the municipality to not only foster new programs and policies, but also provide thorough community outreach and support. Such an outreach and support campaign might include the following activities:

1. Develop a pilot incentive program aimed at encouraging residents and businesses to utilize energy efficient products; incentives could include reduced permit costs and processing time for remodeling or new construction that is energy efficient and uses renewable energy sources.
2. Conduct environmental education on climate change and both the undesirable impacts and potential benefits that individual activities can have locally.
3. Engage schools in energy conservation activities and develop curriculum on climate change and energy issues.
4. Partner with local community groups to conduct local events which provide information to residents and businesses on how to be more energy efficient and reduce their carbon footprint.
5. Encourage tree planting and forestry projects and preservation of large forested blocks to achieve reductions in carbon dioxide emissions, mitigate heat effects, and provide shade to buildings to reduce cooling costs.
6. Conduct an annual energy fair in the community.
7. Raise awareness of elected officials and residents about the cost savings associated with energy conservation measures.
8. Encourage participation in the New Hampshire Carbon Challenge (at <http://carbonchallenge.sr.unh.edu/index.jsp>).
9. Develop a Communication Plan and Outreach Program focused on energy efficiency, energy conservation and emission reductions for residents, businesses, schools and civic organizations.
10. Develop a volunteer services network to provide assistance in the community to implement energy efficient strategies and installations.

The purpose of the Action Plan is to organize specific action items within a timeframe for completion with assignment of a lead group or persons, to evaluate financial needs and constraints, and to assist with financial planning and forecasting to achieve action items.

Table 2. Action items identified by the Hampton Falls Energy Committee

Action Item		Assigned Lead	Timeframe
<i>Ordinances and Regulations</i>			
OR1	Develop an Energy Chapter for the Master Plan; review Master Plan and recommend amendments to enhance energy efficiency, energy conservation and emission reductions.	Committee consisting of HFEC and Planning Board members	Year 1
OR2	Develop zoning ordinances and site plan and subdivision regulations that enable and encourage energy efficiency and conservation in the built environment. [Refer to page 5 for examples.]	Committee consisting of HFEC and Planning Board members	Years 1-2
<i>Planning and Construction</i>			
PC1	Develop applications for Stimulus funds to implement improvements to municipal buildings.	HFEC, Town staff and Board of Selectmen	Year 2
PC2	Complete the municipal building and facilities energy inventory and Energy Report.	HFEC	Year 1-2
PC3	Develop an Annual Energy Report to submit to the Board of Selectmen.	HFEC	Year 2
PC4	Evaluate potential for installation of renewable energy sources for municipal buildings, and develop a proposal to address identified opportunities.	HFEC, Town Staff, Board of Selectmen	TBD
PC5	Document proposed long range construction projects, infrastructure improvements, and equipment and vehicle purchases (as part of the Capital Improvement Plan or annual town budget).	HFEC with Town officials and staff	Years 1-2
PC6	Develop an Energy Plan for municipal infrastructure and buildings.	Committee of HFEC members, town staff and officials	Years 1-2
PC7	Investigate opportunities to develop individual and community energy systems and energy distribution networks.	HFEC	Years 1-2
<i>Education and Outreach</i>			
EO1	Develop a Communication Plan and Outreach Program		

	focused on energy efficiency, energy conservation and emission reductions for residents, businesses, schools and civic organizations.	HFEC subcommittee	Year 1
EO2	Develop a volunteer services network to provide assistance in the community to implement energy efficient strategies and installations.	HFEC subcommittee with community representatives	Ongoing
EO3	Develop a pilot incentive program aimed at encouraging residents and businesses to utilize energy efficient products; incentives could include reduced permit costs and processing time for remodeling or new construction that is energy efficient and uses renewable energy sources.	HFEC, Town staff and volunteer businesses and/or residents	
EO4	Conduct environmental education on climate change and both the undesirable impacts and potential benefits that individual activities can have locally.	HFEC, school staff and volunteers	
EO5	Engage schools in energy conservation activities and develop curriculum on climate change and energy issues.	HFEC, school staff and volunteers	Ongoing
EO6	Partner with local community groups to conduct local events which provide information to residents and businesses on how to be more energy efficient and reduce their carbon footprint.	HFEC and volunteers from community groups and residents	
EO7	Encourage tree planting and forestry projects and preservation of large forested blocks to achieve reductions in carbon dioxide emissions, mitigate heat effects, and provide shade to buildings to reduce cooling costs.	HFEC and volunteer businesses and residents	
EO8	Conduct an energy and home energy efficiency fair in the community.	HFEC and volunteer businesses and residents	
EO9	Raise awareness of elected officials and residents about the cost savings associated with energy conservation measures.	HFEC	
EO10	Encourage participation in the New Hampshire Carbon Challenge (at http://carbonchallenge.sr.unh.edu/index.jsp).	HFEC and volunteer businesses and residents	

PART 4.0 HFEC AND TOWN CONTACT INFORMATION

4.1 Hampton Falls Energy Committee

Member Names	Email Contacts
Susan Smylie (Chair)	rosegladd@comcast.net
Shawn Hanson	shawn.hanson@comcast.net
John Ratigan	jratigan@dtlawyers.com
Beverly Mutrie	bmutrie@hotmail.com
Larry Rice	Ricel59@yahoo.com
S. Sabatini	ssabatini@porsche.com
Tom Baker	thomas.baker@vsea.com
Scott Bieber	sbnortheast@aol.com
Tony Delano	Tony.delano@westonsolutions.com

Telephone Contact: Shawn Hanson at (603) 205-6032

4.2 Town Contacts

Name	Affiliation	Email
Mike Farinola	Board of Selectmen	mike@nhca.us
Charlyn Brown	Planning Board	cefbrown@comcast.net
Karen Ayers	Conservation Commission	kayersnh@comcast.net
Alan Lajoie	Lincoln Akerman School	alajoie@sau21.org
Dick Robinson	Public Works/Road Agent	Phone: 926-4618
Chief Robbie Dirsa	Police Department	rdirsa@hamptonfallspd.com
Chief Jay Lord	Fire Department	chief@hffd.org
Robbie George	North Side Carting (Recycling Provider)	robgeorge@northsidecarting.com

Rockingham Planning Commission	Clean Air-Cool Planet
Contact: Julie LaBranche, Senior Planner Phone: (603) 778-0885 Email: jlabranche@rpc-nh.org	Contact: Julia Dundorf, LEC Field Organizer Website: http://www.cleanair-coolplanet.org/ Phone: (603) 422-6464 ext. 114 or (603) 978-2482 Email: jdundorf@cleanair-coolplanet.org

PART 5.0 TECHNICAL RESOURCES

New Hampshire Office of Energy and Planning

<http://www.nh.gov/oep/> See the “Quick Assistance” links for energy related topics.

New Hampshire Office of Energy and Planning – Achieving Smart Growth in New Hampshire

<http://www.nh.gov/oep/programs/SmartGrowth/index.htm>

NH Carbon Challenge

<http://carbonchallenge.sr.unh.edu/index.jsp>

Carbon Coalition

<http://www.carboncoalition.org/>

New Hampshire Energy Plan

<http://www.nh.gov/oep/programs/energy/StateEnergyPlan.htm>

Smart Communities Network

<http://www.smartcommunities.ncat.org/>

Sustainable Energy Resource Group

[http://www.serg-info.org/stories/storyReader\\$8](http://www.serg-info.org/stories/storyReader$8)

New Hampshire Community Energy Project

http://www.nhenergy.org/index.php?title=Main_Page

U.S. Green Building Council

<http://www.usgbc.org/>