

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 (ATM): to reduce Town-wide greenhouse gas (GHG) emissions 10% 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 ATM adopted the SEC proposal to establish a new goal to reduce Town-wide emissions 25% below 2007 levels by 2020.

The SEC has seven appointed members, with staggered terms of three years. The Board of Selectmen (BOS), Municipal Light Plant (MLP), and School Committee each appoint one board member, officer, official, or paid employee. The BOS appoints the remaining four members from residents or others with relevant interests and expertise. Members during Fiscal Year 2018 (FY18) were: Laura Olton (Chair, Selectmen appointee), Ellen Korpi (Vice Chair, Selectmen appointee), Scott Bender (Selectmen appointee), Tom Ulfelder (Selectmen representative), Michael D'Ortenzio (School Committee representative), Katy Gibson (MLP representative), and Steve Gusmini from Babson College (Selectmen appointee). Steve completed the remainder of Patrick Willoughby's term after Patrick resigned in the spring of 2017.

Measurement of 2017 Emissions and Trends

Each year the SEC, together with the MLP, calculates the Town's GHG emissions and compares these emissions to those of previous years. Wellesley's emissions, also known as its "carbon footprint," are calculated from a variety of inputs, some actual and some estimated. The carbon footprint is based on actual records of electrical and natural gas use by municipal entities, colleges, households, and businesses. The footprint is also based on estimates of heating oil consumption, fuel efficiency in the transportation sector, and conversion factors that translate energy use into GHG emissions. GHG emissions are calculated using ClearPath software made available through the International Council for Local Environmental Initiatives (ICLEI).

As shown in the table below, Wellesley's 2017 GHG emissions increased 1% above 2016 levels, but remained 1.5% lower than 2015 values. The disappointing 1.3% increase in building emissions in 2017 compared with 2016 is primarily driven by a 3.3% increase in natural gas use. This increase results from colder winter months in 2017 compared to 2016 (an 11% increase in the number of heating degree days in 2017) and a 2% increase in the number of natural gas customers.

Preliminary Greenhouse Gas Emissions (CO ₂ e) in metric tons						
	Share of Total 2017 Emissions	2017 Emissions	2016 Emissions	2016 - 2017 Percent Change	2007 Emissions	2007 - 2017 Percent Change
Electricity/Natural Gas/Fuel Oil						
Residential	30.7%	110,525	105,879	4.4%	132,862	-16.8%
Commercial	12.7%	45,524	47,406	-4.0%	57,922	-21.4%
Colleges	10.6%	38,281	38,970	-1.8%	45,886	-16.6%
Municipal	2.1%	7,481	6,994	7.0%	9,287	-19.5%
Building Subtotal	56.1%	201,811	199,248	1.3%	245,957	-17.9%
Waste	0.5%	1,637	1,853	-11.7%	2,027	-19.2%
Gas/Diesel	43.4%	156,164	155,053	0.7%	160,468	-2.7%
Total Emissions	100.0%	359,613	356,154	1.0%	408,452	-12.0%

Vehicle emissions are based, in part, on estimates of vehicle miles traveled on Wellesley's roads.¹ A new, higher traffic count on Linden Street raised the traffic volume estimate and is the primary factor explaining the 0.7% increase in gas/diesel emissions. The small, waste sector saw a 11.7% decrease in emissions between 2016 and 2017, following two years of increasing emissions (up 3.7% in 2015 and 5.5% in 2016). The tonnage of total solid waste fell approximately 12% between 2016 and 2017, reflecting a 14% decrease in residential solid waste and a 45% increase in commercial solid waste.

The above table is labeled "preliminary" because it is based on a 2016 emission conversion factor for electricity. The results in the table are pending a reply from the Environmental Protection Agency (EPA) to our questions about a reported change in the 2017 conversion factor for electricity. The factor is recalculated annually to reflect the change in the mix of power generation supplying the New England grid as coal plants are converted to natural gas and renewable energy increases. When the EPA confirms or revises the published factor for 2017, the table above will be recalculated. Total electricity use declined 1.6% in 2017.

Overall, the reduction in emissions since 2007 is not sufficient to achieve the Town's 2020 goal unless the pace accelerates. It is important to note that Wellesley's current methodology for calculating emissions does not fully reflect the significant emissions associated with consumption and disposal of food and goods. The SEC's recycling and food recovery initiatives, described below, seek to reduce these emissions. As the SEC looks toward improving its emissions estimates, the Committee will consider accounting methodologies that reflect emissions from food, goods and services.

Committee Activities in Fiscal Year 2018

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.

¹ The SEC is working to improve its methodology for calculating gasoline and diesel emissions.

The SEC works with boards and staff members throughout the Town of Wellesley and with Wellesley Public Schools (WPS). SEC's programs also involve significant participation by other groups with common interests. To connect numerous, environmentally-interested organizations across Town, the SEC facilitates "Wellesley's Green Collaborative." The Collaborative consists of nearly 30 entities including grassroots, 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.

Green Communities – On December 27, 2017 the Massachusetts Department of Energy Resources (DOER) designated Wellesley a Green Community. This designation came with a \$137,250 grant which is currently funding an exterior lighting retrofit project on the Department of Public Works campus and an energy audit of the Town's water and wastewater systems. The Green Community designation also makes Wellesley eligible to apply for future grants to fund energy conservation measures. Over the past two years the SEC oversaw development of the Town's Green Communities Designation application and its initial grant application. In taking steps toward becoming a Green Community, the SEC worked with the Board of Selectmen, the Planning Department, the Planning Board, the MLP, the Facilities Management Department (FMD), the Department of Public Works (DPW), the Natural Resources Commission (NRC) and other departments, boards, and committees across Town. During FY18 Green Community preparations involved developing a five-year municipal Energy Reduction Plan, a municipal Fuel-efficient Vehicle Purchase Policy, and a proposal for using Wellesley's initial grant funds. To fulfill Green Communities requirements, the SEC also began using MassEnergyInsight (MEI) software to track municipal energy use, report to DOER, and analyze energy conservation priorities within the municipality.

WasteWise Wellesley - During the past year, the SEC directed a number of projects under WasteWise Wellesley, a program to promote sustainable materials management, led by the 3R (Reduce, Reuse, Recycle) Working Group (DPW, NRC and SEC). WasteWise Wellesley involves collaborations with WPS, WPS Food Services, FMD, DPW, the Recycling and Disposal Facility (RDF), NRC, Wellesley's Health Department, Green Schools, Sustainable Wellesley, area colleges and non-profits, EPA, and the Massachusetts Department of Environmental Protection, and include:

1. Cafeteria recycling and food waste diversion at Bates, Fiske and Sprague Elementary Schools. This year these schools added food donation to their established cafeteria recycling and food recovery programs. Uneaten packaged food and whole fruit from school lunches is either shared with students in the school or is donated to the Wellesley Food Pantry. Waste assessments at Bates School show that its cafeteria is diverting between 32% and 40% of previously landfill-bound waste to more productive endpoints and has the potential to divert more than 90%. Bates School also participates in the EPA's Food Recovery Challenge and the SEC reported to FRC on Bates' progress for calendar years 2016 and 2017.
2. A Metrowest Food Rescue Initiative. The SEC spearheaded a collaboration through which the Cambridge-based nonprofit, Food For Free, picks up kitchen leftovers from Wellesley Public Schools, Olin, Wellesley and Babson Colleges and Bentley University and packages these leftovers into single-serve frozen dinners for distribution to food insecure

individuals and families. Food for Free delivers some of these meals to MassBay Community College in Wellesley where a recent survey found that up to 52% of MassBay students are food insecure. The EPA provided generous guidance and support to this endeavor and an SEC volunteer worked closely with Wellesley's Health Department to develop detailed Standard Operating Procedures to ensure food safety. In September, Wellesley's network will receive an EPA Environmental Merit Award at Faneuil Hall in Boston.

3. Wellesley's cafeteria and food rescue operations serve as a model for other Towns and organizations. In May, WPS, the SEC and the EPA hosted Whitsons Culinary Group for a day-long visit of observations and presentations to showcase Wellesley's cafeteria programs and the Metrowest Food Rescue Initiative, and to encourage adoption of similar sustainable practices in the more than 100 districts that Whitsons serves. EPA has asked the SEC to arrange a similar Wellesley visit day for representatives from other school districts, and the SEC has met with retirement communities and others in response to their requests to learn more about Wellesley's programs. This outreach work helps Wellesley to fulfill some of its goals as endorser of the EPA's FRC program.
4. The SEC worked with the Rotary Club to launch Wellesley's first Repair Café. The Repair Cafe offers free fixes for broken items. On two separate dates, the Rotary Club provided tools and materials, along with skilled volunteers, to help residents fix clothes, furniture, electrical appliances, bicycles, crockery, gadgets, toys and more.
5. The SEC encouraged the residential food waste drop-off pilot at the RDF and helped lay the groundwork for plans to divert food waste from the Wellesley Middle School kitchen to the RDF pilot.

Reducing, reusing, and recycling materials (including food) decreases GHG emissions. As mentioned above, the SEC's current accounting system does not reflect such decreases. However, the SEC will soon be reviewing and possibly revising its methodology for calculating GHG emissions.

Sustainable Building Guidelines and Hardy, Hunnewell, Upham (HHU) – The SEC serves as a resource to the School Committee and School Building Committee (SBC) on sustainability-related topics and supports liaison efforts between the HHU process and interested community members. In July the SEC presented to the School Committee a position paper outlining recommendations for integrating sustainability into HHU Feasibility Studies. The SBC incorporated these recommendations into the Hunnewell School Feasibility Study Request for Qualifications (RFQ).

Throughout FY18, the SEC attended SBC meetings, closely followed SBC discussions, and stayed abreast of state-of-the-art approaches to integrated design, zero net energy and other facets of sustainable design and construction.

The SEC prepared a first draft of municipal Sustainable Development Guidelines for municipal building projects and is preparing to collaborate on this draft with FMD, and later with all relevant departments, boards and committees.

Transportation Working Group – The SEC organized a Transportation Working Group to identify opportunities for reducing transportation-related GHG emissions. These emissions comprise approximately 43% of Wellesley's carbon footprint. The Working Group includes an SEC Committee member, SEC staff, Green Schools members and interested volunteers. The group has consulted with Town and State officials, Wellesley Public School administrators, staff

from local colleges, members of grassroots organizations, public transportation experts, and staff members with the Metropolitan Area Planning Council. The Working Group is in the process of formulating its goals and is currently exploring the potential initiatives below.

- New methodologies for calculating transportation-related emissions;
- Potential collaborations to streamline and improve bus transportation for Wellesley residents, the Council on Aging, colleges, and private employers.
- Technologies to reduce idling in municipal vehicles;
- School transportation; and
- Traffic congestion reduction.

Unified Plan - The SEC provided feedback to the Town's Unified Plan process.

Home Energy Audits for Seniors – The SEC held several home energy seminars at the Tolles Parsons Center and other locations for seniors to encourage their participation in the home energy audit program offered by the Municipal Light Plant (MLP) in partnership with National Grid.

Solar at the Village Church – The Village Church installed 190 solar panels on its roof and will generate 45% of its electrical power via these panels. The SEC helped to develop the legal framework that underlies the Church's arrangement with Sunbug Solar and the MLP and served as a resource for the project.

High School Stadium/Hunnewell Field Project – The SEC participated in the Request for Proposal (RFP) process for the High School Stadium Team Room and Hunnewell Field Restrooms by providing: input on the RFP, information on the sustainability of modular buildings, and feedback on proposals received.

SEC Website and Public Communication – The SEC developed a comprehensive website that provides access to all of the Committee's agendas, minutes, project updates, annual reports and ATM reports. The site contains the elements of Wellesley's Green Communities' application and showcases SEC initiatives with supporting documentation, photos and relevant links. A Press section of the website provides links to media coverage of SEC-related projects. Articles about the SEC's work have appeared in The Boston Globe, Wellesley Weston Magazine, The Wellesley Townsman, Hometown Weekly, and the Swellesley Report.

SEC Staff Support – To support the SEC's expanding portfolio of projects, the Committee increased its FY19 budget to accommodate a five hour/week increase in the SEC Administrator's salary. The SEC also added a new, ten hour/week SEC Assistant position for FY19.

Marybeth Martello, SEC Administrator

Laura Olton, Chair

Ellen Korpi, Vice Chair

Fred Bungler

Michael D'Ortenzio, Jr.

Katy Gibson

Rob Lamppa

Thomas Ulfelder