

ing award from the Commonwealth in June at Bentley University.

Officers Mailloux and Rennie were recently appointed to NEMLEC as regional response officers (RRT). Officer Holsinger was also appointed to the NEMLEC motorcycle unit. Sergeant Troiano, Inspector Shelley, and Officer Toumayan responded as part of NEMLEC to assist with the 2017 Presidential Inauguration in Washington, DC. In June, Inspector Jeffrey Shelley resigned from NEMLEC SWAT after twenty years of service. The Department instituted an anonymous 24 hour tip line in January of 2017. In addition, the Department continued to hold classes on Rape Aggression Defense (RAD) training for women throughout 2017.

State and federal grant funding continue to provide the department with opportunities to purchase new equipment and technology, and fund existing programs. The Department was awarded and administered grants for pedestrian and bicycle safety, car seat equipment, and traffic enforcement initiatives, which were funded by the Massachusetts Executive Office of Public Safety and Security's Highway Division. The department was also awarded and administered grant funding through the Massachusetts State 911 Department for dispatcher training and personnel support services.

ANIMAL CONTROL

Jennifer A. Condon, Animal Control Officer
The Town contracts with a private vendor to provide dog and animal control services. The contract is awarded on the basis of a competitive bidding process and is administered by Chief Joseph F. O'Connor.

The Animal Control Officer responds to all animal complaints (domestic or wild), which includes the humane removal of all animals. The Animal Control Officer is required to provide a vehicle for the transporting of dogs, as well as a licensed kennel for the temporary housing of any dogs taken into custody. The Animal Control Officer and assistant(s) are on call 24 hours a day and are contacted by pager through the Public Safety Communications Center.

The existing contract services provide response to all animal control problems (domestic or wild). Other animal control problems are handled over the phone by referrals or by the uniformed Patrol Officers of the department. The budget also provides for limited patrols by the Animal Control Officer to locate stray dogs.

The overall objective of this program is to provide dog and animal control services in an efficient and effective manner. The appointment of an Animal Control Officer is mandated by the laws of the Commonwealth.

2017 Animal Activity by Month

	TOTAL CALLS	COMPLAINT CALLS	LOST DOG	LOST CAT	OTHER CAT RELATED	WILDLIFE	MISC CALLS	PICKUPS	HUMAN / ANIMAL BITE	QUARANTINE	CITATIONS ISSUED
JANUARY	50	7	4	0	1	5	25	1	H-1 / A-0	8	0
FEBRUARY	54	3	2	1	1	2	32	2	H-3 / A-0	5	0
MARCH	60	4	3	0	1	8	32	3	H-0 / A-1	8	0
APRIL	100	4	6	0	3	14	55	5	H-2 / A-1	10	0
MAY	109	12	7	1	1	14	58	5	H-0 / A-2	9	0
JUNE	136	8	10	1	3	27	74	3	H-1 / A-0	9	0
JULY	85	8	3	4	0	20	43	2	H-0 / A-1	4	0
AUGUST	64	3	1	1	0	16	32	3	H-2 / A-1	5	0
SEPTEMBER	74	5	7	0	2	7	44	3	H-0 / A-1	5	0
OCTOBER	95	15	2	3	1	9	53	3	H-2 / A-0	7	0
NOVEMBER	64	7	3	3	2	2	37	1	H-0 / A-1	8	0
DECEMBER	56	4	4	0	1	7	27	1	H-2 / A-2	8	0
TOTAL 2017	947	80	52	14	16	131	512	32	H-13 / A-10 =23	86	0

MUNICIPAL LIGHT PLANT

CONCORD MUNICIPAL LIGHT PLANT

David G. Wood, Director

Concord Light is a community-owned electric utility, created for and by the citizens of Concord in 1898. The goal then, as now, was to provide reliable and reasonably priced service in a responsive and thoughtful manner. 2017 has been a worthy addition to Concord Light's history.

The Town Manager appoints a five member, volunteer advisory Light Board comprised of local residents. Current Light Board members include (left to right) Peggy Briggs (Chair), Dan Gainsboro, Lynn Salinger, Gordon Brockway and Wendy Rovelli.

The Board meets monthly to discuss topics such as rates, power supply and renewable energy options; they encourage customers to attend.

The Concord Municipal Light Plant (CMLP) operates as a completely self-sustaining, non-profit, Enterprise Fund within the Town government. No property tax money is required or used to operate the Light Plant. All operating expenses including electricity purchases, capital investments, and debt service are paid by the Light Plant customers. In addition, the Light Plant contributes to the Town's operating budget via a Payment-in-Lieu-of Taxes (PILOT). For 2017, this formula based payment was \$474,000.

Power Supply

After the creation of Concord Light in 1898, the Town's electricity was provided by a coal fired plant located at Keyes Road. By the late 1920's, the Town had outgrown the capacity of the plant and decided to retire the plant and purchase all of its electricity from the Boston Edison Company (now NSTAR). In the spring of 2002, NSTAR sold all of their generating facilities as part of the federal utility deregulation initiative. As a result, Concord Light entered into a seven and a half year contract with Constellation

Power Source (parent of Baltimore Gas & Electric).

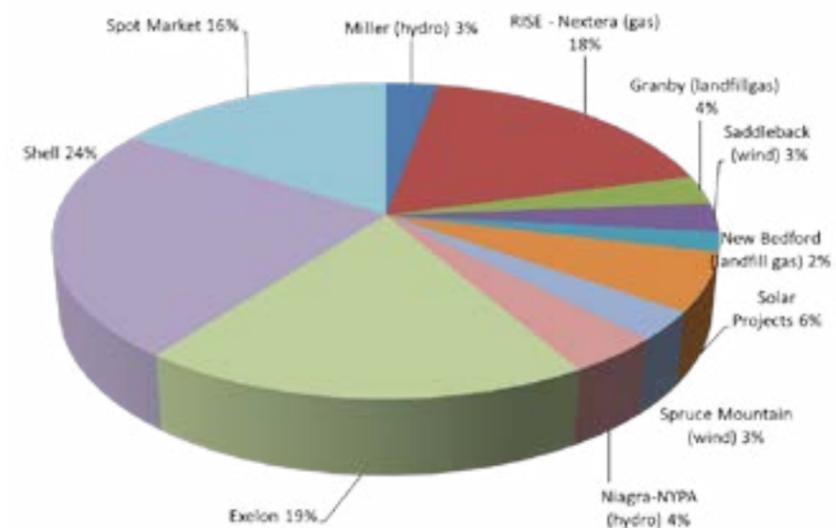
At the conclusion of the Constellation contract in the fall of 2009, no energy suppliers were offering contracts at reasonable prices due to the growing risk arising from the wide fluctuations in the cost of natural gas. For Concord, the alternative was the development of a power supply portfolio from multiple sources under a power supply strategy that best suited our community's needs. The power supply selection strategy included the following tenets:

- Diversified energy supply sources and fuel diversity
- Short and long term agreements to mitigate risk
- Peaking and base load supply sources to match needs
- Inclusion of cost competitive renewable energy sources
- Competitive bids for partial energy agreements on a rotating basis to minimize differences between our cost of power and current markets.

As a result, Concord Light has developed a diverse power supply portfolio with a wide variety of suppliers and resources. The chart below shows the sources and fuels that make up the generation portion of CMLP's supply portfolio.

It should be noted that energy from Miller (hydro), Granby

Portfolio of Concord Light's 2017 Power Supply



(landfill gas), Saddleback (wind), New Bedford (landfill gas), the Solar Projects, Spruce Mountain (wind), and NYPA (hydro) are all renewable sources that have delivered 25% of all wholesale energy purchased in 2017. Concord Light will continue to seek out renewable energy opportunities along with other economic and reliable supplies of wholesale energy in an effort to provide the most beneficial energy mix for its customers.

Power Supply includes the cost of Capacity and Transmission – two market services provided by the regional Independent System Operator at Federal Energy Regulatory Commission regulated rates. All power supply costs, generation, capacity and transmission, are passed to CMLP’s customer-owners at cost.

Electric Rates

Electric rates are based upon the estimated cost for generation, capacity, transmission and overhead and the cost to serve each rate class. Any difference between estimated and actual costs are paid to/paid back by the customers through a mechanism called the Power Cost Adjustment. In 2016 CMLP prepared a detailed budget of expected costs and relied upon the Cost of Service Study conducted in 2015 to determine the appropriate apportionment of overall costs.

Energy Management

Concord Light continues to provide a variety of energy management services to its customers, including rebates and energy audits for residential and commercial customers.

Residential Energy Efficiency Rebates

CMLP provided residential customers with over \$42,000 in rebates for purchasing and installing over 900 LED lights as well as 34 central AC systems and 16 electric heat pumps.

At the end of 2017, CMLP discontinued rebates for air-conditioning-only systems and launched a new air-source heat pump rebate program that offers higher rebates than in the past for all residential air-source heat pump adopters, but particularly for low and median income households. Since the additional cost of a heat pump over a cooling-only system is modest, CMLP encourages its customers to purchase versatile heat pumps rather than cooling-only systems. In addition to increased comfort (and cost savings for

some customers), the use of heat pumps to heat as well as cool will reduce greenhouse gas emissions, helping Concord meet its goal of 25% fewer emissions by 2020 and 80% fewer emissions by 2050.

HeatSmart Mass

In 2017, the Town’s Comprehensive Sustainable Energy Committee (CSEC) and CMLP were selected by the Massachusetts Clean Energy Center (MassCEC) to participate in HeatSmart Mass, a pilot program to promote the adoption of air-source and ground-source heat pumps. Beginning in March 2018, Concord residents will be able to get a free assessment to determine whether heat pumps are a good fit for their heating and cooling needs. The assessment — and installation, if desired — will be done by an installer selected by MassCEC, CSEC and CMLP staff for their high quality work and competitive pricing.

Commercial Energy Efficiency Rebates

In 2017, thirteen business customers installed or upgraded to more efficient lighting, and received a total of \$95,000 in rebates through CMLP’s High Efficiency Lighting Program. The thirteen commercial lighting projects are projected to reduce electricity consumption by almost 500,000 kWh per year.

Solar Photovoltaic (PV) Rebates

Thirty-five PV systems with an overall capacity of 390 kW DC (Direct Current) were installed by CMLP’s residential and commercial customers in 2017. CMLP contributed \$109,000 in rebates towards the installation of these systems. There are now a total of three hundred and ten PV systems between the residential and commercial customers in Concord with a combined output of 3.1 MW DC.

Community Service

Annual holiday tree lighting

Concord Light line crew decorated trees with energy-efficient LED lighting for the holidays in the West Concord business district and at Monument Square.

Hugh Cargill Trust

In 2017, Concord Light contributed \$14,000 to the Hugh Cargill Trust which helps eligible Town residents with emergency assistance to pay their electric bills. Residential Rate Assistance
Concord Light began our Residential Rate Assistance

program in 2006 to help Concord residents in financial need. Eligible customers are able to lower their bills by as much as 50%. As of December 2017, there were 179 Concord households enrolled in this program.

Operations

LED Streetlights

CMLP was awarded a grant from the Massachusetts Department of Energy Resources as part of the LED Streetlight Accelerator Program. Using the nearly \$80,000 in funding, CMLP began replacing 600 overhead metal halide lights with LED equivalents which consume about 50% less electricity. This project will be completed in May of 2018.

LED Office Lights

In addition to street lighting, CMLP also replaced 122 fluorescent lights with LED flat panel lights at its Elm Street headquarters. These lights are 50% more efficient than the original fixtures and allow full control over operation and dimming schedules.

Substation Security Upgrades

In 2017 CMLP also completed security access up-



LED office lights at CMLP offices

grades to each substation. This new system will track all access activity and alert dispatch if unauthorized access is attempted. To supplement this system, we are on track to have video surveillance in place by March of 2018.

New EV Charging Station

Concord Light has completed installation of a new electric vehicle charging station on Main Street along

the parking spaces in front of 122 Main Street and across from the library. In addition, the older unit in the West Concord MBTA parking lot was also upgraded to the same model.



New EV charging station on Main Street

Underground Conversion Projects

Concord Light completed the Emerson Field underground conversion project. The Emerson Field Project area includes sections of Thoreau St, Sudbury Rd, Hubbard St, and subsequent side streets. Starting in 2018 we will turn our attention to the Belknap/Elsinore neighborhood.

Telecommunications

2017 was the third full year of operation for the CMLP’s Broadband service. Operating as “Concord Light Broadband” the demand for the service has remained

steady and community support and feedback has been excellent. CMLP launched the Broadband service in March 2014 after the 2013 Annual Town Meeting had passed Article 48 which authorized borrowing to fund startup expenses. The 2017 Annual Town Meeting renewed support for the service by passing Article 24 which authorized CMLP to borrow an additional \$1 million to fund additional expansion of telecommunications service offerings. The principal and interest expense from this borrowing will be repaid exclusively from future telecommunication revenue.

Demand for the service has been strong. Subscriptions grew 40% to over 989 residential and business accounts between January and December 2017, a net increase of over 383 subscribers for the year. Revenues in 2017 exceeded \$750,000, a 35% increase over 2016, as well. Operating costs are in line with expectations. Since the end of 2016, Concord Light Broadband has been generating sufficient operating income to cover the expected operating expenses. Within the next year or so, we expect to be able to fund growth out of current revenue as well. During 2017 we invested in expanding the capacity and reliability of the Internet service. We upgraded all the central office switching and routing equipment to increase the overall capacity of the service. A third internet bandwidth supplier was also added to improve capacity and provide additional redundancy for reliability.

Concord Light Broadband has continued to offer straight-forward pricing without teaser or introductory rates or hidden increases down the road. Prices for the services remained steady in 2017. Residential service starts at \$49.95 per month for 25 Mbps. Standard offerings provide speeds up to 200 Mbps, higher speeds are available as a custom bid. These plans offer fully symmetrical bandwidth (matching upload and download speed). The fiber-to-the-home installation includes the industry's best 802.11ac Wi-Fi router for those customers that wish to upgrade their wireless service. Information about the offerings is on the Town's web site at www.concordma.gov/broadband. Concord Light Broadband has a staffed help desk that answers calls for assistance 24 hours a day, seven days a week.

The ability to cost effectively deploy advanced secure telecommunications to municipal facilities is a benefit of having in-house telecommunications operations. In 2017, the telecommunication staff, working with Town

IT staff, participated in projects support the Town's data network. These included, reconstruction of the West Concord Fire station after it was damaged by a fire, and opening the 37 Knox Trail and 55 Church St. buildings for use by Town departments. The Telecommunication team working with the CMLP line crews also repaired significant damage to a major fiber cable on Main St which impact both Town and School operations without outside assistance. The repair included improving the resilience of the fiber ring supporting Broadband traffic.

In 2017, CMLP continued to provide additional leases for "dark fiber". The lease agreements provide access to CMLP fiber telecommunication providers or businesses who wish to gain access to premises in Concord. CMLP earns revenue from the fiber leases and customers benefit from faster, less-expensive installations and access to advanced telecommunication services. One new dark fiber lease order was received and fulfilled in 2017.

COMPREHENSIVE SUSTAINABLE ENERGY COMMITTEE (CSEC)

Bradley Hubbard-Nelson, Chair
 William Lehr, Clerk
 Douglas Sharpe
 Julie Kleyn
 Gilda Gussin
 Annie Moore
 Janet Miller
 Alan Whitney
 Sam Lines
 Pamela Cady, Concord Energy Specialist
 Alice Kaufman, Select Board Liaison

The past year has been eventful, starting with the roll-out of a new campaign, Cooler Concord, which has the task to promote and facilitate conservation, the continuation of the Green Communities Program, and the receipt of a HeatSmart grant from the Massachusetts Clean Energy Center (MassCEC) to help fund the adoption of air-source and ground-source heat pumps.

Cooler Concord

The Cooler Concord program was launched on Feb-

ruary 4th with a fair held at Concord Carlisle High School (CCHS), which filled the entire cafeteria as well as the hallway space at the upper entrance level. It was a big undertaking that involved 180 volunteers including 20 organizers, and was funded by \$25,000 from the Town Resource Sustainability Fund. There were 10 exhibits at the fair, each providing information about several energy saving actions, covering Weatherization, Home Heating and Cooling, Hot Water, Solar, LED Lighting, Sustainable Landscaping, Reduce/Reuse, Eat More Veggies, Transportation, and Home Appliances. Vendors brought demo models, including electric and hybrid vehicles, bicycles (including electric bikes), and heat pump water heaters.

The fair was a resounding success, with an attendance of about 1,000 (430 families). Each family group was given a "Carbon Points Estimator" in which participants were asked to commit to various energy-saving actions, which were uploaded and analyzed in Google Docs spreadsheets. The potential savings from the points submitted represented potential savings of 350 tons of CO2 and almost \$48,000 annually if participants followed through on their commitments. Attendance was encouraged by promising that schools whose parents participated would get financial rewards if their participation rate met certain goals. Alcott, Thoreau, and Willard met or were close to the 20% participation goal and each of the schools received an award of \$1,000 with 50% of that to be directed toward sustainability projects, which was made possible by contributions from vendors and local businesses totaling \$5,000.

The Cooler Concord program offers rebates for a number of home improvements, some of which are funded by the CMLP and some by the Town's Resource Sustainability Funds. These are:

- Weatherization (up to \$1,000)
- EnergyStar refrigerators (\$200) and washing machines (\$400)
- Heat-pump water heaters (up to \$750)
- Programmable thermostats (up to \$150)
- Clotheslines / drying racks (up to \$100)
- LED light bulbs (\$3/bulb)
- Electric lawnmowers (\$100)

As a follow-up to the fair, CSEC developed a website www.coolerconcord.org, with help from Bartlett Interactive, with information on energy saving measures designed to motivate citizens to reduce their green-



Brian Foulds presenting information on electric vehicles to participants at the Cooler Concord Fair on February 4.

house gas emissions as well as to provide forms for requesting rebates. The website also offers the opportunity to subscribe to Cooler Concord newsletters, which are distributed by email via Mail Chimp. Currently, there are 651 subscribers. Other efforts to increase awareness have been made, including a guest commentary in the Concord Journal and information posts in school newsletters and for the Council On Aging. Over the summer CSEC engaged two interns from the MassCEC internship program, who worked full time to assist with contacting people who were interested in heating and hot water assessments and performing other tasks to promote the goals of Cooler Concord. The Lawnmower "Swap Plus" Event

The second major Cooler Concord event was a Lawn Mower Swap held on September 23rd sponsored by CSEC and Quiet Communities, where people exchanged their gas-powered mowers for a top rated EGO 21-inch electric lawnmower and received a \$100 rebate from the Town of Concord. Home Depot supplied the hand-pushed and self-propelled mowers, which they sold at an additional discount of approximately 30%. There were also demonstrations of a full suite of Ryobi and EGO electric lawn care equipment, including a Ryobi Electric Riding Mower. There were 101 participants in this event.

Rebate Program Summary

Pamela Cady, Energy Specialist for Concord and CMLP, administers the Cooler Concord rebate program. These rebates are funded through FY18, ending June 30th, in part by the Town Resource Sustainability Fund (\$32,500 budgeted) and the CMLP CARES Fund (\$28,750 budgeted). Between July and December, 157 rebates had been processed, for a total of \$30,041. The combined Greenhouse Gas reduction projected from rebates given is of order 60 Tons CO2 per year.

Green Communities

The State has designated Concord as a Green Community, which makes the Town eligible to apply for State energy efficiency grants. These funds have been used to pay for several major projects over the past years. In 2016, Concord received another Green Communities grant of \$250,000, which, together with the remaining Sawyer Trust Fund money of \$82,605 has been used in 2017 to fund six LED lighting retrofit projects at CMLP offices, the Waste-Water Treatment Plant, the three elementary schools, and the Main and Fowler Library buildings. These lighting projects are expected to reduce the electricity use in those buildings by 11-13%.

Community Impact

This year CSEC's work towards GHG emissions reduction focused primarily on helping residents to save energy through a variety of actions. Projected savings in terms of cost and GHG rely on follow-through of residents, and actual savings are hard to quantify. Previous energy efficiency projects funded by the Sawyer Trust Fund, the over \$800,000 from state grants awarded to Concord through CSEC-initiated proposals to support Green Your Heat and Green Communities programs, and contributions to the Concord Solar Challenge that installed 1.3MW of solar-generation capability on Concord homes, can be summarized as follows:

- \$2,550,000 in one-time revenue to Concord
- ~\$410,000 annual savings to the Town
- ~\$630,000 annual savings to Concord residents
- ~3,500,000 lbs of CO2 emissions avoided annually (equivalent to CO2 absorption capacity of ~17,500 mature trees)

Article 51

CSEC strongly supported the passage of Article 51, developed by the Energy Futures Task Force, which was passed at the 2017 Annual Town Meeting by a wide margin. CSEC views Article 51, and its goal of 80% Greenhouse Gas emissions reduction by 2050, as an important step to formalize the Town's commitment to do its part and the resources needed to make practical progress toward Concord's sustainability goals. CSEC stands ready to help initiate and implement programs to contribute through our efforts to educate consumers, our representation of sustainability concerns to relevant Town commit-

tees we liaise with, and through rebate and similar programs that promote investment in clean and sustainable energy projects. We look forward to working closely with the Town's new Sustainability Director, Kate Hanley.

Looking to the Future

HeatSmart program with MassCEC

This coming year a focus of CSEC will be on residential heat pump adoption. In November, Concord was selected together with Carlisle and Lincoln to participate in a pilot program by the Massachusetts Clean Energy Center (MassCEC) and Department of Energy Resources (DOER) promoting low-carbon heating and cooling technologies, specifically super-efficient air-source heat pumps (ASHPs) and ground-source heat pumps, GSHPs, also referred to as "geo-thermal". These technologies are an important step to lower GHG emissions in the town, by transitioning homes from other fuels, especially fuel oil, to electricity as the electric supply becomes increasingly carbon-free. Installers will be selected based on experience and discount levels, which along with an improved CMLP rebate should make the systems affordable for more homeowners. In the 5-month program from March to July, Concord has a target of converting at least 50 homes and small business to ASHPs, which will be the start of an extended process towards meeting Article 51 goals on GHG emissions. The local HeatSmart team consists of several CSEC volunteers including Brad Hubbard-Nelson who is Concord's HeatSmart Coach, and Jan Aceti as municipal representative from CMLP. For more information, find "HeatSmart Concord" under the town website.

ENERGY FUTURE TASK FORCE

Task Force members:

Pam Hill, Chair
Brian Foulds, Vice Chair
Elise Woodward, Clerk
John Dalton
Dan Gainsboro
Wallace Johnston

Liaisons:

Michael Lawson, Select Board
Alice Kaufman, Select Board
Laura Scott, CMLP
Brad Hubbard-Nelson, CSEC

The Select Board established the Energy Future Task Force (Task Force) in February 2016 and charged it broadly with creating a framework for the design and implementation of a town-wide energy plan that will minimize Concord's carbon footprint. The framework includes short and long-term energy and sustainability goals.

The Final Report of the Energy Future Task Force was presented to the Select Board in March 2017. <http://concordma.gov/DocumentCenter/Home/View/8474>

The report is the product of the Task Force's fact-gathering, public outreach, and deliberations and is comprised of goals and recommendations, with supporting information. The Task Force, met regularly from April 2016 to March 2017 to fulfill the Select Board's charge. Many residents attended the Task Force meetings and public forums. The Task Force received over 100 probing and useful written comments. The commitment these citizens have shown to our community and to the larger global community has been remarkable and inspiring.

The work of the Task Force was guided by the following:

- International commitments for greenhouse gas reduction expressed in the 2015 Paris Agreement on climate change and Massachusetts' goals for greenhouse gas reduction expressed in the 2008 Massachusetts Global Warming Solutions Act.
- A commitment to bold approaches and actions to achieve greenhouse gas reduction consistent with the urgency of the current global anthropogenic climate cri-

sis, and with Concord's long history of leadership and of stewardship of our natural world.

- A recognition that Concord is part of, and should actively contribute to, the global, national, state, and municipal transformation from an economy powered by fossil fuels to an economy powered by clean energy.
- A commitment to Concord's sustainability principles.

A key rationale for the Task Force's recommendations is a clean energy strategy including the following ideas:

- Through education and raising public awareness, the Town is in a position to advocate for and incentivize citizens to shift away from fossil fuel use in heating systems and transportation to electricity.
- By investing in renewable and other non-emitting generation in the New England region and in Concord through photovoltaic installations and purchase of renewable and other non-emitting power sources, the Concord Municipal Light Plant (CMLP) may reduce greenhouse gas emissions from its electricity thereby decreasing the community's emissions.
- By increasing energy efficiency and reducing energy use throughout the community, Concord will reduce emissions for all energy that is conserved.

Goals

The Task Force's recommendations align Concord's Energy Future with the goals of the MA Global Warming Solutions Act of 2008 (GWSA) and are informed by the Paris Climate Agreement of 2015. The Task Force recommends the following goals:

25% reduction in greenhouse gases by 2020
80% reduction in greenhouse gases by 2050.

These are town-wide goals applicable to all sectors using a baseline of 2008.

Recommendations

Immediately (Spring 2017)

The Task Force recommends that we acknowledge the true cost of our energy decisions and adjust our behaviors accordingly. Specifically, we recommend that the following immediate steps be taken:

- Make the recommended greenhouse gas reduction goals available at the 2017 Annual Town Meeting; and start educating our citizens about the goals so that they may take individual actions to help Concord achieve them;

- Issue a policy statement from the Select Board and Town Manager that firmly establishes these goals as responsibilities of the Town Manager and states that decreasing emissions shall be considered and advanced in all deliberations and decisions of all Town departments and committees;
- Expeditiously hire a Director of Energy [or other title] (Director) and a consultant to assist him/her to guide the Town in designing and implementing a sustainable energy future consistent with the recommendations in this Report. See Appendix for Position Description.
- Appoint a new advisory group to assist the Town Manager, the Director, and the consultant in interpreting the Task Force Report and recommendations and in helping to acclimate the Director on how best to work within the Town of Concord. With respect to the Concord schools, The Task Force recommends that this future advisory group have at least one school representative to be appointed by the School Committees.
- Integrate the goals and recommendations of the Task Force Report into CMLP's current strategic planning effort, allowing for an open and transparent citizen engagement process.
- Integrate the goals and recommendations of the Task Force report into the Comprehensive Long Range Plan effort also underway.

Longer term

- Education: Make the goals available and provide annual updates on the Town's progress in meeting them at all future Town Meetings; and continue to educate our citizens about the goals so that they may take individual actions to help Concord achieve them;
- Measurement: Confirm that the 2008 town wide database for tracking Concord's carbon footprint is complete with a recognized methodology to be updated annually, and maintain this as the baseline for measuring progress toward the GWSA goal of an 80% reduction in GHG by 2050.
- Best practices: Ask the Director to develop integrated implementation strategies with systems thinking across all departments and to use improvements in low carbon electricity to make rapid progress towards meeting the goals.
- Communication: Maintain communication among the Director, Town Manager, Select Board, CMLP, Light Board, school committees, and other town boards and committees, to advance the goals and im-

plementation strategies for achieving a low carbon-future in Concord.

- CMLP: Because Concord has control of the power purchase portfolio at CMLP (that is, the aggregate amount of all energy purchased from various sources to meet the demands of the CMLP grid), it is in a strong position to advance the reduction of greenhouse gas emissions from the electricity it sells to its customers. It is this rationale that forms the basis of many of the Task Force recommendations and focuses this report on the energy sector.

Moreover, CMLP is a valuable asset for the Town. CMLP's participation will be essential to achieving the goals stated in this Report. Appropriately, the Charge to the Task Force focuses on the CMLP. Consistent with this, the Task Force recommends that CMLP:

- Consider alternatives to reduce barriers to the adoption of energy efficiency measures including eliminating the practice of having separate energy audits from Massachusetts investor-owned utilities.
- Work to offer a comprehensive set of cost-effective energy efficiency incentives and measures that meet or exceed those offered by Massachusetts investor-owned utilities.
- As an interim goal, retire Class I Renewable Energy Certificates (RECs) from renewable energy purchases or purchase Class I RECs to allow CMLP to achieve the Massachusetts Renewable Energy Portfolio Standards (RPS) goals that apply to suppliers of the customers of Massachusetts investor-owned utilities.
- Shift CMLP's electricity supply to non-emitting resources with RECs or certificates for associated environmental attributes retired with a target of achieving 100% from non-emitting resources by 2030 with measurable phased interim benchmarks to track progress.
- Employ smart meters town wide.
- Shift to a revenue decoupled approach to rate-setting.
- Encourage CMLP to empower its customers to make informed choices by adopting enhanced Time of Use rates.
- Consider Distributed Energy Resources and battery storage to assist the Town in achieving its GHG emissions reduction goals.
- Develop incentives to encourage users to exchange fossil fuels for electricity powered by renewables and other non-emitting power sources in their homes and vehicles.
- Other sectors: The Task Force's recommendation

for an integrated systems approach to reducing greenhouse gas emissions will require a strategy for change within sectors beyond the energy sector. During the next year, the Task Force recommends that attention be given to developing integrated strategies for reducing greenhouse gas emissions from these other sectors, such as water and waste water management, transportation, agriculture, commercial, and open space, and to engaging the public in determining opportunities for individual action. In addition, the Task Force recommends that the Comprehensive Long Range Planning Committee include engaging the public for individual action consistent with the Town-wide survey questions concerning for energy efficiency and sustainability. See Appendix for survey analysis.

- Other sectors: The Task Force recommends that the Planning Board consider if, within the Special Permit application, it may be possible to encourage energy efficiency and to include energy criteria in the permitting process. In addition, the Task Force recommends that Concord through its Planning Board and other town officials consider promoting zoning legislation to reduce the overall footprints of residential buildings.
- Personal responsibility: The Task Force recommends that the Town Manager charge the Director and consultant to develop a methodology for community education and engagement to help citizens achieve reductions in their carbon footprint.
- Conservation tools: The Task Force recommends that Concord educate and empower citizens to embrace a rate system that rewards energy conservation efforts and provides CMLP's customers with the tools to make informed decisions.

The key recommendations of the Task Force are reflected in Article 51 of the 2017 Town Meeting warrant. This Article was passed by a large margin at that Town Meeting.

The Task Force concluded its work in the spring of 2017.