

ENFIELD ENERGY COMMITTEE MEETING MINUTES of May 26, 2009 APPROVED

MISSION STATEMENT: To identify energy savings for the town and energy savings opportunities for the community

CURRENT GOAL: Our goal is a 10% reduction in total energy consumption by the Town by the end of 2009 with incremental decreases thereafter, toward a three year goal of 25 % reduction in total consumption by the Town (relative to the 2007 baseline data) by the end of the 2011 fiscal year.

DATE/TIME: May 26, 2009 5:00 P. M.

LOCATION: Whitney Hall Conference Room, 23 Main Street, Enfield, NH

I. Call to order 5:10 PM

Attendance: Present, Alisa Bonnette (Administrative Staff person), Steve Goldsmith (Chair person, John Burritt, Wendell Smith, Charles DePuy, Kim Quirk, Rich Lammert, Carol Lammert

Absent: Bo Petersson

Public: no one

II. Approval of minutes for April 28, 2009 meeting

Approved as modified.

III. Public Comment - none

IV. Old Business

- Instructions for publicly accessible materials at the town library. Information on the Kill-a-Watt meter and the Smart Strip are now available. Marjorie Carr has also posted a notice that the items can be checked out. Alisa has included the information on the Enfield web site. Kim said that she also makes customers aware of them, if appropriate.

Additional equipment was considered. Two types of whole house meters, the Blueline - Power Cost Meter and The Energy Detective (TED), were discussed. Considerations were adding something like this to the Light Board to demonstrate how it works or possibly making it available through the library as well. These devices are more complicated to install compared to the Kill A Watt meter and the Smart Power Strip. The committee will continue to review additional equipment for demonstration purposes.

- Review of Earth Month

Kim reported that at the Energy Emporium 15 CFL bulbs were sold during the month long offer. However, most customers were unaware of the offer of a reduced cost. Carol reported on information from Ken of Enfield Hardware; he has said that sales were few. Getting information before the public needs to be enhanced. Ideas were shared on offering something like a tear away coupon in next year's town annual report and/or town calendar. Information and a chart on savings could be included. The committee needs to have a plan by September in order to meet deadlines for these publications.

- Update on Idling Awareness activities

Carol reported that Hanover has been active with providing information to kindergarten children at the start of the school year. They give out information provided by the New Hampshire Department of Environmental Services. As well, they give out Bumper Stickers. The committee discussed how to reach school children. The possibility of having a poster contest was considered. John will contact the school principal to learn how this might be arranged.

-Summary of energy related events/meetings in the region

Rich, Kim and Carol attended the Upper Valley Roundtable meeting. Reports from Upper Valley Energy Committees were presented. Kim noted in a small group discussion on energy inventories that there are some formats for providing energy audits. She will confer with Charlie. Rich presented information on Transition Towns; towns that are working toward freedom from fossil fuel and self sustaining activities including food production. He offered to share with committee members his copy of book on this topic.

Carol reported on regional transportation including speculation on rapid transit expansion primarily between Boston, Concord, Manchester and the airport. Development in this area is less likely. Government stimulus funds may be available. Rail trails may be converted to multi-use paths though safety and liability are major concerns. Cooperative efforts with churches along bus routes might be an avenue to expand Park and Ride options though responsibilities and liabilities are issues.

- Update on energy related projects around town

Wendell reported that there was no news to report regarding the library or the Shaker Museum hydro power project.

- Progress report on Town Energy Audit/ Baseline consumption and impart/emission data.

Charlie reviewed data showing comparisons with baseline data. He calculates data every 6 months. (See data as attachment to March, 2009 minutes.) He will be meeting with Chief Crate to discuss the possibility of central air conditioning for the police station. Kim offered to work with Charlie on data entry. Charlie speculated on the potential of offering building management education on energy savings for parties responsible for buildings. Alisa reported that she discussed the night lights in the hall of the DPW building with Ken Daniels. Half the lights remain on as a security measure.

- Leading Edge Design

Steve reported that he is awaiting a response from Garry Hubbard. Data has been sent regarding two potential projects (Memorial Park lighting and bridge lighting) that could assist the town in saving energy. Both locations have on site meters that could be turned down or off.

-Street lighting Project

Carol offered the combined paraphrased criteria from Hartford and Jaffrey as well as comments and guidelines from Bob Walker of Thetford and SERG. (See Attachment)

Street lighting Criteria from Hartford/Jaffrey combined

Summary by C. Lammert 5/'09

(J) = from Jaffrey

(H) = from Hartford

Intersections - lighting to signal location at each intersection of major public roads with significant traffic (J) (H)

Sidewalks - lighting sufficient to illuminate sidewalks in densely populated areas with significant pedestrian movement (J) Cross walks and at businesses that stay open late and where hazardous for drivers or pedestrians (H)

No wasted light - each light with no more than what is necessary to accomplish its purpose - no night sky illumination - no trespass (J)

Energy efficient lighting - new lights should be state of the art re: lumens, per watt, durable and minimal maintenance (J)

Consistent lighting - type of street light, providing same color throughout the town (except historic district (J)

Comments from Bob Walker, of SERG, re: Thetford:

Generally towns have found the following: Priority is pedestrian safety. Lights are needed to mark important intersections. Safety and security of the public and commercial buildings and residencies are secondary. Thetford used motion detectors for the latter to save energy and money.

The committee determined that each member should do a repeat drive-by evaluation of assigned areas according to the above criteria for intersections, sidewalks and no wasted light. The re-evaluation is to be completed by the next meeting, June 23. The preliminary evaluation spreadsheets will be used. Working toward consistent lighting beyond the historic area does not currently seem feasible in light of the variety of fixtures that currently exist. (Jaffrey did convert to metal halide lights.) Major intersections were identified as Main and 4A, Main and Rt. 4, Main and High Street, Shaker Hill/High and Main, Oak Grove and Rt. 4, Both ends of Baltic and Rt 4. Pedestrian areas may include Huse Park, Mickey's (particularly on summer evenings) and the Rt. 4 cross walk at the school. Charlie will speak with Chief Crate to learn where the most vehicular accidents have occurred.

- Legislation HB 189 An ACT enabling municipalities to establish energy commissions has passed the House and Senate. This will provide recognition for commissions. The distinction between a committee and a commission was mentioned. Commissions have power while committees do not.

V. New Business

-Whitney Hall town office light switch signage

It was noted that there are new signs requesting lights be turned off when not in use.

-Legislation HB 585-FN And ACT relative to outdoor lighting efficiency has passed the house and senate.

According to an e-mail communication from Leo Smith, International Dark Sky Association, Northeast Regional Director,

New Hampshire Dark Sky legislation will

1) require utility companies to use full cut off street lights for all new installations and

replacements

2) require the Public Utilities agency to set new rates for streetlights that are turned off at midnight

3) restrict purchases using state funds to fully shielded street lights

4) direct the New Hampshire DOT to explore how energy and maintenance costs can be reduced by replacing existing luminaries with lower-wattage, fully shielded luminaries or by eliminating roadway lighting altogether where appropriate.

-Upcoming events

Carbon Coalition Local Energy Solutions 2009 - June 20 8 AM - 4:30 PM

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

Participation in the Shaker Museum's Country Fair - June 6 10 AM - 4 PM

Solarfest, July 10, 11,12 Timouth, VT <http://www.solarfest.org>

Enfield's Farmers Market at Shaker Museum Mill Building one session Wednesday 4 - 7 PM
July 1 - October 2

Carol will send the registration form and contact the manager with two potential dates.
Wendell noted that having members available to man the display would be an issue.

VI. Other Items

-Modifications of the Light Board

John suggested that he might be able to make modifications to the light board to make it more transportable using a car and maneuvered by one person. This would enhance its use as a learning tool as town events.

- Next meeting June 23 same place, same time

VII. Adjournment

The meeting was adjourned at 7 P.M.

Respectfully submitted,

Carol Lammert
Secretary

Attachment:

Energy and Cost Saving Opportunities in Municipal Street Lighting

Streetlights are one of the highest electric users and expenses for most municipalities. Most town streetlights are old, inefficient, expensive, polluting and do a poor job of streetlighting, offering municipalities many savings opportunities. The following information has been compiled by Sustainable Energy Resource Group (SERG) through its work with Thetford on a street lighting project. Please feel free to use this following information and to contact SERG (below) if you need help with your project.

Action 1 – Streetlight Inventory and Assessment

Get a copy of your town's electric bills, with a breakdown for streetlighting from your town clerk. More than 1/2 of Thetford's municipal electric expenditures are for streetlighting!

Ask your electric utility to send list of all lights, age, type, and wattage of each, with a map and their location.

Ask your utility for the depreciation schedule and value of each light and what their policy is on town ownership of streetlights.

Action 2 – Removing Unneeded Streetlights - The biggest and quickest savings on streetlighting come from removing unneeded lights. Thetford removed 1/4 of streetlights determined as unnecessary by Selectboard.

Steps:

Discuss issue of removing selected streetlights with Selectboard, Town Manager or other Municipal agent.

Tour streetlights at night with a map noting their location, looking for lights that might be removed, upgraded or placed on photocell timers (below).

Present draft list of lights recommended for removal to Municipal decision makers – edit list.

Present edited list to community and seek feedback via community letter, forum, letter to the editor, survey, etc.

Trial Outage – Based on community feedback, edit list with Municipal decision makers and ask electric utility to temporarily turn off selected lights for a given period of time.

Seek community input on trial outage and make final decisions with Municipal leaders.

Ask utility to remove unwanted lights and to turn others back on.

Issues and considerations in determining where streetlights are needed: Streetlights are most helpful in high pedestrian and vehicular traffic areas, at pedestrian cross walks and major traffic intersections. They can serve to indicate central business or residential areas. Some residents prefer darkness, while others may want streetlighting for safety and security. Should town pay for lighting for private concerns? Motion detectors on private property lights may better serve these purposes. Might towns save money by offering, as Thetford did, to install motion detectors on private property for specific concerned residents where most landowners wanted the removed light? Can sidewalks be lit instead of streets?

Liability – The directors of the liability insurance program for the Vermont League of Cities and Towns say that removing or turning off streetlights in the middle of the night in areas where there is little traffic or safety hazard and where there would be no reasonable expectation of those areas being permanently lit, would result in little increased risk of liability, especially in smaller,

more rural towns. They were not aware of any case where a town had been successfully sued for having lights off.

Action 3 – Decide on Leasing vs. Town Ownership of Streetlights

Some electric utilities allow towns to purchase their own streetlights for placement on utility poles; others do not. Ownership gives towns greater choice in lights, fixtures and controls and potential cost savings, however, the town accepts greater responsibility. The town must buy electricity from the utility, as well as lights, fixtures and controls and contract out operation and maintenance to the utility, private contractors or town maintenance crews.

Plainfield Case – Plainfield, Vt. purchased its own streetlights for placement on Green Mountain Power poles in 2005. Plainfield negotiated a fee contract with GMP to install their new, efficient High Pressure Sodium (HPS) lights and fixtures and hired GMP to perform operation and maintenance. Plainfield estimates that after they have paid off their lights, within four years, their annual street lighting bill will decrease from \$6,700 to about \$3,600.

Thetford Case – Central Vermont Public Service Corp. does not allow towns to purchase their own streetlights for placement on CVPS poles. SERG has been assisting the Town of Thetford since 2005 in its case before the Public Service Board seeking a new CVPS streetlight tariff that permits town ownership and the use of photocell timers. The Vermont Legislature will be considering a bill requiring all utilities to allow towns to purchase their streetlights during the 2008 session.

Action 4 – Install Efficient Lights, Fixtures and Controls - Have the municipality or utility install different types of trial lights, fixtures and controls. Gather community feedback. Decide which models to use.

Streetlight Efficiency & Lighting Characteristics

Mercury Vapor (MV) - old, inefficient technology street lighting, used for the past 40 years. 100W MV's emit approximately 3,000 lumens of white light and have a life expectancy of 24,000 hours.

High Pressure Sodium lamps (HPS) - give off a yellow to pinkish light that is less likely to attract insects and their predators and interferes less with astronomical observation because it is easily filtered. 70W HPS's emit approximately 5450 lumens and have a life expectancy of 24,000 hours, but have poor visibility due to their color spectrum.

Metal Halide lamps (MH) produce a very white light, resulting in improved visibility at lower wattage (50W) and lumens (3,500) than HPS. But these reduced operating costs are offset by increased replacement costs due to shorter life expectancy (about 10,000 hours), making costs of operating MH lights similar HPS lamps.

Induction lights (IND) at 55-Watts and a mean of 2800 lumens, produce a white light, similar to MH. IND lights have a life expectancy of 100,000 hours, which may result in the least maintenance and most cost-effective choice. But IND lights have a higher initial cost, so currently make most sense in hard to access and maintain areas, like on bridges and in tunnels.

Other Efficient Technologies - Light Emitting Diodes (LED's) & Compact Fluorescent Lights (CFL's) are making technological advances and may soon be the preferred efficient and cost-effective options.

Fixtures

"Drop Down" lenses - old, inefficient models that cast light sideways, illuminating the night sky
"Full Cut Off" or "Flat Lens" fixtures - better option that prevent light spillage/dark sky light pollution and focus light downward.

Photo cells – Turn lights on at dusk and off at dawn.

Photocell Timers – Shut lights off in the middle of the night when not needed, cutting electric use in half.

Streetlight Consultants and Contractors

The following may be helpful to you in your efforts to improve streetlighting in your municipality.

Gabe Arnold, Technical Coordinator

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Streetlight Project Thank You's

In addition to all of the consultants listed above, Sustainable Energy Resource Group would like to thank the following for their help with our streetlighting project: Jeff Bernstein, Esq., Representative Jim Masland, Jack Sautter, Chris Owen, the Thetford Energy Committee, the Thetford Selectboard, the Village of Woodstock, the Town of Strafford, the Vermont Sierra Club and the Vermont League of Cities and Towns.

For more information or to get on our list to receive periodic project updates and energy saving information, contact Sustainable Energy Resource Group at: 802-785-4126, SERG@valley.net or www.SERG-info.org