

REPORT OF THE SUSTAINABLE ENERGY COMMITTEE

Town Meeting established the Sustainable Energy Committee (SEC) in 2010, to lead efforts to accomplish the goal adopted at the 2009 Annual Town Meeting to reduce Town-wide greenhouse gas emissions 10 percent below 2007 levels by 2013, to monitor and report progress toward that goal, and to propose further goals for emissions reductions to Town Meeting. The 2014 Annual Town Meeting adopted the SEC proposal to establish a new goal to reduce Town-wide emissions 25 percent below 2007 by 2020.

MEASUREMENT OF 2016 EMISSIONS AND TRENDS

Each year the SEC measures the Town’s “carbon footprint” and tracks the change against earlier years. This carbon footprint measurement is an estimated number calculated from a variety of inputs, some actual and some estimated. It is based on actual municipal and college data, actual electric and natural gas use by households and businesses, and estimates for heating oil consumption, fuel efficiency in the transportation sector and the conversion factors that translate energy use into greenhouse gas emissions. The methodology is guided by the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions established in October 2012 and calculated using ICLEI – Local Governments for Sustainability software.

Greenhouse Gas Emissions (eCO ₂) in metric tons						
				2015 - 2016		2007 - 2016
	Share of Total	2016	2015	Percent	2007	Percent
Electricity/Natural	2016 Emissions	Emissions	Emissions	Change	Emissions	Change
Gas/Fuel Oil						
Residential	29.7%	105,879	112,341	-5.8%	132,862	-20.3%
Commercial	13.3%	47,406	48,457	-2.2%	57,922	-18.2%
Colleges	10.9%	38,970	39,250	-0.7%	45,886	-15.1%
Municipal	2.0%	6,994	7,816	-10.5%	9,287	-24.7%
Building Subtotal	56.0%	199,248	207,863	-4.1%	245,957	-19.0%
Waste	0.5%	1,853	1,756	5.5%	2,027	-8.6%
Gas/Diesel	43.5%	155,001	153,502	-0.3%	160,468	-3.4%
Total Emissions	100.0%	356,102	365,121	-2.5%	408,452	-12.8%

Emissions trends across many energy use categories in 2016 continue to tell, essentially, the same story as in prior years. However, there were notably larger percentage decreases in residential and municipal energy use between 2015 and 2016, than in the previous year. The 10.5% decrease in municipal emissions is due largely to a decrease in metered natural gas used to heat Town buildings. This decrease likely reflects the warmer winter temperatures (e.g., fewer number of heating degree days, HDD) in 2016. The Facilities Maintenance Department’s analysis suggests that, when normalized for HDD, natural gas use actually increased slightly between 2015 and 2016. We expect that the 5.8% decrease in residential energy use between 2015 and 2016 similarly reflects the decrease in heating degree days in 2016. The percentage change in commercial and college emissions for 2016 is consistent with the change observed in 2015. In 2016, total estimated emissions from electricity, natural gas, and fuel oil used to heat, cool, light and power the appliances and electronics in Wellesley homes,

businesses, colleges and municipal buildings, as well as to light our streets and power our water treatment facilities, declined 4.1 percent from the prior year.

The waste sector saw a 5.5% increase in emissions between 2015 and 2016. This percentage change exceeds the 3.7% increase in emissions between 2014 and 2015. Wellesley's Recycling and Disposal Facility estimates that this increase in emissions is due, largely, to the disposal of waste from home cleanouts due to the large number of demolitions and renovations.

Estimated emissions from the transportation (gas/diesel) sector, which accounts for 42 percent of total emissions, are basically flat from 2014 to 2015.

The 2.5% decline in total emissions reflects more than double the decline in emissions between 2014 and 2015. However, as mentioned above, that decrease occurred during an unusually warm winter. Overall, emissions are declining, but not fast enough to achieve our 2020 goal unless the pace accelerates.

COMMITTEE ACTIVITIES IN 2016 AND 2017

Over the past year, and as outlined below, the SEC led and contributed to a number of initiatives aimed at reducing the Town's carbon footprint.

The SEC works with boards and staff members throughout the Town of Wellesley and with Wellesley Public Schools. SEC's programs also involve significant participation by other groups with common interests. To connect numerous, environmentally-interested groups across Town, the SEC facilitates "Wellesley's Green Collaborative." The Collaborative consists of nearly 30 entities including grass roots climate action groups, houses of faith, land conservation activists, civic organizations, and garden clubs. The Collaborative meets several times per year to discuss sustainability issues relevant to Wellesley and to hear from a variety of speakers.

The SEC is working with the Board of Selectmen, the Planning Department, the Planning Board, the Municipal Light Plant, the Facilities Maintenance Department, the Department of Public Works, and other Town departments, boards, and committees to take the steps necessary for Wellesley to earn the Department of Energy Resources' (DOER's) Green Community designation. Over 64% of Massachusetts residents live in a Green Community and the DOER's Green Communities Program to date has awarded more than \$65 million in grant funding to cities and towns for renewable energy and energy efficiency projects. To fulfill one of the five criteria required to become a Green Community, the SEC is seeking Town Meeting's approval to amend the Zoning Map and the Zoning Bylaws of the Town of Wellesley by adding a large-scale solar overlay district to one parcel of land at the Route 9/Route128 cloverleaf, owned and controlled by the Massachusetts Department of Transportation (MassDOT). The SEC has also started to work with relevant departments on Criteria 3 and 4: a five-year municipal Energy Reduction Plan and a municipal Fuel-efficient Vehicle Purchase Policy, respectively. Wellesley already meets the remaining two criteria for Green Communities: adoption of the Stretch Building Code and an expedited permitting process for the above mentioned solar system. The SEC plans to submit Wellesley's Green Communities application in Fall 2017.

During the past year, the 3R Working Group (Department of Public Works, Natural Resources Commission and SEC) launched WasteWise Wellesley, a Town-wide program designed to identify and capitalize on win-win opportunities associated with sustainable materials management (SMM). WasteWise's SMM goals are rooted in a systems-based approach to understanding greenhouse gas (GHG) emissions associated with the production, consumption, and disposal of materials. The Environmental Protection Agency (EPA), for example, estimates that the provision of goods and food in the United States contributes approximately 42% of the country's carbon footprint. WasteWise Wellesley initiatives involve collaborations with Wellesley Public Schools (WPS), WPS Food Services, FMD, DPW, RDF, NRC, Green Schools, Sustainable Wellesley, EPA, and the Massachusetts Department of Environmental Protection (MADEP), and include:

- The launch of a cafeteria recycling and food waste diversion pilot at Bates Elementary School, with the roll-out of similar pilots underway at Fiske and Sprague Elementary Schools. The Bates pilot is diverting between 32% and 40% of previously landfill-bound waste to more productive endpoints and has the potential to divert more than 90%.
- Recovery of unused-cooked food from Wellesley Middle School with distribution to local food pantries;
- Distribution of a survey to Wellesley residents to gauge their interest in residential compost pick-up by a private vendor;
- Exploratory discussions about establishing a Repair Café in Wellesley;
- A collaboration involving the 3R (Reduce, Reuse, Recycle) Working Group, Food for Free, Harvard University, local colleges and school systems, MADEP, USEPA, and Green Schools to explore the possible development of a food rescue program via which Food for Free would collect unused, cooked food from local educational institutions and distribute this food to people in need.

The SEC initiated discussions with the PBC and FMD regarding development of Sustainable Building Guidelines for Wellesley. The SEC, PBC, and FMD are planning a tour of Wellesley High School's sustainable features in the near future.

In a presentation to the HHU Committee in October, the SEC recommended that sustainability considerations become part of the HHU process moving forward. The SEC recommended a sustainability subcommittee, or similar body, to guide the adoption of sustainability goals and standards, and to hold the process accountable to these goals and standards.

The SEC Chair presented to the 900 Worcester Committee on energy issues related to the proposed facility. SEC members and staff met with Selectman David Murphy to discuss energy considerations relevant to the 900 Worcester project.

The SEC is one of several co-sponsors of a Gas Leaks Forum planned for March 21. The Forum will raise awareness about the more than 200 gas leaks in Wellesley, and their implications for safety, human health, the environment, and wasted resources.

The SEC worked with the MLP to create a standard legal framework for non-profits in Wellesley that wish to install solar panels to generate electricity. Temple Beth Elohim installed solar (37 kW) on January 6, 2017. The installation of a solar system at Whole

Foods (43 kW) is in progress. The MLP has held initial discussions with the developer at 900 Worcester about the potential for the MLP to lease roof space on the rink/pool complex and to install solar panels which the MLP would own and operate.

The MLP received a DOER grant of \$281,000 to put toward the conversion of streetlights to LED. This spring, Wellesley residents will have the opportunity to see and comment on the proposed replacement fixtures. When fully installed, LED streetlights are projected to reduce the Town's electricity bill by \$100,000/year as well as reduce the Town's carbon footprint.

The SEC helped to establish a partnership between the Power to Choose (PTC) campaign, the MLP, and the Wellesley Education Foundation/Wellesley STEM Expo. The goal of this partnership is to raise awareness about Wellesley's voluntary renewable energy program and to promote understanding of renewable energy among Wellesley students and their parents. The Expo will host exhibits on renewable energy and will promote the Sustainability Challenge, a contest designed to get kids learning and thinking creatively about renewable energy. As students explore renewable energy at the Expo and through the Challenge, parents will learn about renewable energy benefits and about opportunities to purchase renewable energy through the Town's PTC Program.

The Town of Wellesley has received the 2017 EPA Green Power Community designation. This designation is awarded based on the purchase of 5% of the Town's annual electricity consumption (for all Town departments and streetlights) from renewable energy and on the amount of electricity purchased from the Town-wide voluntary renewable energy program.

SUSTAINABLE ENERGY COMMITTEE

Ellen Korpi, Chair	Ellen Gibbs	Laura Olton	
Scott Bender	Katharine Gibson	Michael D'Ortenzio	Patrick Willoughby