



LEBANON ENERGY ADVISORY COMMITTEE (LEAC)
APRIL 21, 2022 - 4:00 PM
COUNCIL CHAMBERS, CITY HALL OR
REMOTE VIA VIRTUAL PLATFORM
LEBANONNH.GOV/LIVE

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- 1. Call to Order**
 - 2. Approval of Minutes**
 - A. March 17, 2022
 - 3. Old Business**
 - A. Community Power Coalition of NH/Legislation/PUC Regulations
 - B. Landfill Gas to Energy Project & Solar
 - C. Updates to Building Codes
 - D. EV Charging RFI (Lebanon/Hanover/Hartford)
 - E. Conducting a City-wide Climate Action Planning Process and GHG Reduction Plan - Grant Application
 - 4. New Business**
 - A. Master Plan Update - Actions & Strategies Status and Vision Review Process
 - B. EV Subcommittee Report
 - C. Strategies/Goals for 2022
 - D. Recent and Upcoming Conferences or Webinars of Note
 - E. EFM Report
 - 5. Open to the Public**
 - 6. Future Agenda Items**
 - 7. Adjournment**

Meetings are open for in-person and remote attendance. Members of the public that wish to attend remotely may do so by going to LebanonNH.gov/Live where you will find instructions on how to enter the meeting. Members of the public will be able to participate and ask questions through the City's virtual platform or by phone. Please note: Should technical difficulties occur during the meeting that disrupts virtual or phone connection(s), the meeting will continue without remote access capabilities.

AGENDA
LEBANON ENERGY ADVISORY COMMITTEE
APRIL 21, 2022

AGENDA ITEM 2
APPROVAL OF MINUTES:

MARCH 17, 2022



LEBANON ENERGY ADVISORY COMMITTEE MEETING MINUTES

Council Chambers, City Hall

March 17th, 2022

4:00 PM

DRAFT

MEMBERS PRESENT: Greg Ames (Chair), Jon Chaffee (Vice-Chair), Clifton Below (Council Representative), Woody Rothe, Sherry Boschert (alternate, remote), Gene Homicki (alternate, remote)

MEMBERS ABSENT: Devin Wilkie (Council Alternate)

STAFF PRESENT: Everett Hammond, Tad Montgomery, Rebecca Owens – Planning Office

GUESTS PRESENT: None

CALL TO ORDER: Meeting called to order by Greg Ames at 4:12 PM.

Greg Ames appointed Gene Homicki to fill the LEAC high school seat.

ACCEPTANCE OF MINUTES

Woody moved to accept the January 2022 minutes; Jon seconded. The minutes were approved unanimously.

OLD BUSINESS

MASTER PLAN – ENERGY CHAPTER

Rebecca presented the Master Plan process. There was a robust discussion about whether or not the current Vision and Goals of Ch. 13 are adequate or need substantial modification, and to what extent the process should solicit broader citizen input. Sentiment leaned heavily toward making greenhouse gas remediation more prominent with stronger language and goals. Rebecca mentioned that Master Plan work will be a standing agenda item in LEAC meetings until the process is finished.

COMMUNITY POWER UPDATE

Asst. Mayor Below gave an update on the Community Power Coalition of NH (CPCNH). Walpole, Plainfield, and Rye have voted to approve electric aggregation plans for their communities, and Enfield is seriously considering it. CPCNH and other stakeholders are in a rulemaking process at the PUC with comments having been filed last Monday. Reply comments are due by 3/21/22. The current plan is to launch CPCNH programs next April 2023 with eight or nine communities participating.

LEGISLATIVE UPDATE

Asst. Mayor Below gave an update on SB 321 which would allow direct sale of power to consumers, possibly through CPCNH. It was passed this week in the Senate Energy & Natural Resources Committee on a vote of 5:0. Clifton has proposed that Lebanon act as a pilot program through SB 321 with our landfill gas project's electricity and a small number of solar arrays to be included.

LANDFILL GAS-TO-ENERGY PROJECT

Clifton mentioned that the City Council has approved roughly \$180,000 to complete funding to develop the project. The construction contract has been signed, turbines are on order and the interconnect agreement has been approved by Liberty. Clifton gave a detailed description of issues with reinstalling the solar array back on the Landfill Maintenance Garage that are indirectly impacted by the LFGTE project (starting ~5:23 PM on the recording).

SUBCOMMITTEES

Greg Ames appointed new LEAC member Sherry Boschert the EV Subcommittee Chair, with himself, Clifton and Meghan Butts as members, with Meghan's membership contingent on City Clerk approval of alternates serving on Subcommittees. Sherry will schedule a meeting soon.

Brief update on EV's: Tad mention that the draft three-town RFI for public EV charger infrastructure is complete and has been sent to town/city managers for approval.

NEW BUSINESS

The City Council appointed Sherry Boschert a full LEAC member. Meghan Butts will be appointed to fill Sherry's vacant Alternate Member seat. Tad will ask the City Clerk if Alternates can serve on LEAC Subcommittees and ask the Deputy City Manager if the LEAC high school slot can be converted to a regular member. Clifton may also bring this up with the Council.

RENEWABLE ENERGY CREDITS

There was a discussion about renewable energy credits and whether the City should be buying them to claim sustainability or greenhouse gas reduction for the energy produced by our solar and landfill projects. Gene strongly advocated for this position, stating that by not owning and retiring the REC's the City is exporting the emissions elsewhere. Starting around 5:50 PM Clifton gave a long description of how REC's will impact the landfill gas project and the rollout of CPCNH in Lebanon.

OTHER NEWS

- Tad mentioned that the City Manager has given the go-ahead for a Phase 3 solar project. Clifton said that these projects might fit very well into the SB 321 pilot project if it passes. Phase 3 could include the following sites:
 - Airport – trackers to the north of the parking lot
 - Airport – roof mounted arrays on the T-hangars
 - Swimming Pool – trackers to double as shade for swimmers/visitors
 - City Hall Roof – if we can figure out a way to do it cost effectively

- Storrs Hill – at the bottom of the slope to serve the Outing Club and perhaps more
- Valley Cemetery Building – another row along the bottom of the existing array to help it shed snow better
- Civic Fieldhouse – another row along the bottom of the existing array to help it shed snow better
- Prospect Hill Reservoir – an array of trackers
- Tad said that the DPW needs updates in its OneNote project tracking program on two LEAC-related projects, especially milestones and action items, and will reach out to members to get them:
 - Transactional Energy Program with Dartmouth professor Amro Farid. This project unsuccessfully sought funding from the NSF. In correspondence this week Dr. Farid asked if the City has interest in looking for other funding with him.
 - Municipal Aggregation – some info can be found here: LebanonNH.gov/LCP
- Tad mentioned that Marc Morgan and Rebecca Owens have been assisting him to draft language for a new City Procurement Policy that would guide staff on green or sustainable purchasing practices, aka Environmentally Preferable Procurement Policy (EPPP).
- Tad passed on that Human Services Director Lynne Goodwin had approached him to see if any LEAC members would be interested in volunteering to coordinate a Window Dressers program. This would be a volunteer run project to make custom fit interior storm windows out of simple wooden frames and plastic sheeting. Jon Chaffee mentioned that this has been considered before in LEAC and that the time requirements are substantial for the primary volunteer coordinator. LEAC members offered to raise this with Sustainable Lebanon.

FUTURE AGENDA ITEMS

- LEAC work priorities for 2022-2023.

NEXT MEETING

Is scheduled for Thursday, April 14th at 4 PM, location TBA but possibly in the DPW Conference Room.

ADJOURNMENT

A motion was made by Jon to adjourn the meeting at 6:17 PM. The motion was seconded by Woody. The motion was unanimously approved by roll call vote.

Respectfully submitted,

Tad Montgomery

AGENDA
LEBANON ENERGY ADVISORY COMMITTEE
APRIL 21, 2022

AGENDA ITEM 4
NEW BUSINESS:

MASTER PLAN UPDATE: Actions & Strategies & Vision Review Process

Blue = More appropriately tasked to a different group/body

Yellow = An ongoing endeavor, i.e. there is no "completed" (and that includes both shades of yellow)

Magenta = Are these actions that the ConCom is interested in engaging with?

Green = Actions that have been completed, noting that additional efforts can always be undertaken (both shades of green)

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Outcomes & Strategies

OUTCOME 1 Seek a balanced approach to protecting the City's natural resources while accommodating anticipated growth and maintaining the City's role as a regional center.

STRATEGIES		ACTIONS	
1	Guide development into existing areas as designated in the Land Use chapter to protect outlying rural areas and open space lands.	Develop an Open Space Plan, with public participation, that will inventory natural and cultural features, and recommend green space corridors for continued wildlife habitat and for the benefit of residents.	1
2	Guide new development away from wildlife habitat areas that have been identified in the Natural Resources Inventory.	Explore voluntary land protection measures on Tipping Rock, Rix Ledges, Devil's Kitchen, and Granite Flumes to protect the unique geological features of those areas.	2
3	Investigate innovative land use regulations such as transfer of development rights to preserve open space, natural resources and important wildlife habitat and corridors, taking into consideration the rights of property owners and abutters.	Apply for Land and Community Heritage Investment Program (LCHIP) and other funding sources for land conservation projects.	3
4	Require open space or conservation design for all ecologically important land.	Adopt a policy whereby the Recreation Department and Conservation Commission as well as the School Board are notified when the City acquires or decides to sell property, or when land is offered to the City.	4
5	Purchase easements or property for conservation throughout the City, particularly in critical habitat areas as identified in both the Natural Resource Inventory and Open Space Plan.	Authorize the Conservation Commission to periodically review all city-owned property and to recommend what land should have conservation easements.	5
6	Encourage the creation of a private conservation council to act with no personal benefit to acquire easements or purchase property in situations where the City may not be able to respond quickly to a priority parcel because of legal or other constraints.	Conduct education and outreach to members of the public about the benefits of land conservation and options for conserving land.	6
7	Develop a land acquisition/conservation easement program to protect scenic views.	Create incentives in the Zoning Ordinance for agricultural businesses and expand the importance of maintaining and increasing agricultural activity within the City.	7
8	Include City gateways in open space planning.	Contract with a licensed forester to work with the Conservation Commission in developing forest management plans.	8
9	Support efforts to establish more scenic roads.	Adopt and implement appropriate logging guidelines to encourage best management practices (BMPs) for logging in the city-owned forested areas.	9
10	Discourage exterior area illumination of prominent physical features and landscapes that dramatically impact the nighttime landscape.	Place protective third-party easements on city-owned land with important habitat areas.	10
11	Review lighting design elements of development proposals to ensure that adequate minimal lighting is planned, but over lighting is avoided.	Work with the NH Department of Transportation to develop landscaping plans for Route 120 between Exit 18 and Hanover Street.	11
12	Require the use of renewable energy in heating and cooling systems in new construction of public buildings.	Create a scenic corridor overlay district to protect the City's highway corridors from inappropriate development and visual blight, and landscaping standards for all major entry corridors to the City.	12
13	Continue to support land use patterns that promote alternatives to single occupancy vehicles, such as public transit, park-and-ride facilities, sidewalks, and bikeways/bike paths.	Develop recommended landscaping guidelines for distribution to landowners, regarding such issues as the protection of existing trees and landscaping, choosing plant species native to the region, and planting to screen utility facilities and equipment.	13
14	Encourage the use of energy conservation measures through site plan review, such as orienting buildings to take advantage of natural light and heat, and providing vegetation for summer shading and wind buffers.	Adopt a ridgeline ordinance to protect ridgelines from poorly sited development and consider including hillsides and wildlife corridors to lowlands	14
15	Continue to encourage mixed-use growth centers rather than strip-type sprawling development patterns.	Adopt lighting standards that minimize sky glow and glare.	15
16	Encourage and support transportation alternatives to single-occupancy vehicles, including mass transit, pedestrian and bicycle paths and facilities, ride-sharing, etc.	Develop and approve a wind turbine ordinance to enforce the appropriate siting and design of wind turbines.	16

OUTCOME 1 Seek a balanced approach to protecting the City's natural resources while accommodating anticipated growth and maintaining the City's role as a regional center.

STRATEGIES

- 17 Encourage recycling citywide, including in city-owned facilities.
- 18 Encourage the use of renewable energy resources and provide information on these resources to residents on the City website and in the City newsletter.

ACTIONS

- 17 Develop and approve a telecommunications ordinance to enforce the appropriate siting and design of telecommunications towers.
- 18 Conduct periodic energy audits of all City buildings, infrastructure (including streetlights) and operations to identify areas of energy waste and recommend cost-effective energy conservation measures.
- 19 Establish a citywide recycling program to include periodic household hazardous waste days.

OUTCOME 2 Maintain the healthy, functioning natural systems that contribute to the City's quality of life and economic vitality.

STRATEGIES

- 1 Enforce stormwater and erosion control standards and conditions during and after construction, perhaps by requiring a bond, to ensure that there is no increase in surface water flows after development.
- 2 Make impervious surface reduction a goal of parking policies and regulations in the Zoning Ordinance.
- 3 Educate landowners regarding best management practices, such as proper household hazardous waste disposal, recycling, and composting through materials disseminated at City Hall, and through the City website and newsletter.
- 4 Acquire or seek donations of parcels, conservation easements, development rights, and rights-of-way adjacent to important bodies of water for protection of public access, water quality, public water supplies, floodplains, wetlands and wildlife habitat.
- 5 Support the Rotary Club's biennial clean-ups of the Mascoma River and encourage other groups to adopt other water bodies for cleanup.
- 6 Seek outside funding or volunteers to clean up sites in coordination with the regional planning commission.
- 7 Continue alliances with neighboring communities and regional organizations, such as the Mascoma Watershed Conservation Council, to foster cooperation in protecting water bodies and watersheds.
- 8 Develop and disseminate public education materials regarding the importance of protecting our water supply sources.
- 9 Investigate and consider utilizing recent innovations in stormwater management and groundwater recharge systems (ex. low-impact development) in critical locations where more traditional techniques prove inadequate.
- 10 Develop and disseminate public education materials regarding the importance of protecting our water supply sources.
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ACTIONS

- 1 Review site plan and subdivision regulations and update with the following components incorporating standards from the Stormwater Management and Erosion and Sediment Control Handbook: erosion/sedimentation control; on-site stormwater treatment; proper road design; minimize impervious surfaces.
- 2 Develop and adopt a variable width buffer zone along select streams and rivers.
- 3 Develop and adopt a Water Resources Management Plan.
- 4 Create source water overlay for existing drinking water sources based on the Model Rule for the Protection of Water Supply Watersheds and the 1999 Mascoma Watershed study.
- 5 Develop and adopt an aquifer protection overlay district to more strictly regulate development adjacent to potential drinking water sources.
- 6 Conduct land use and environmental constraints studies of the Mascoma River, Stoney Brook, Hardy Hill Brook, and Blodget Brook corridors to guide appropriate development in order to protect drinking water supplies.
- 7 Provide ditches, treatment swales, detention ponds, and catch basins that will prevent road run-off and accidental spills from discharging into water bodies, especially public water supply sources.
- 8 Develop an ordinance more stringent than that developed by Federal Emergency Management Agency to restrict development or filling in of floodplains to provide flood storage, water quality protection, and wildlife habitat adjacent to waterways.
- 9 Request updated flood hazard mapping by FEMA, as recommended in the 2002 Connecticut River Corridor Management Plan.
- 10 Inventory and legally designate prime wetlands for special protection.
- 11 Adopt a variable width wetland buffer zone, as appropriate, based on functions and values as recommended by *Buffers for Wetlands and Surface Waters: A Guidebook for NH Municipalities*.

OUTCOME 2 Maintain the healthy, functioning natural systems that contribute to the City's quality of life and economic vitality.

STRATEGIES

- 12 Continue educational programs to promote public awareness of the conservation lands, appreciation of their natural features, and appropriate activities on those lands.
- 13 Coordinate local volunteers to continue the care, maintenance, promotion, and appropriate use of conservation lands.
- 14 Continue to plan and publicize a program of nature walks in the City's conservation lands to enhance public appreciation of them.
- 15 Work with local land trusts to acquire trail easements when feasible, with an eye to linking to existing trails to provide a comprehensive network.
- 16 Negotiate with developers to protect existing trails and/or set aside additional land for a trail system.
- 17 Encourage volunteer help and hire a Park Ranger to implement park education (such as Adopt-a Park and Junior Ranger programs) and to build and maintain trails.
- 18 Investigate and recommend appropriate measures to ensure handicapped accessibility on conservation lands where feasible.
- 19 Continue participation in the "Tree City USA" program to call attention to the City's natural resources.
- 20 Continue to celebrate Arbor Day to raise awareness of the importance of trees to all residents.
- 21 Encourage Dartmouth College to continue working with the City through the Landmark Lands Committee to inventory and evaluate Dartmouth College Lands before development is proposed.
- 22 Protect existing wildlife corridors, such as the one across Route 120 and Mt. Support Road, with guidance from wildlife biologists.
- 23 Educate landowners about the importance of preserving wildlife habitat on their own land.
- 24 Raise awareness of invasive species by sponsoring educational lectures and field trips.
- 25 Continue formal cooperative planning among adjacent communities through the Upper Valley Lake Sunapee Regional Planning Commission and other organizations like the Mascoma Watershed Conservation Council.
- 26 Take the lead on developing a Mascoma Watershed Plan to protect our drinking water source.
- 27 Identify opportunities for training and information sharing on natural resource issues for the Conservation Commission, Planning Board, and other volunteer boards.
- 28 Identify opportunities for training and information sharing on natural resource issues for the Conservation Commission, Planning Board, and other volunteer boards.
- 29 Encourage City board members & administration to pursue on-going dialogue in areas of mutual interest.
- 30 Continue to work with the School Board to provide a curriculum within the schools that involves education about and access to the waterways within Lebanon, and the City's conservation lands.

ACTIONS

- Explore the expansion of the Steep Slope Overlay District. 12
- Hire a licensed forester to develop management plans for city-owned conservation areas together with the Society for the Protection of New Hampshire Forests, UNH Cooperative Extension, and other similar organizations. 13
- Update maps of existing trails and make them available to the public. 14
- Identify selected Class VI Roads as part of the green infrastructure trail system. 15
- Resume and publicize the "Wild about Lebanon" program and its regularly scheduled volunteer-led informational walks to City parks. 16
- Identify parks and recreational facilities through publicity and signage that includes a brief history of who donated the land, interesting facts about the property, and existing trails and/or flora in the area. 17
- Develop and adopt an urban tree ordinance to protect urban and residential trees. 18
- Develop master landscaping plans for the central business districts and gateways, identifying and recommending appropriate street tree and other planting opportunities in consultation with a Garden Club and/or a landscape architect. 19
- Develop a wildlife habitat overlay zone for critical habitat areas, including deer yards, bear habitat, vernal pools and wildlife corridors. 20
- Inventory areas that have been impacted by invasive species and develop a plan to address these areas. 21
- Hold annual tours of City parks and conservation lands for City Council members and all other City boards. 22
- Eradicate invasive species from city-owned land. 23

AGENDA
LEBANON ENERGY ADVISORY COMMITTEE
APRIL 21, 2022

AGENDA ITEM 4
NEW BUSINESS:

ENERGY CHAPTER – ACTIONS STRATEGIES

OVERALL LONG-TERM GOAL:

Lebanon is a leader in energy efficiency, renewable energy reliance, and innovation across municipal, commercial, institutional, and residential sectors.

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Outcomes & Strategies

OUTCOME 1

The City's buildings are energy efficient and new construction and redevelopments adhere to energy efficient standards.

STRATEGIES

- A** The City shall maximize energy efficiency in municipal buildings and encourage efficiency in commercial and residential buildings.
- B** The City shall develop guidelines to encourage energy efficient construction.

ACTIONS

- Assess and execute as many ETAP Project Action List items as possible **1**
- Adopt Energy Efficient Building Code policy **2**
- Revise existing subdivision and site plan regulations to be more energy efficient **3**
- Educate taxpayers about dollars saved over time when money is invested in energy efficiency **4**

OUTCOME 2 The City relies upon as much local renewable energy as possible.

STRATEGIES

- A** The City shall actively pursue opportunities to expand its use of renewable energy sources, such as hydropower, wind, solar, geothermal, and consider purchasing renewable energy from utility companies if offered.
- B** The City shall encourage the commercial and residential sectors to invest in renewable energy.

ACTIONS

- 1 Adopt a tax-neutral Property Tax Exemption for renewable energy projects
- 2 Conduct feasibility studies on the sites for solar power potential based on the Solar Map
- 3 Assess the feasibility of solar domestic hot water in new and existing municipal buildings
- 4 Look into alternative ways of assessing wind power generation potential
- 5 Encourage residents that benefit from moderate to fair wind power potential to explore small scale residential wind power projects
- 6 Assess feasibility of implementing the recommendations of the hydropower study to improve energy efficiency for the municipal water and wastewater systems
- 7 Encourage Rivermill Hydroelectric, Inc. to improve onsite efficiency and power capacity at the Rivermill Dam
- 8 Be involved in any hydropower development proposals along the Mascoma River
- 9 Consider moderate-scale district heating systems in new or existing office and industrial parks. These district heating systems could be based on a public/private partnership to cost-effectively implement high-efficiency heating among multiple buildings.
- 10 Research potential for possible public private/partnerships to develop biomass or liquid natural gas district heating and power plant projects in areas like business and industrial parks, downtown Lebanon, or downtown West Lebanon
- 11 Participate in regional discussions about opportunities for biomass heat/power and liquid natural gas
- 12 Continue to take advantage of geothermal resources in new construction, similar to Kilton
- 13 Study the feasibility of ground-source-heat pumps in new and upgraded municipal buildings
- 14 Encourage businesses to invest in renewable energy generation

OUTCOME 3

There is a culture of energy efficiency and conservation within the City's municipal, commercial, institutional, and residential communities.

STRATEGIES

- A** The City shall actively pursue federal, state, and regional funding and grants for projects identified in the Energy Plan. Other creative financing mechanisms shall be considered to support municipal, residential, and commercial energy initiatives.
- B** The City shall encourage municipal departments, residents, businesses, institutions, and visitors to support the local economy and preserve the working landscape by purchasing local food.
- C** The City shall conduct and support education and outreach efforts to increase local and regional understanding of the importance to reduce energy use and demand, curb reliance on fossil fuels, and protect the environment.
- D** The City shall explore opportunities to collaborate with local and regional partners, including the Lebanon School District and neighboring communities, to develop regional energy initiatives including aggregated power purchasing, expanded commuter engagement, and other opportunities to reduce energy use and costs.

ACTIONS

- Develop outreach campaigns for City employees, for example, to increase carpooling and recycling **1**
- Host and promote "Button-Up New Hampshire" workshops **2**
- Develop a public education campaign about energy topics including an online and social media presence **3**
- Advocate for projects that reduce the City's energy consumption and/or introduce renewable energy resources in the Capital Improvement Program **4**
- Investigate opportunities for interdepartmental coordination and funding of energy efficiency maintenance projects in existing municipal buildings **5**
- Establish an 'energy fund' to set aside funds to finance further energy savings projects **6**
- Maintain a list of "shovel ready" energy-related projects to take advantage of potential future funding and grant programs offered by federal and state agencies **7**
- Create or contract an 'energy coordinator' position **8**
- Expand the work of the Lebanon Garden Committee to establish community gardens **9**
- Conduct outreach to promote and strengthen Lebanon's Farmer's Market **10**
- Use and promote local food at City events **11**
- Research technical programs to add in Lebanon School curriculum to involve students in energy efficiency and conservation **12**

OUTCOME 4 The City's residential, commercial, and institutional sectors privately invest in energy efficiency and renewable energy projects.

STRATEGIES

- A** The City shall take active steps to encourage residents, businesses, and institutions to invest in efficiency and renewable technology.
- B** The City shall pursue public-private partnerships to save money and generate energy.
- C** The City shall work with area businesses and institutions to leverage educational opportunities.

ACTIONS

- The Lebanon Energy Advisory Committee should advocate for and the City Council should pass a more stringent energy efficient building code policy **1**
- The Lebanon Energy Advisory Committee should advocate for and the City Council should pass a tax neutral property tax exemption policy for renewable projects **2**
- Encourage the use of natural gas at local businesses (ex: Kleen Laundry) **3**
- Explore shared natural gas delivery with other municipalities and businesses **4**
- Explore shared biomass power production opportunities (ex: Unity, NH) **5**
- Continue to explore partnerships with the private sector to maximize energy savings on specific projects (ex: Landfill project) **6**
- Demand rigorous commissioning and review for energy efficient opportunities on all projects **7**

OUTCOME 5 Lighting throughout the City is efficient, cost-effective, and restores dark skies.

STRATEGIES

- A** The City shall maintain a current map and inventory of all exterior lights.
- B** The City shall reduce the number of overall lights in its control to save taxpayer money and reduce energy use and night-sky pollution associated with unnecessary lights.

ACTIONS

- Develop an ordinance to require energy efficient lighting for all new designs and projects **1**
- Develop fair criteria for light removal **2**
- Remove all unnecessary lights **3**
- Upgrade existing lights to LED or other efficient models **4**
- Refer to what other municipalities have done to maximize light removal and public satisfaction **5**
- Use cut-off lighting techniques to reduce light pollution of necessary lights **6**
- Incorporate land development regulations that require high efficiency lights for site plan review and development **7**

OUTCOME 6 The City of Lebanon has an economically sustainable, multi-modal transportation network, and municipal vehicle fleet.

STRATEGIES

- A** The City shall develop a multi-modal transportation system that provides employees, residents, and visitors ways to travel around Lebanon without driving alone.
- B** The City shall reduce emissions and costs of vehicles and machines in the municipal fleet.
- C** The City shall improve access to commuting options for City employees and partner with employers and surrounding towns to expand access to all regional commuters.

ACTIONS

- 1 Institute a policy that requires the purchase of energy efficient vehicles and equipment, and insert language into City Request for Proposals and Qualifications
- 2 Consider installing electric vehicle charging stations, for example at park and rides
- 3 Continue support of Advance Transit and promote new routes where appropriate
- 4 Establish new and participate in a regional network of park and ride facilities that connect to transit lines
- 5 Institute a City wide Anti-Idling Policy based on the current policy issued by the Department of Public Works
- 6 Purchase biodiesel fuel from local vendors for diesel machines and vehicles
- 7 Assess the travel patterns of the municipal fleet and identify more efficient routes
- 8 Examine ways to work with other employers, including the Lebanon School District, to leverage the tools and experience of the Smart Commute program
- 9 Implement recommendations of the City of Lebanon Sustainable Transportation Plan (2011), in partnership with the Upper Valley Transportation Management Association through the Smart Commute program
- 10 Set up an internal carpool matching system to help employees who live near one another share rides
- 11 Examine the feasibility of offering employees a compressed work week (four ten-hour days per week, for example)
- 12 Adopt a telecommuting policy and promote working from home to appropriate employees
- 13 Advocate for wide-reaching broadband service to improve telecommuting options
- 14 Continue to work with the Upper Valley Transportation Management Association to market commuting options and engage employees in a behavior change campaign
- 15 Assess the costs and benefits of offering employees a commuter benefit (extra time off for not driving alone, for example)
- 16 Continue to promote walking and biking in municipal employee wellness programs

OUTCOME 7

The City of Lebanon provides easy access to transportation systems and concentrates activities, amenities and commerce to enhance quality of life, retain small town charm, and increase energy savings.

STRATEGIES

- A** The City shall explore ways to allow residents and visitors to reduce vehicle miles travelled throughout the City.
- B** The City shall assess the current grounds care and landscaping practices within the City's control and explore more sustainable methods with less reliance on fossil fuels.
- C** The City shall explore ways to increase residents' and businesses' access to recycling and local foods.

ACTIONS

- 1 Establish park and ride facilities that connect to transit lines
- 2 Assess feasibility of bicycle rental stations throughout the City, located near bicycle lane networks
- 3 Develop sustainable methods for grounds care and landscaping
- 4 Incorporate green infrastructure -such as street trees, buffers and parks- in road, neighborhood and commercial design, to diminish stormwater runoff, enhance soil capacity to absorb stormwater, enhance the aesthetic value of the landscape, reduce greenhouse gas emissions, reduce the need for traditional stormwater management techniques and reduce energy demands from the urban heat island effect
- 5 Develop land use plans, policies, and regulations to encourage energy efficiency and renewable energy resources for renovation of existing structures and new construction
- 6 Sustainably manage City-owned forest land to provide high-value locally produced wood products, improve recreational use, and wildlife habitats
- 7 Promote locally produced foods and products
- 8 Promote the Lebanon Farmer's Market and encourage participation by local vendors
- 9 Provide compost disposal at City facilities
- 10 Designate locations for community gardens throughout the City
- 11 Design edible and native plant based functional landscapes throughout the City
- 12 Set up centrally located recycling drop off stations throughout the City that are walkable, visible and attractive
- 13 Study the feasibility of ground-source-heat pumps in new and upgraded municipal buildings
- 14 Encourage businesses to invest in renewable energy generation