

New Hampshire Handbook on Energy Efficiency and Climate Change

(Version 1)

By Clay Mitchell,
Julia Dundorf and Wes Golomb

The logo for Carbon CO2alition features the word "Carbon" in a large, black, serif font. Below it, "CO2alition" is written in a blue, sans-serif font, with the "2" in "CO2" being a subscript. A blue curved line arches over the top of the word "Carbon".

**Carbon
CO₂alition**

*New Hampshire Citizens for a
Responsible Energy Policy*

This handbook is based in part on the Vermont Energy & Climate Action's excellent *Town Energy and Climate Action Guide*. We thank them for their generosity in allowing us their work as a model.

Edited by Maura Adams and Toby Ball

**New Hampshire Handbook on
Energy Efficiency and Climate Change**

Carbon CO₂alition

This handbook gives New Hampshire citizens a brief introduction on how to help mitigate climate change at the local level. Community-scale activities such as energy benchmarking and efficiency upgrades will not only reduce your town's fossil fuel emissions and fuel-related costs; they will also make an important public statement about your values and priorities.

This guide presents very little new information on climate change science or technology. Instead it focuses on specific actions and resources for municipalities, such as:

- Town energy committee formation
- Potential committee projects
- Carbon emissions benchmarking
- Who to contact when you have a question

We can all effect change in our communities if we choose to. This document is for those who decide to become those agents of change.

The Carbon Coalition Committee on Energy Committees

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We extend much gratitude to the following groups, whose efforts have formed the basis for this handbook:



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I. Introduction

Earlier this year, voters in 163 New Hampshire towns decided to make their concern about climate change official. They voted for the New Hampshire Climate Change Resolution that calls on the federal government to prioritize climate change policy. It also recommends local action in the formation of town energy committees.

Why the recent support? People have become increasingly aware of how climate change is affecting them personally. Scientists predict that by the end of the century, temperatures in New England will equal those of Virginia or Georgia, putting New Hampshire's valued natural resources – including fall foliage, winter recreation areas, forestry, and the maple syrup industry – at risk. People feel more uncomfortable than ever with high fuel prices, reliance on foreign oil, and dirty energy sources such as coal.

Given these concerns, many people want to take action now to reduce energy consumption, increase energy efficiency, and develop new sources of clean, renewable power. The success of the Climate Change Resolution throughout the state indicates this commitment.

Local energy committees are an important way to help inform decision makers and voters about how to advance cost-effective strategies that save energy and reduce waste. Through new initiatives and strong policies, New Hampshire communities can set a course toward a sustainable energy future that others nationwide may follow.

II. Climate Change and its Impact on New Hampshire

Scientists are in almost universal agreement that human activities, notably fossil fuel combustion, are causing global surface temperatures to increase and this warmer climate has potentially serious consequences for ecosystems, coastal areas, public health, and extreme weather events. This view is reflected in the stated positions of:

- UN Intergovernmental Panel on Climate Change (world's foremost authority on climate change)
- American Geophysical Union
- American Meteorological Society
- American Association for the Advancement of Science
- Heads of the National Science Academies of the G8 nations and Brazil, China, and India.

To learn more about the carbon cycle, greenhouse gases, and climate change, see the Clean Air Cool Planet website. Their site also has excellent visuals, either for your own edification or the basis for a presentation. [<link>](#) The CA-CP site also contains several helpful pages that focus on regional and state impacts. [<link>](#)

To learn about specific global warming impacts on the New Hampshire economy and winter tourism, see [<link>](#). This report was presented to the legislature and was well-received as a balanced assessment of climate change impacts in New Hampshire. The principle authors were Cameron Wake and Elizabeth Burakowski at UNH and Laurence Goss at Salem State College.

Extract summaries of the following:

- IPCC Report Executive Summary for Policy Makers
- “BEYOND THE IVORY TOWER: The Scientific Consensus On Climate Change”. Naomi Oreskes, *Science* 3, December 2004: Vol. 306. no. 5702, p. 1686.

III. The Climate Change Resolution and Supporting Organizations

This year witnessed the passage of the Carbon Coalition’s Resolution (see right) in 163 towns (with a few towns yet to vote). This resolution was a powerful litmus test of the importance of climate change in voters’ minds. While press coverage and political influence will likely peak during the presidential primary, many of the 163 towns have already asked their governing bodies to establish “energy committee[s]...to save energy and reduce emissions.” This request represents a wide range of possible opportunities for citizens to catalyze climate change action at the local level.

Several cities and towns did not consider the resolution but have started their own process through Local Governments for Sustainability (ICLEI).

Following are the major agreements and partnerships that support local climate action in New Hampshire and form the base for municipal efforts. To see what each group offers, visit its website (the link is the title).

[Carbon Coalition](#) - The Carbon Coalition is a non-partisan coalition of citizens, scientists, businesses, students, communities and organizations who have come together to advocate for a national energy policy that protects our communities and environment from the ravages of global warming caused by carbon pollution.

[Clean Air-Cool Planet \(CA-CP\)](#) is the region's leading organization dedicated to finding and promoting solutions to global warming:

- We partner with companies, campuses, communities and science centers throughout the Northeast to help reduce their carbon emissions.
- We help our partners, their constituents, and other regional opinion leaders and stakeholders understand the impacts of global warming and its best available solutions, through comprehensive outreach efforts celebrating commitment, innovation and success in climate action.
- We showcase practical climate solutions that demonstrate the economic opportunities and environmental benefits associated with early actions on climate change.

New Hampshire Climate Change Resolution

To see if the town will go on record in support of effective actions by the President and the Congress to address the issue of climate change which is increasingly harmful to the environment and economy of New Hampshire and to the future well being of the people of_____.

These actions include:

1. Establishment of a national program requiring reductions of U.S. greenhouse gas emissions while protecting the U.S. economy.
2. Creation of a major national research initiative to foster rapid development of sustainable energy technologies thereby stimulating new jobs and investment.

In addition, the town encourages New Hampshire citizens to work for emission reductions within their communities, and we ask our Selectmen to consider the appointment of a voluntary energy committee to recommend local steps to save energy and reduce emissions.

The record of the vote on this article shall be transmitted to the New Hampshire Congressional Delegation, to the President of the United States, and to declared candidates for those offices.

- We advocate the implementation of effective policy solutions aimed at reducing greenhouse gas emissions at the state and regional levels.
- We work to build support for the implementation and strengthening of the New England Governors and Eastern Canadian Premiers' regional Climate Change Action Plan.

CA-CP has close ties to New Hampshire and is the leader in supporting these efforts. The resources on their website are extensive and are used throughout this handbook.

[ICLEI](#) – According to its website, “Local Governments for Sustainability is an international association of local governments and national and regional local government organizations that have made a commitment to sustainable development.” ICLEI has a regional center and a wide range of resources. Membership in ICLEI involves more than a resolution; access the process at this site [<link>](#).

[Sierra Club: Cool Cities](#) – This is the Sierra Club’s effort targeting municipalities that have made a commitment to end global warming by signing the U.S. Mayor’s Climate Protection Agreement. The Cool Cities campaign helps cities turn their commitments into action by pushing for smart energy solutions. How to transfer this commitment to towns without mayors is yet unresolved.

[US Mayors Climate Protection Agreement](#) – This is the actual agreement adopted at the 2005 Conference of Mayors that designates ICLEI as the lead implementer. Obviously, there are few mayors in New Hampshire but ICLEI membership can be achieved by towns as well through a similar resolution and commitment process. See ICLEI, above.

[NH Carbon Challenge](#) is an initiative to reduce residential energy consumption by encouraging New Hampshire residents to reduce their greenhouse gas emissions by 10,000 pounds per year. The program provides town energy committees with a framework by which their residents can become more energy efficient, decrease their household emissions, and save money in the process. Encourage your town’s residents to take the Challenge!

IV. Local Energy Committees

The call for local energy committees is an exciting, substantial development for our state and region.

This section summarizes key points about committees' initiation, development, and project implementation. Committee founders should consider the best structure and approach based on their knowledge of the community and its likely goals and level of interest. For example, if your community is interested in conducting a community-wide inventory of greenhouse gas emissions it might want to include municipal officials, some individuals with interest in technology and computers, and dedicated volunteers who are willing to learn. Most of the initial projects will include public education, outreach and advocacy.

Several statewide organizations are ramping up to provide support for these efforts. In addition to the entities listed previously, expect to see support from the NH Office of Energy and Planning (OEP), NH Department of Environmental Services (DES), and the Regional Planning Agencies. The Carbon Coalition and its signatories will continue to provide initial support to these committees and are planning workshops and a forth-coming expanded manual (Version II) that will address more specific issues relating to the formation and operation of energy committees.

Forming a local energy or climate action committee is relatively straightforward. Outlined below are suggested steps and ideas on how such a group might approach the planning and implementation process, though communities may take a variety of approaches based on local conditions and resources.

The starting block:

- In taking stock in your community, it is important to recognize that there may already be energy saving and emission reduction actions planned or underway in your community.
- Energy committees should consult with community officials and decision-makers to identify opportunities and/or problems.
- Find out who is responsible for decisions and how to plug in to existing or planned processes. Some members of these committees may have to learn that municipalities are juggling multiple demands.
- Energy committees should be provided clear guidance on how to suggest appropriate actions and project initiatives moving forward.

Getting Started

1. Assemble a great committee

The first step is to identify citizens representing various constituencies who are interested in working on energy and climate change issues. Secure support and establish a coalition of partners who will lend capacity, diversity, and expertise to the efforts.

Identify an individual willing to chair the committee. This job includes calling meetings, drafting agendas, and keeping the process moving. This person could be the same as the project champion (see below under item 6).

A town energy committee is an excellent way to encourage community volunteerism from individuals who may not have been involved in town activities or citizen action in the past. Look to fresh faces for some of the committee members – existing town committee members are often tapped out!

2. Select the best structure for your committee

There are numerous ways to approach this process. Identify the most appropriate group structure to advance the town's energy or climate action project. The structure of the group may depend on such factors as buy-in from the local government, the municipality's capacity to "staff" the committee, volunteer capacity, the complexity of the project, or the most strategic way to advance short- and long-term goals.

When considering the best form for your community's energy or climate action committee, weigh the options. In particular, consider funding sources, political realities, and buy-in from citizens as well as local government.

Administrative Committee

Typically, this type of committee would form under the local governing body or ranking administrative official in the town. Some elements of this committee worth attention during formation are:

- These committees may have more legitimacy in the public's eye, more direct access to the town and the Board of Selectmen, and municipal funding for initiatives.
- These committees would likely include municipal department heads and other officials, and may function more effectively at start-up because of their greater access to information and town records.
- If comprised of municipal officials or employees, such a committee may appear to be less responsive to the citizens.
- With less room for other members, such committees may have difficulty in bringing new citizens into the effort and public outreach.

- As with any government-related committee structure, such groups must be cognizant of attempts to influence their outcomes and limit their autonomy. The committee must be ready to deal with such influences by focusing on their goals, objectives, and mission statements.

Conservation Commission Subcommittee

If the governing body has signaled reluctance in supporting these efforts or is not ready or willing to advance a proposed project initiative, it might be more beneficial to form a subcommittee of the Conservation Commission.

- Such a committee may have less buy-in from government officials and have an uphill battle for municipal projects.
- These committees may find more support from the Conservation Commission in terms of educational efforts.
- Such committees may benefit from the established reputation and educational channels of the Conservation Commission.
- Committees in this form would likely focus on education and influence rather than actual projects for their accomplishments.

Planning Board Subcommittee

The Planning Board may represent a balanced approach for some communities. Given its experience with fiscal realities (through its own examination of municipal expenses gathered mostly through CIP planning and impact fee development) and its foundation in the development process, planning boards are exposed to a wide range of development issues, costs, and should have been exposed to a number of issues relating to environmental impacts, economic development, and utility planning.

The Planning Board provides a unique model within which to operate for New Hampshire. The State has declared ([RSA 672:1](#)) that one of the central purposes of planning and zoning is to achieve the following through legislative action:

- III-a. Proper regulations encourage energy efficient patterns of development, the use of solar energy, including adequate access to direct sunlight for solar energy uses, and the use of other renewable forms of energy, and energy conservation...

Further specific authority has been granted for planning and suggesting projects and municipal improvements that relate to the future needs of a community with respect to energy and utilities. [RSA 674:1](#). The Planning Board is also charged with community and fiscal planning for energy and other municipal facilities in its master plan and the capital improvements program. [RSA 674:2](#) and [674:3](#). Finally, the planning board is the primary author and administrator of development ordinances and regulations. This role includes specific authority to adopt codes that are more strict than state building codes. [RSA 155-A:2\(VI\)](#). Additional specific authority is

granted to encourage the installation of renewable energy facilities through zoning ([RSA 674:17](#)), and development regulations ([RSA 674:36](#)).

- Such a committee would benefit from the information already available to the planning board in the master plan and, if present, a capital improvements program.
- With support and input from the board, these committees would have greater ability to assess and influence the regulatory process for the town if such a project is desired.
- These committees may not be as closely connected to the day-to-day fiscal decisions as an administrative committee but may benefit from long-range planning.
- The planning board support could include funding, expertise, and consistency as these committees form.

Ad-hoc Energy Committee

The most “grassroots” form for an energy committee is the ad-hoc version. Potentially existing completely outside the municipal process, such a committee still has its own benefits and concerns and may be the only effective format in certain cases.

- Such committees could rise out of communities that have not passed the Climate Change Resolution, or where there is simply a lack of will or support to follow through with the resolution’s recommendation for a town-authorized committee.
- These committees would be challenged to prove their worth and must make important initial decisions about their goals and objectives.
- Committees may initially decide to try to influence the town administration to recognize it or may chose to forego this challenge and dive right into some real grassroots projects.
- Committees may find themselves leaning toward this form if they are inclined to be free of any influence or control from the government structure.
- One great opportunity in such committees is the ability to look beyond the town’s boundaries for members, projects, and influence.

3. Establish Your Mission Statement

A mission statement will serve to guide the committee as new members join and the committee evolves. The mission will also help to form the later mentioned goals and objectives.

Sample Mission Statements

<p>Sustainable Lexington (MA):</p> <p>Sustainable Lexington works to influence the town and its residents toward environmental sustainability—meeting the needs of today's residents without compromising the ability of future generations to meet their own needs. We focus particularly on opportunities that will save Lexington taxpayers money. Our work includes education, working with town government, pilot projects, and supporting Massachusetts educational and policy efforts.</p>	<p>Plymouth Area Renewable Energy Initiative (NH):</p> <p>The Plymouth Area Renewable Energy Initiative was organized to encourage energy conservation, energy efficiency practices and to promote the use of renewable energy in homes, businesses and public buildings in the Plymouth region through education community outreach and barrier reduction. The Energy Initiative takes a pragmatic approach by encouraging people to prepare for their energy future as they would their financial future. Our guiding motto is Get Energized. Plan Now for Your Energy Future.</p>
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4. Research and Inventory

Research will help identify opportunities and potential barriers to implementing best practices and using resource-efficient technologies. The first tasks of the committee will be to explore areas where the community might save energy. Some communities choose to conduct an inventory of energy use in the town (i.e., electricity, thermal, and transportation energy usage). A baseline of data allows one to track progress in energy savings and greenhouse gas emissions reductions.

To energize the committee, it is important to identify potential creative, cost-effective, and innovative solutions for consideration. Examining whether the town is ready for an energy plan is an effective way to engage the planning board and citizens. It is also productive to know what projects are planned or upcoming that may affect the community's energy use. This process will help identify opportunities and potential barriers to implementing best practices and use of resource-efficient technologies.

The first proposals should put forward reasoned, well-crafted programs that integrate opportunities for decision makers. For example, make the case for clean energy alternatives through facts and cost-savings estimates to the board of selectmen or school board when they are considering purchasing equipment or making improvements to facilities and operations. Successful projects often fit into a broader municipal initiative or sustainability strategy and complement, not burden, those already underway.

5. Set achievable goals — both short-term and long-term — and stick to them

Keep the list of goals succinct and to the point. As much as possible, align priorities with the priorities of the governing bodies involved in the decision process – fiscal stability, environmental conservation, and economic development are all at play in energy efficiency. Finally, it is helpful to make connections to broader sustainable development goals and projects at the regional and state levels. These connections offer a more e

Advice for Successful Projects:

- Try not to impose undue financial costs on local governments, which are probably already strapped for finances.
- Provide decision-makers with salient facts and information so that they have sound information on which to base their decisions.
- Offer solutions your municipality might not have considered.
- Investigate funding sources for projects and paybacks from savings on investments.

6. Develop salient messages and a communications plan to disseminate them

Develop a clear communications plan. Your plan might be multi-layered and involve several stakeholders and the community. This often results in more legitimacy among the public, more direct connection with Selectboards, and greater access to financial support from the community and beyond. Message is critical as well. The most powerful messages are clear and succinct; they often are positive and persistent as well. Try to identify what it is people care about most, and tailor your message accordingly. People respond to and act on different reasons for conserving energy and switching to renewables, including slowing climate change, saving money, protecting public health, creating “green” jobs, and decreasing use of fossil fuels. Know and articulate the different issues so that you can appeal to as broad a spectrum of public concerns as possible.

7. Implement Strategies and Encourage Action

Now that you’ve formed your committee, developed a mission statement, taken stock, gathered information, and established your goals, you can begin to implement your projects and strategies. How?

- For each project under consideration, it is important to identify a project champion. Often the most successful projects occur when there is a community champion who helps to see the project through by providing vital outreach and public relations support.
- Initiate your projects and seek resources and funding as necessary.
- Identify and secure creative funding opportunities to support the energy and climate action activities you want your community to implement.
- Recruit new members and broaden your network of partners. Recruitment might be selective depending on the projects you undertake. Reach out to

business owners, the faith-based community, the Chamber of Commerce, Rotary, Legions, and other important stakeholders to advance your projects.

- Periodically re-evaluate your progress, goals, and new opportunities.
- Celebrate your progress and recognize employers and others who are making great strides toward achieving shared goals.

VI. Energy Baseline

An energy baseline helps communities assess their current status and track progress in terms of fossil fuel reduction, and can assist committees as they set goals. Consider the points listed below to help you ensure that information is accurate, easy to update, and supportive of the committee's potential projects.

More specific information on conducting a baseline and available resources will be provided in the next publication. At this stage, the following principles of a baseline should be considered to help orient a successful effort:

- Usage levels – Results should present an eye-opening picture of how much energy, fuel, and money is being used by all town and school departments. Based on simple formulas, it is also quite simple to extrapolate the town's carbon output (1 gallon of gasoline results in 20 pounds of CO₂). These results permit quick and easy criteria for selecting beneficial projects, project sites, and potential partners.
- Consumer power – By examining the municipality from a holistic point of view, it should be evident that coordination between municipal departments could leverage buying power to negotiate more favorable economic and environmental results. (the State of NH has successfully implemented energy purchasing through bid process and energy performance contracting, authorized under RSA 21-I:19-a to (f)).
 - "Energy performance contract" means an agreement for the provision of energy services or equipment or both. This shall include, but shall not be limited to, energy conservation-enhancing projects in buildings and alternate energy technologies, in which a private sector person or company agrees to finance, design, construct, install, maintain, operate, or manage energy systems or equipment to improve the energy efficiency of, or produce energy in connection with, a state government agency or facility in exchange for a portion of the energy cost savings or specified revenues. The level of payments made would be contingent upon measured energy cost savings or energy production. (NH RSA 21-I:19-b(II)).
- Usage locations – Locating these uses on the map provides the baseline for projects that consider alternative energy production and shared use of resources. These results allow the municipality to consider wind, hydro, solar, and use of waste heat from a combined heat and power system. (See case study on [Essex Junction, VT](#) waste water treatment plant).
- Simple connections from complexity – Considering usage patterns and locations allows a committee to scope the idea of developing partnerships with industry, commercial enterprise, and within its own departments to share costs, fuels, and energy to the benefit of all. (See case study on [Antioch Community School High](#)

[School](#) – using methane gas from a nearby closed landfill, saving the district over \$100,000 per year on energy costs).

- Consider working with other communities and government agencies that have facilities nearby to quantify usage and impacts and as a method for cost-sharing and planning. Working together can allow for participants to leverage purchases, and reduce prices through competitive bidding (such as heating fuel, electricity, fleet usage, and facilities for alternative fuels)

VII. Building Efficiency

One of the easiest ways to achieve goals for energy efficiency is to make sure that buildings of all types are as energy efficient as possible. Committees can use energy audits and building performance assessments to provide information on cost-effective energy retrofits. Communities can also form their own Home Energy Assistance Teams of trained volunteers to implement simple weatherization measures in homes of those in need and community buildings. Below is a list of entities and resources that provide energy audits and assessments.

Energy Audits and Assessments

- NH Residential Energy Performance Association (REPA)
- Association of Certified Energy Raters
- The Core utilities at www.nhsaves.com (PSNH, NH Elec. CoOp, Unitil)
- The electric companies provide services to most sectors of the built environment including through the Municipal Smart Start Program

Promote Efficiency and Conservation in New Development

Aim to make certain that new development in town is as sustainable and energy efficient as possible. This might begin with amended policies for new development. Examine town plans and regulations to remove obstacles and create opportunities for energy efficiency, renewable energy generation, and compact land use patterns. For example, consider policies or projects that:

- Promote the use of climate friendly street trees
- Make water-conserving landscaping mandatory
- Identify suitable community sites for renewable energy development
- Protect wind resources
- Increase height limits for wind turbines
- Advocate for use of biomass, combined heat and power and development of community energy systems to serve several buildings
- Create effective agricultural zones (i.e. 1 dwelling unit/100 acres)
- Establish energy criteria for developments and new homes, such as:
 - Incentives for developers, including density bonuses
 - Subdivisions which make use of solar orientation
 - Low carbon or net zero energy use homes and businesses
 - Promoting mixed use development

Many communities are leading by example by adopting minimum performance-based building standards including Leadership in Energy and Environmental Design ([LEED](http://www.usgbc.org)). Before adopting a standard, communities might first assess the energy use of their buildings, schools and wastewater facilities. The Environmental Protection Agency's "Community Energy Challenge" encourages communities to benchmark their buildings

in accordance with Energy Star. This simple tool helps communities baseline the performance of their buildings as compared to similar public buildings. Learn more at [EPA's website](#) or contact Lucy Edmondson with questions at (617) 918-1004 or edmondson.lucy@epa.gov.

State law mandates that new buildings meet the New Hampshire Energy Code and show plans in compliance with the code prior to a building permit being issued. In towns where there is a building inspector, an inspection including, where possible, a blower door test, is a proactive measure which can be taken to enhance energy efficient construction. In towns where there is no means for inspection or the code official does not conduct such an inspection, the contractor is required by RSA 155-D to complete a certification of code compliance prior to an occupancy permit being issued.

Currently less than 50% of the towns in NH have code officials. Many code officials do not conduct energy inspections on buildings prior to occupancy. As a result many, perhaps a majority, of buildings do not meet the minimum energy code, which in itself is not a high benchmark for efficiency.

Towns officials may also distribute information about the following programs to individuals and developers seeking building permits:

- **New Hampshire Commercial Energy Code** - All new commercial construction must meet minimum efficiency standards. For information about the NH Energy Codes contact Jon Osgood, Energy Conservation Coordinator, at (603) 271-6306 For more information on how to meet or exceed the new commercial standards, visit <http://www.puc.nh.gov/EnergyCodes/commercial.htm>.
- **New Hampshire Residential Energy Code** – This code mandates all new construction meet a minimum level of energy efficiency. For information about the NH Energy Codes contact Jon Osgood, Energy Conservation Coordinator, at 603-271-6306. For more information on how to meet or exceed the new residential standards visit <http://www.puc.nh.gov/EnergyCodes/residential.htm>.
- **The New Hampshire Codes Consultant Project** offers assistance to builders and code officials with meeting and going beyond the NH energy code. Code Consultants will work with a builder from planning stage through occupancy permit. There is no cost for this service. For information contact Wes Golomb, Professor, Energy Services and Technology, Laconia Technical College 524-3207 x 763 or e mail wgolomb@nhctc.edu
- **NH Building Codes Review Board**
<http://www.nh.gov/safety/boardsandcommissions/bldgcode/index.htm>
- **US Department of Energy Building Energy Codes Program**
<http://www.energycodes.gov/>

- **Energy Star Homes Program** - New home and commercial building permit applicants in town should consult this great resource. For more information, visit <http://www.nhsaves.com/residential/homes.html>
- **Leadership in Energy and Environmental Design (LEED)** building rating system – LEED design standards provide architects and contractors with energy-efficient design and green building guideposts. For more information contact:

Paul Leveille
High Performance Building Coordinator
The Jordan Institute
602-226-1009 x 205
pleveille@thejordaninstitute.org

Encourage your local planning board to adopt basic performance-based standards that will ensure that all new buildings are constructed to a minimum efficiency level. For example, work with your planning board to adopt language in your town plan, building code, and ordinances that require “*all new construction to be designed and constructed to exceed Society of Heating Refrigeration Air Conditioning Engineers, ASHRAE 90.1, standards by at least 30 percent.*”

Change a Light Campaigns

An excellent way to increase community awareness and achieve very cost-effective electric savings in your community is to sell compact fluorescent light bulbs (CFLs) or to undertake a community-wide “change a light” campaign. CFLs use about 1/3 the electricity and last 8-10 times longer than incandescent bulbs at comparable light levels. Over its lifetime, each CFL will save users \$40 to \$70 in electric savings and release 1/3 to 1/2 fewer tons of CO₂ to the atmosphere. The elimination of just 5 high-use bulbs for CFLs can keep an estimated 750 pounds of CO₂ out of the atmosphere per year.

Communities have had tremendous success in organizing CFL “change-a-light” campaigns. In Vermont, organizers of the “Manchester Challenge” hoped to replace 40,000 incandescent light bulbs with more energy-efficient CFLs. They exceeded their goal, changing out 45,000 light bulbs and saving the community approximately \$2 million in energy use over the life of the bulbs. A number of Manchester residents who replaced all the bulbs in their home reported a 20% reduction in electric bill – over \$300-\$400 in energy savings annually. *Project organizers credit the campaign’s success to the diversity of local leaders who supported it.*

New Hampshire’s Core (electric) utilities offer an incentive program for lighting. For more information on organizing CFL sales, contact <http://www.nhsaves.com/catalog/>

More Resources

- The NH Sustainable Energy Association is the local branch of the Northeast Sustainable Energy Association. NHSEA offers information, education and resources on renewable resources available in our state. <http://www.nhsea.org>
- NH Sustainable Energy Association Consumer Resource Guide http://www.nhsea.org/download/Consumer_Guide_for_Services.pdf
- The Plymouth Area Renewable Energy Initiative is a local Plymouth grassroots organization that offers bulk purchasing, community installation of renewable resources, education, and information. <http://www.plymouthenergy.org>
- Plymouth Area Renewable Energy Initiative Resource Page <http://www.plymouthenergy.org/resource.htm>
- Energy Services and Technology Program, NH Community Technical College at Laconia, offers certificate programs, continuing education and resources for community energy development. For more information contact Wes Golomb, Program Coordinator at wgolomb@nhctc.edu or visit their website at [Department of Energy Services and Technology](#).

Model Bylaw: NH Town Energy Committee

I. Mission

The mission of the Town Energy Committee is to promote energy conservation, energy efficiency, and explore other ways to reduce carbon emissions among the town's residents, businesses, and in municipal affairs. The committee aims to assist the town in addressing these goals as laid out in the Town Meeting vote on March 13, 2007 (or other appropriate date). These goals will be accomplished through educational activities and programs designed to encourage people to pay attention to their energy needs, consumption habits, and short- and long-term interests. The committee will make recommendations to and cooperate and communicate with town officials, boards and commissions as well as public and private groups with similar concerns, and with the appropriate agencies of the state, regional, and federal governments.

II. Membership

The Town Energy Committee shall consist of seven members appointed by the Board of Selectmen. Appointments shall be for two years. During the first year of appointment three (3) members shall be for a term of one year in order to establish a staggered appointment schedule. Each member shall be a resident of the Town. All members shall serve without compensation, but may be reimbursed by the Town for necessary and reasonable expenses incurred in the course of their duties.

- A. Vacancies. All vacancies shall be filled by the Board of Selectmen within six months. Appointments filling vacancies shall be for the remainder of the term of appointment.
- B. Removal. The Board of Selectmen may remove any member if just cause is stated in writing and after a public hearing on the matter, if that member requests one.
- C. The Commissions shall be permitted to request information from Town departments and officials in the course of their duties and may seek advice and consultation from other citizens, government employees and officials, professionals, and other groups as needed.

III. Officers

The committee shall elect the following officers annually at the first meeting of the group after the scheduled appointments:

- A. Chairperson shall preside at all meetings of the committee and when he or she is present and shall direct the work of the committee. The chair may appoint annually chairs of any standing committees from the membership as approved by the committee. The chair shall submit a brief annual report to the Board of Selectmen for publishing in the Annual Town Report. The Chair shall ensure continuing liaison between the committee and the Board of Selectmen, Planning Board, Conservation Commission, and other town agencies and departments.
- B. Vice chairperson shall assume all duties and powers in the absence of the chairperson.

- C. Clerk shall keep minutes of all meetings and proceedings of the committee and record any action taken. Clerk shall post notices of committee meetings and give notice to members when necessary. Minutes shall be submitted to the Town Clerk and Board of Selectmen's office for filing.
- D. Treasurer shall recommend action on all bills received by the committee. Treasurer shall ensure the authorization of payment of any bills, as approved by the committee, for submission to the Board of Selectmen for payment. Treasurer shall submit an annual financial statement to the Town. The Treasurer shall consult with the town Treasurer to insure compliance with state law.

IV. Meetings

The committee meetings shall be open to the public in accordance with NH RSA 91-A, and be held at a regular time and place when possible. The time and place of each meeting shall be posted in accordance with these requirements. All records and minutes of any committee meeting or action shall be filed with the Town Clerk and Board of Selectmen and be made available to the public.

Four members shall constitute a quorum. Members shall make every effort to attend all meetings and perform such duties as are assigned. Any member unable to attend a meeting shall notify an officer of the committee and make a report available for that meeting if requested.

V. Operating Expenses

The committee shall have the authority to request appropriations from the Board of Selectmen as part of their budget. Any other funds appropriated to the committee shall be maintained in accordance with state financial requirements for the purpose of the Committee. The committee shall have the authority to recommend to the Selectmen that they receive gifts, grants, or money from any sources that shall be held for the purposes of the Committee and used solely for these stated purposes. Any funds from private, state, or federal sources that impose any obligation on the Town shall be accepted only by consent of the Board of Selectmen.

VI. Amendments

These bylaws may be amended at any regular meeting of the committee by a two-thirds vote of the committee. Written notice of intent to amend must be publicly posted, sent to each member of the committee, and sent to the Board of Selectmen, at least seven days prior to the meeting at which the proposed action is to be taken.

VIII. Upcoming Handbook Additions

Here is an outline of what to expect from Volume II of the New Hampshire Energy Handbook for Local Communities:

A New Understanding of Energy Efficiency

How to establish an understanding of the municipality's usage levels

- What data to get

- What data can be extrapolated

- Where to get the data

- How to acquire and use modeling software

How to establishing a reduction target:

- What benchmark to use

- What reduction to set

- How to assign responsibility

- How to define success

Projects that save money and reduce emissions

- Universal

 - Change-a-light

 - No idling

 - Energy Audits (who, how much, when)

- Public, Private, Commercial, and Residential

Potential Funding Sources and Contacts

- Performance Contracting – NH state building efforts and case studies

- Grants and gifts

- Municipal Budget and Impact Fees

- Revolving Loan Funds

Technological Changes

- Leaving the 1970's behind

- Alternative power production

- Renewable fuel – production and usage