



Sustainable Hanover Global Problem Requires Local Focus

A Work in Progress – What Hanover is Working On January 4, 2011

Grounds Maintenance – Agriculture – Buy Local:

- Replacement of lawns with wildflower fields – reduces weekly mowing.
- Expansion of community garden to meet increasing demand; potential need to scout for second location based on projected demand for 2010.
- Wastewater sludge is currently trucked to Maine for composting and then sold for re-use as fertilizer; beginning in 2011, sludge will be trucked to Lebanon landfill for composting for use as daily cover at Landfill location, eliminating need for 5 hour weekly drive to Unity, Maine.
- Town exploring community-wide composting program based on Montpelier, Vermont model; Highfields Institute retained to develop pilot program for implementation by Hanover restaurants and Town has supported launch of food composting program in Ray Elementary School. Draft report received in late December – currently being evaluated.
- Chamber implemented expanded weekly Hanover Farmer's Market on Green during summer of 2010.

Building Maintenance:

- Installed programmable thermostats in all Town facilities to reduce fuel oil consumption over the winter of 2006/07, and lowered office temperatures Town-wide, particularly nights and weekends.
- Completed new lighting audits of all of Town buildings and replaced fixtures in 2007.

- Began conducting in-depth energy audits of Town facilities in January, 2008; completed assessment of Senior Housing apartment buildings, Public Works, Fire, Police, and Town Hall. Audit of Wastewater Treatment Plant is on-hold given significant construction now underway.
- Established Building Maintenance Reserve Fund to begin funding building modifications to improve energy efficiency in May, 2008; fund now has \$150,000 in place.
- As part of building audit recommendations, invested substantial funds to re-insulate, install new windows, install new siding and otherwise tighten up three Senior Housing apartment buildings (Summer Park). Annual reduction of 23,520 kwh (37,239 lbs of carbon reduction)
- Replaced all windows in Town Hall with new energy efficient window units in 2009.
- Replaced outdated and oversized furnace in Fire Department with new, smaller and more energy efficient device. Reduction from annual 1,050,000 KBTU's to 91,000 KBTU's (60,000 lb carbon reduction).
- Replaced DPW Facility boiler controls, flow circulator and hot water heater to reduce energy usage. Reduction of 3,215 kwh.
- Applied for and received ARRA funding to conduct full energy audit of Fire and Police Station during 2010/2011; project will prioritize numerous anticipated energy efficiency improvements to both buildings, including insulation and siding, HV/AC in Police Department, lighting, etc.
- Funding approved as part of Wastewater Treatment Plant project to replace non-functional methane recycling technology (\$500,000). Project implementation targeted for 2011. Goal is to use methane generated at plant via biological digestion treatment process to heat treatment process, which should save \$80,000 per year in fuel oil costs and will eliminate facility's methane emissions. Additional funding will be utilized to make numerous energy efficiency improvements to the building including replacement of outdated pumps, motors and light fixtures. The Wastewater Treatment Plant was shown to be the Town facility which creates the largest carbon footprint as a result of these emissions. When all projects are complete, we anticipate reducing fuel usage by 11,500 gallons per year and electricity by 114,000 kwh (434,494 lb carbon reduction).

- Fleet and Facilities Manager Frank Austin completed course work to become certified in evaluating and implementing building energy efficiency projects.

Municipal Fleet:

- Implemented transition to B-10 bio-diesel program for our PW Department in 2007 and conversion to B-20 in 2010.
- Outfitting 17 Town vehicles with IDLERIGHT technology to reduce idle time for Police cruisers and light and medium duty trucks. One-third of our dump truck fleet (newer models) have also been programmed to allow a maximum of 5 minutes of idling. Estimate annual fuel savings of 4,900 gallons (96,460 lb carbon reduction).
- Replaced two Police Department traditional sedans with hybrid Toyota Camry's in 2008 and replaced large SUV with light-weight more versatile, significantly higher mpg conversion truck in 2009. Continuing to monitor progress made in development of hybrid police cruisers, which pose a challenge given the number of electronic devices utilized in cruisers.
- Police Lt. Michael Evans attended national conference on the latest trends in fuel efficient vehicles for public safety uses in fall, 2009 and Frank Austin, Fleet and Facilities Manager, attended a national conference on hybrid, fuel efficient and electric vehicle development for the Public Works operation in 2008.

Parking and Traffic:

- Replacing all traffic signals with LED's to reduce energy consumption.
- Plan to replace pedestrian warning lights with solar devices over next 3 years; first set of two lights installed in front of the Ray Elementary School in 2009.
- Installed solar pay stations in Marshall Lot parking facility in October of 2008 and Lebanon St. parking lot in September of 2009. From this point forward, only solar pay stations will be procured.

- Continuing to refine practices with respect to municipal "No Idling" policies for Town. Installation of "Idling Free Zone" signs at key entrances to Town and in municipal and school parking lots. ARRA grant funds applied for and received to install anti-idling equipment on large portion of DPW truck fleet.

Lighting:

- Exploring, with National Grid (streetlight owner) replacement of outdated mercury vapor streetlight fixtures with lower energy using metal halide or LED fixtures, installation of timers, and potential removal of non-essential streetlights. Draft streetlight policy has been developed and neighborhood meetings currently being scheduled to review options with residents.
- Converted to use of LED decorative Christmas lights on all Town street trees.
- Initiated replacement of 56 ornamental streetlights on South Main St. and Allen St. with LED fixtures. Anticipated reduction of 51,160 kwh (81,001 lb carbon reduction) once project complete.
- Replacing traditional sidewalk-level light fixtures on the Ledyard Bridge with LED fixtures to be inserted in walkway railing.
- Replaced interior and exterior lighting at DPW facility with motion detecting LED lighting for this 24/7 facility. Estimated savings is 24,667 kwh.
- Replaced interior and exterior lighting at RW Black Community Center. Anticipated reduction of 15,101 kwh (23,909 lb carbon reduction).
- Replaced interior and exterior lighting at the Howe Library. Anticipated reduction of 13,597 kwh (21,528 lb carbon reduction).
- Replaced interior and exterior lighting at Parking Structure. Anticipated reduction of 78,840 kwh (108,050 lb carbon reduction)

The Natural Step:

- Town Manager attended 5 day Natural Step Facilitator training session at Tufts University in June of 2008. Sustainable Hanover Committee has

been established, comprised of representatives from the Town's Recycling Committee, the Hanover Climate Protection Committee, the Hanover and Dresden School Districts, Dartmouth College, the Chamber and the Community and began meeting in the fall of 2008.

- On February 7, 2009 the Town held its first Sustainable Hanover Community Workshop. The day-long event, which included introduction to the Natural Step approach to sustainability, resulted in the formation of several working committees to focus on several areas of sustainability improvements. Those working committees are now working on project implementation. The ultimate goal is to develop a comprehensive Sustainability Plan for the community which will guide our future work as a sustainable eco-municipality.