TOWN OF WELLESLEY MASSACHUSETTS

SUSTAINABLE ENERGY COMMITTEE

TOWN HALL • 525 WASHINGTON STREET • WELLESLEY, MA 02482-5992

Sustainable Energy Director: Marybeth Martello
SEC@wellesleyma.gov
SEC Assistant: Janet Mosley
jmosley@wellesleyma.gov

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

DRAFT
SEC Project Updates
February 14, 2020

Green Communities

Designation Grant Projects

Lt. Scott Showstead and Marybeth Martello are developing a draft electric vehicle (EV) charging station policy, using Leanne Cowley's comprehensive research on electric vehicle (EV) charging station policies in several Massachusetts towns and cities. Marybeth and Scott will confer with the Wellesley Municipal Light Plant, Board of Selectmen staff, and the Sustainable Energy Committee (SEC) before presenting the draft policy to the BOS.

Janet Mosley prepared the Green Communities Designation Grant Final Narrative and submitted it to the Department of Energy Resources (DOER) on February 3.

The SEC received comments on Wellesley's Green Communities 2019 Annual Report and Janet is preparing responses to their queries.

Neal Duffy, Wellesley's Green Communities representative, conducted a site visit in Wellesley on February 7. Marybeth Martello, Fred Bunger and staff from the WMLP and Department of Public Works (DPW) met with Neal to view and discuss the six projects that the Town completed with the $137,250 of Designation Grant funds.

Green Communities Competitive Grant Round 2020

Marybeth Martello and Janet Mosley are working with the WMLP, DPW, Facilities Management Department (FMD), Police Department, Traffic and Parking, and BOS Office to prepare a grant application for the 2020 Competitive Grant Round, due March 27. Marybeth is contacting BOS

staff this week to set a date for the SEC to present the 2020 application to BOS and obtain the Chair's signature.

Greenhouse Gas Inventory

Janet Mosley is collecting and entering remaining energy use data for greenhouse gas (GHG) emission calculations. Janet and Marybeth plan to begin analyzing emissions results next week.

On February 28, the SEC will submit a draft report to the Advisory Committee detailing GHG emissions estimates and SEC activities over the past year.

Leanne Cowley updated the SEC's traffic data for 2019.

Greenhouse Gas Emissions Estimates Based on the WMLP Portfolio

On January 31, Marybeth Martello, Janet Mosley, Don Newell and Scott Bender met to discuss Energy New England (ENE) reports on the WMLP Portfolio Emissions Evaluation. On February 6, Marybeth, Janet and Don held a conference call with ENE to discuss GHG emissions calculations based on the WMLP portfolio and the methodologies that ENE employed in their 2018 and 2019 reports. They discussed what percentage of renewable energy certificates (RECs) are purchased, the reliability of information regarding these purchases, what emissions calculation methods best reflect average New England emissions, and environmental attributes attached to nuclear energy purchases. Progress toward a WMLP-specific emissions factor will require a method for determining what percentage of electricity generated from wind, solar, hydro and nuclear is "owned" through the purchase of attached environmental attributes and what percentage is part of the residual mix.

Citizen's Petition

Marybeth Martello has received eight emails from residents supporting the Citizen Petition re: the Town's GHG emissions reduction goal

Transportation

Richard Lee provided the following update.

- Mobility Working Group is planning to hire a consultant to review Wellesley transportation infrastructure, existing demand data, and provide recommendations / plans for improving mobility options for Wellesley. Ideally this will include some money for communications / pilot. $50K funded by Planning & allocation of THC funds (to be voted on in ATM). Goal is to issue RFP in Feb / Mar - with start in May immediately after ATM vote.
- Met with Lynn Ahlgren, Transportation Consultant. Martha, Kathleen Vogel & Richard met with Lynn Ahlgren - a Consultant with deep experience at multiple Transportation Agencies & RTAs & Municipalities. She also has a lot of success in identifying, applying

for & receiving grant monies. Initial estimate of $25K for developing plan for Mobility Working Group - leaving $25K for Pilots.

- Wellesley Schools are evaluating use of PickUpPatrol app - after successful pilot at Bates Elementary. Direct benefits to administrative efforts around school pickup and parent convenience around changes to standard dismissal plans - but indirect benefits around streamlining car pickup process to reduce idling & emissions. Longer term hope that this app can be helpful to shifting demand away from car pickup and towards increasing bus ridership. Had calls with Natick who has deployed PUP district wide and it was very well received - and they feel it has improved pickup congestion / efficiency.
- Martha & Richard met with Peter Eastment, Head of Transportation @ Wellesley College (WC) to discuss partnering on better transportation options for College & Town. WC currently spends $1.5MM on transportation with 2020 goals to (1) optimize service / efficiency (2) reduce GHG emissions / footprint (3) manage costs. Peter was open to collaborating with Town more closely - but admitted there would be challenges with liability etc. WC is also about to have report from MDM Consultants on recommendations for transportation changes based on 2020 goals and will share that report with us when it is published. Peter will also mention Town's interest in partnering with WC to MDM, as well as the Student Body Representatives as that may change recommendations & their willingness to partner.
- TWG will be partnering with MLP on building awareness for EV education campaign that is just kicking off now.

3R Working Group and Green Collaborative

On February 5, a subcommittee of the 3R Working Group met to discuss the May 5 program for the Green Collaborative (to focus on Zero Waste), a public relations campaign to increase recycling and food waste diversion at the Recycling and Disposal Facility, and collaborations with Valerie Gates, Phyllis Theermann and Sustainable Wellesley on a monthly waste reduction campaign.

On February 11, Sue Morris, Julie Steen and Marybeth Martello met to plan for the Green Collaborative. They are presently researching speakers.

Municipal Sustainable Building Guidelines (MSBG)

The SEC held a public hearing on MSBG on January 29. Marybeth Martello revised MSBG based on recent feedback and began to reach out to relevant boards to request that they vote on and consider signing the Guidelines prior to Annual Town Meeting 2020. Relevant boards are: Board of Selectmen, School Committee, Library Board of Trustees, Department of Public Works, WMLP, Natural Resources Commission, Recreation Commission.

Police Station Energy Audit

Rise Engineering provided a draft energy audit report for the Police Station. The SEC and FMD submitted comments and questions to Rise. A future, more comprehensive audit is planned.

Composting at Wellesley Middle School (WMS) and Wellesley High School (WHS)

On January 29, Sue Morris, Marybeth Martello, Nancy Braun, Alison Cross and Phyllis Theermann met with WHS students to discuss their plans to pilot composting in the WHS cafeteria. They considered logistics and funding.

The WMS composting pilot is going well, and the RDF will pick up this compost through the end of the school year.

Meeting: Gas Leaks Allies

Lise Olney provided the following update.

From the Gas Leaks Allies' meeting: Since 2015, $1.3 billion has been spent on replacing gas infrastructure. The projected cost of pipe replacement is $9 billion (without cost escalation). The Department of Public Utilities (DPU) authorizes utilities to spend money on pipe replacement through the Gas System Enhancement Plan (GSEP). The DPU re-authorizes expenditures every three years in utility rate cases and that cost is passed on to ratepayers. Each year the Department of Public Utilities is required to deliver a report to the Joint Committee on Telecommunications, Utilities and Energy on the "Prevalence of Natural Gas Leaks in the Natural Gas System." The latest version of the report is 19-GLR-01 released December 31, 2019. The report is already a little dated since it reflects gas leaks data from 2018, but it is still instructive, and it is the official record. Note that the report covers a time period preceding the new regulations that require fixing "Significant Environmental Impact" (SEI) leaks and fixing grade 3 leaks within 8 years.

Here are highlights of the report summarized by David Zeek:

- No net progress was made on eliminating natural gas leaks in 2018. At the end of 2018, there were 17,533 gas leaks in Massachusetts. This is an increase over 16,778 at year end 2017.
- 49% of the leaks in 2018 were new leaks. More new leaks appeared than were repaired or eliminated. Roughly 15,000 leaks were repaired, but roughly 16,000 new leaks were recorded. This continues the zigzag pattern of eliminating leaks more – or less – equal to the number of new leaks and ending up where we started.
- 80% of the new leaks in 2018 were hazardous (Grade 1 or Grade 2) - an indictment of our decrepit system.
- Much worse than prior years, 11% of the leaks remaining at the end of the year were hazardous.
- The estimated cost to fix all the leaks remaining at the end of 2018 was $70M – the same as at the end of 2017.
- As in prior years, the classification of some gas leaks has changed without explanation.

- As in prior years, the number of leaks at the beginning of 2018 (16,668) is a little different from the number of leaks reported at the end of 2017 (16,765) in the DPU report 18-GLR-01. Hopefully, these details will be fixed as the utilities comply with new regulations issued in 2019.

Meeting: Electric Futures - Practical Approaches to Regulation and Implementation.

Lise Olney and Fred Bunger attended an Electric futures meeting. Their notes appear below.

Amy Longsworth from the Green Ribbon Commission noted Boston's drive for zero net carbon by 2050 and noted the Carbon Free Boston Report issued in 2019. She highlighted the need to work on reducing the carbon footprint of existing large commercial and multifamily buildings through retrofitting and electrification. Boston is urging net zero carbon for new construction and looking at establishing energy performance standards for new buildings, as well as carbon reduction goals for existing buildings.

MA State Rep **Tommy Vitolo** from Brookline spoke on the need to push electrification and stopping new gas hookups. "When you are in a hole, the first thing to do is stop digging." He is sponsoring legislative efforts to provide training for builders and tradesmen in energy efficient practices.

Michael Grant AIA moderated a panel of 5 Brookline petitioners: **Lisa Cunningham, Scott Ananian, Kathleen Scanlon, Diane Sokal, & Jesse Gray** about the new Brookline bylaw that prohibits installation of new fuel piping. "You can't get to zero carbon if you start with fossil fuel." The bylaw restricts new gas piping in construction and gut renovation, and was developed to support Brookline's climate goals, rather than to promote safety or environmental "goodness." The bylaw regulates piping on the customer side of the meter, not on the utility side. The panelists stressed the importance of the process, which included a lot of legal and political work, and many public meetings and discussions with all stakeholders and interested parties. They incorporated some exemptions (e.g. residential stoves, restaurants, central hot water systems, back-up gas generators) to build "a big tent" of support. Town boards were mainly focused on the practical concerns of how the bylaw would work and who it would affect. Other issues petitioners had to address during the process: how electrifying a building reduces emissions, concerns about expense, misconceptions about the effectiveness of heat pumps, and impact on development. The bylaw is now under review by the Attorney General's Municipal Law Unit (all municipal bylaws undergo this review).

The discussion touched on the potential for future efforts to reduce GHG emissions in existing buildings, possibly through financial incentives rather than mandates.

There were several short presentations illustrating how electrification is being applied to projects of many different types and sizes:

- **Kent Gonzales**, Northland Investment Corp. *Electrification, A Developer's Perspective:* described the proposed development of the 22-acre Marshall's plaza on Needham Ave. in Newton. The project is employing a "sustainable design strategy" and

partnered with Green Newton early in their planning process. The site will feature 800 apartments (140 affordable), 10 acres open space, bike parking, shuttle to Riverside T, and only one parking place per apartment. The buildings will be LEED certifiable and at least three buildings will be built to passive house standards, with five others being considered for passive house construction. The central hot water system will be gas fired, but HVAC will be heat pump. (This project was approved by the Newton City Council but is subject to a town-wide vote on March 3.)

- **Michelle Apigian AIA**, ICON architecture *Cambridge Affordable Housing Goes Passive House:* spoke on net zero being a baseline for new affordable housing. Cambridge is currently building 98 affordable units to passive house standard at Finch Cambridge near Fresh Pond. Michelle noted how much on-site direction is currently needed to train building trades to meet the field application of passive house construction requirements.
- **David Bowles of BU** *Engineering the Northeast's Largest All-Electric Lab :* discussed the challenge of making an all-glass lab building all-electric. The triple-glazed building uses 31 - 1500 ft boreholes to serve the ground source heat pumps. The building achieved a net 31 EUI at only a 1% premium. To achieve net zero, offsets were created through a longterm power purchase with a South Dakota wind farm.
- **Rachel White**, Byggmeister Design & Build *Building Like You Give a Damn, Residential Retrofits:* This firm specializes only in renovation, no new construction. Rachel described retrofitting existing Newton homes to higher energy efficiency, including partial and whole house electrification. Homeowners are motivated to electrify when the existing HVAC equipment is old and inefficient, or when existing systems simply aren't working very well. Conversions to electric are often phased in over time.
- **Martine Dion FAIA**, SMMA *Wellesley's Net Zero Elementary School, A Practical Plan:* Described the Hunnewell project.
- **Rick Ames AIA**, Next Phase Studio *Architect Activist: Next Phase for Brookline & Beyond:* took a trip down memory lane in how energy efficient design has evolved from going off the grid to trying to wean the US off foreign oil to now concern for climate change and energy efficiency.
- **Carol Oldham**, Executive Director, Mass Climate Action Network made closing remarks and invited participants to join the gas ban listserv for ongoing discussion by contacting Rebecca Winterich-Knox, rebecca@massclimateaction.net.

Teleconference: Brookline Gas Piping Ban

Fred Bunger provided notes, below, from a teleconference on the Brookline Gas Piping Ban. During the teleconference, gas ban campaigners responded to questions (in blue) from an Arlington group. Fred circulated a detailed agenda for this call on February 9.

how the Brookline fossil-fuel infrastructure bylaw was put together. The gas ban came out of a Brookline town-wide sustainability summit. A subgroup formed to cover non-municipal buildings which considered the Berkeley CA gas ban. They invited anyone who had pulled a

permit to meetings to pose the question whether a ban would be practical/feasible and cost effective. Follow-up meetings were held to share concrete answers to questions.

the thinking behind the byline's provision on substantial rehabilitation and current thinking on how that might be improved,
The ban includes new piping as well as piping for substantial renovations defined as 50% area for commercial and 75% area for residential. Existing gas piping can continue to be used; only new is prohibited. Brookline is the only town including renovations.

the various categorical exemptions, practical and political, and the evidence behind them
Gas for cooking, was exempted to get buy-in from opposition. Gas for multi-unit central hot water supply was exempted due to cost/feasibility of alternates.

the hardship waiver.
Hardship to be reviewed by Sustainability Review Board appointed by Select Board. Review Board to be established and criteria to be developed.

enforcement mechanisms
The Building Department will enforce through the building permit process similar to enforcement of building code and zoning regulations.

the expressed needs of various key groups, including affordable housing advocates, economic development campaigners, etc.
Those groups were also participated in the sustainability summit and became advocates as they saw it was a way to help meet climate change goals.

Webinar: Affordable Housing as a Climate Solution

MCAN sponsored a January 28th webinar on Affordable Housing as a Climate Solution. Fred Bunger's notes from this webinar appear below.

Presenters were:

- **Emily Jones**: Program Officer for Local Initiatives Support Corporation (LISC) Boston's Green Retrofit Initiative
- **Jesse Thompson**: Partner at Kaplan-Thompson architects; national leader in green design and building science
- **Dan Ruben**: Chapter leader of Green Newton; leader in partnering with Liveable Newton to create more affordable and sustainable housing

Emily Jones from LISC urged that existing Affordable Housing be evaluated for energy performance through benchmarking (USDOE Portfolio Manager) and energy audits. There are funds available for audits and energy improvements through LISC and MassSave programs. For new affordable housing projects, all-electric, energy-efficient, passive house designs are showing lower life-cycle costs.

Jesse Thompson, architect showed the advantages of Passive House design in new affordable housing. She highlighted the dramatic reductions in cost of solar and batteries making net zero energy for affordable housing achievable.

Dan Ruben of Green Newton discussed the education process to get developers and builders to accept sustainable building principles accepted and used in new projects. Green Newton partnered with affordable housing advocates and city planners to adopt green building principles in new developments. Four large projects were shown.

For more information:
Visuals: https://docs.google.com/presentation/d/1A4a6Ya5TO_flftdll94eS_j91JmMvHifW5slYAT1ry0/edit#slide=id.g6df22cf11a_0_929
Video: https://www.youtube.com/watch?v=OLNlOOOuHfk&feature=youtu.be

Webinar: Recognizing Clean Energy in Resilience Planning

The American Council for Energy Efficient Economy (ACEEE) held a webinar on January 20th re: Recognizing Clean Energy in Resilience Planning. Fred Bunger's notes from the webinar appear below.

The ACEEE just issued a report on 66 global cities: *Community Resilience Planning and Clean Energy Initiatives: A Review of City-Led Efforts for Energy Efficiency and Renewable Energy.* The webinar gave an overview of the report and highlighted how climate action resilience plans and renewable energy and energy efficiency programs enhance each other.

To read the ACEEE report: https://www.aceee.org/sites/default/files/publications/researchreports/u2002.pdf

Two cities, Honolulu and Buenos Aires were rated exemplary in the report. They reviewed their resiliency and energy efficiency efforts in the webinar. The Honolulu report was very comprehensive in the resiliency planning including energy efficiency and renewable energy. Interesting action plans and metrics were detailed including benchmarking commercial buildings, updating building codes, and residential energy efficiency transparency,

The webinar video: https://www.youtube.com/watch?v=kzKHHZkKAms

The power point slides: https://drive.google.com/drive/folders/1n43rIBkJtfKgHvWWuGzynVORFXTav4F4