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 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 ATM adopted the SEC proposal to establish a new goal to reduce town-wide emissions 25 percent 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 among residents or others with relevant interests and expertise. Traditionally, Babson and Wellesley College have held one of the at-large seats on a rotating basis.

MEASUREMENT OF 2019 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 energy use 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 GHG 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.

Preliminary Greenhouse Gas Emissions (CO2e) in metric tons						
Electricity/Natural Gas/Fuel Oil	**Share of Total 2019 Emissions**	**2019 Emissions**	**2018 Emissions**	**2018 - 2019 Percent Change**	**2007 Emissions**	**2007 - 2019 Percent Change**
Residential	29.5%	108,257	107,764	0.5%	136,236	-20.5%
Commercial	12.4%	45,354	40,859	11.0%	61,203	-25.9%
Colleges	9.5%	35,064	37,072	-5.4%	46,668	-24.9%
Municipal	1.9%	6,871	7,235	-5.0%	9,723	-29.3%
Building Subtotal	**53.3%**	**195,545**	**192,930**	**1.4%**	**253,830**	**-23.0%**
Waste	0.4%	1,559	1,837	-15.1%	2,027	-23.1%
Gas/Diesel	46.3%	170,076	170,751	-0.4%	160,468	6.0%
Total Emissions	**100.0%**	**367,180**	**365,519**	**0.5%**	**416,325**	**-11.8%**

As shown in the table above, Wellesley's total 2019 GHG emissions increased 0.5% above 2018 levels, bringing overall GHG emissions reductions to just under 12% since 2007 and GHG emissions reductions related to buildings to 23% since 2007. In the past year, electricity emissions decreased across all sectors thanks to lower electricity consumption and ongoing electricity grid decarbonization. However, the reductions in electricity emissions since 2018 were offset by a 36% jump in commercial sector natural gas emissions and by smaller increases of 4.5% and 1.2% in residential natural gas and fuel oil emissions, respectively. While building energy use often fluctuates with weather, the sizeable increase in commercial sector emissions could be attributed to new commercial natural gas users in 2019. The college sector continues

its trend of GHG emissions reductions, largely led by the use of natural gas co-generation and a transition away from fuel oil. In the municipal sector, new light-emitting diode (LED) streetlight fixtures cut electricity consumption and associated emissions in half. Although transportation emissions from gas and diesel dropped slightly in 2019 due to several new, lower traffic counts on Route 128, emissions from the transportation sector are still 6% higher than in 2007. Since the transportation sector accounts for 46% of Wellesley's overall GHG emissions, the 6% increase in gas and diesel emissions is the main reason Wellesley is not on target to meet its goal of reducing emissions 25% below 2007 levels by 2020. Emissions from waste disposal in Wellesley decreased 15% in 2019, resulting in a 23% reduction compared to 2007 levels. However, waste is a small sector and tends to fluctuate with the economy, building demolition waste and fees for waste disposal in Wellesley and the surrounding area.

Note that these results are marked as preliminary since emissions factors for the electricity grid are updated annually with a one-year lag. GHG inventory results for 2018 have been updated with the recently released 2018 factor. The SEC will finalize the 2019 results in 2021 and publish them in the Report to ATM 2021.

COMMITTEE ACTIVITIES IN 2019 AND EARLY 2020

In addition to tracking and analyzing GHG emissions, as described above, the SEC led and contributed to a number of initiatives, detailed below, aimed at reducing the Town's carbon footprint.

Green Communities

The SEC coordinated the Town's Green Communities activities and its reporting to the Massachusetts Department of Energy Resources. The Committee continued to use MassEnergyInsight software to track Wellesley's municipal energy use. The SEC worked with the Facilities Management Department (FMD), Department of Public Works (DPW), MLP, and Police Department to implement the following six projects funded by Wellesley's Green Communities Designation Grant of $137,250:

- Exterior LED retrofit on the DPW campus;
- Exterior LED retrofit on the MLP campus;
- Interior LED retrofit at water treatment plants;
- Energy evaluation of the Town's water and wastewater infrastructure;
- Sustainability analysis in the Town Hall Annex Feasibility Study; and
- Installation of Wellesley's first Town-owned, public, electric vehicle (EV) charging station at the Waban Street Parking Lot.

The SEC is working with the above Town departments to prepare a grant application for the Green Communities 2020 competitive grant round (deadline March 27).

WasteWise Wellesley

The SEC continued to lead WasteWise Wellesley and the 3R (Reduce, Reuse, Recycle) Working Group (DPW, SEC and the Natural Resources Commission (NRC)) to identify and capitalize on win-win opportunities associated with sustainable materials management. The U.S. Environmental Protection Agency (EPA) estimates that the provision of goods and food in the United States contributes approximately 42% of our carbon footprint. The SEC's current

tracking system does not reflect decreases in GHG emissions associated with reducing, reusing and recycling materials (including food) but the SEC has implemented these programs to improve our emissions reductions nevertheless.[1] WasteWise Wellesley initiatives involve collaborations with Wellesley Public Schools (WPS), WPS Food Services, FMD, DPW, NRC, Health Department, Wellesley Green Schools, Sustainable Wellesley, EPA, and the Massachusetts Department of Environmental Protection, and include:

- **Cafeteria recycling, food rescue and food waste diversion efforts at Bates, Fiske and Sprague Elementary Schools, Wellesley Middle School (WMS) and Wellesley High School (WHS).** This year the elementary school programs continued to operate successfully, WMS launched a sixth-grade recycling and food waste diversion pilot, and a similar WHS program is under development. Bates Elementary School continues to participate in EPA's Food Recovery Challenge.
- **A Metrowest Food Recovery Program.** The Metrowest Food Recovery Program continues to operate successfully. 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 to distribute to food insecure individuals and families.
- **The Repair Café** continues to offer free fixes for broken items**.** At Repair Café events the Rotary Club provides tools and materials, along with skilled volunteers, to help residents fix clothes, furniture, electrical appliances, bicycles, gadgets, toys and more.

Sustainable Building Guidelines and Sustainability Support for Hunnewell, Hardy, Upham (HHU) Projects

The SEC worked with FMD to develop Municipal Sustainable Buildings Guidelines (the Guidelines) for the design, construction, operation and maintenance of municipal projects and for private development on Town-owned land. The SEC presented the Draft Guidelines to Town departments, boards and committees for feedback and has invited Building Proponents (BOS, MLP, DPW, School Committee, NRC, Wellesley Free Library Board of Trustees and Recreation Commission) to vote on the final version of the Guidelines. The Guidelines have already influenced the:

- Net-zero energy ready Hunnewell School design;
- Net-zero energy design for the Town Hall Annex;
- Inclusion of sustainability goals in the Morses Pond Feasibility and Design Study; and
- Sustainability language in the Request for Qualifications for the Hardy/Upham Project.

[1] The SEC is reviewing and contemplating revisions to its methodology for calculating GHG emissions in the future.

Solar

The SEC helped to promote the MLP's solar rebate program.

Transportation

To develop programs to reduce transportation emissions, the SEC organized a Transportation Working Group and joined the town-wide Mobility Working Group. The SEC also worked with the MLP to promote its Bring Your Own Charger Program for residents with electric vehicles. As indicated above, the SEC also worked extensively with DPW, MLP and Police to install Wellesley's first Town-owned, public EV charging station.

Promoting Home Energy Audits for Seniors

The SEC initiated a Home Energy Seminar project to educate residents about energy conservation and home energy assessments offered by the MLP and National Grid. The SEC gave 11 seminars (nine at the Tolles-Parsons Center, one at Rotary Club and one at the Village Church). Over 100 residents attended the seminars and learned about their energy usage and ways to reduce it, resulting in many participants planning to schedule a free home energy audit.

Green Collaborative

To connect over thirty environmentally interested groups across Town, the SEC facilitates "Wellesley's Green Collaborative," which hosted speakers and lively discussions on gas leaks, school transportation, electric vehicles, sustainable buildings and beneficial electricity as a pathway to emissions reductions.

Climate Action Plan

To revise GHG emission reduction goals, accelerate progress toward these goals, and raise public awareness about climate change mitigation, as called for in the Unified Plan, the SEC began preparing for a Climate Action Plan (CAP), budgeted for Fiscal Year (FY)21. A CAP will engage the municipality and community in identifying GHG emission reduction targets and strategies for achieving these targets. The SEC plans to work with other Town departments to seek Climate Action and Resiliency Plan funding through the State's Municipal Vulnerability Preparedness (MVP) Program. In 2019, the SEC worked with the NRC as they implemented an MVP planning grant, held workshops on vulnerability and preparedness and developed a Summary of Findings.

Police Station Energy Assessment/Conservation Pilot

The SEC organized a free energy audit at the Police Station and is preparing for a more in-depth audit in FY21. This audit will identify behavior-based and other energy conservation measures.

Staffing

The Human Resources Board approved reclassifications and new titles for the Sustainable Energy Director (formerly Administrator) and for the Sustainable Energy Assistant (soon to be Analyst in FY21). To support the extensive management, analysis and outreach tasks associated with a CAP, the SEC Operating Budget Request seeks a 5 hour/week increase in

the Director's position and a 9 hour/week increase in the Analyst's position in FY21. The new titles, reclassifications and increased hours align SEC staffing with sustainability staffing in peer communities.

Conclusion

The SEC is making progress on many fronts toward lowering the community's carbon footprint, yet challenges remain. Energy conservation measures, home energy seminars, Municipal Sustainable Building Guidelines, and solar installations facilitate cuts in energy use, emissions, and costs. WasteWise programs reduce environmental degradation and emissions through better materials management practices. The town's GHG emissions goal eludes us largely because of transportation, the sector over which we have the least control. Nevertheless, the SEC Transportation Working Group aims to reduce traffic congestion and fuel use while exploring new technologies and more accurate and useful transportation emissions estimates. At Annual Town Meeting 2021, the SEC will update Wellesley's emissions status and propose a new emissions reduction goal.

SUSTAINABLE ENERGY COMMITTEE

Laura Olton, Chair	Fred Bunger, Vice Chair	Ellen Korpi	Cindy Mahr
Lise Olney	Richard Lee	Sue Morris	