



SUSTAINABLE ENERGY COMMITTEE

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

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SEC Project Updates

October 9, 2020

Green Communities

Marybeth Martello submitted contract documents to the Department of Energy Resources (DOER) for the Town's Green Communities competitive grant award of \$137,920. DOER issued an effective (start) date of September 18 for the following projects:

- \$25,128, Exterior LED lighting in municipal parking lots
- \$98,500, Interior LED lighting in the High School auditorium and gymnasium
- \$10,000, Two hybrid police cruisers
- \$4,292, Administrative assistance to support LED lighting projects

The Finance Department established a system for managing grant funds. Marybeth reached out to the Facilities Management Department (FMD), Police Department and Municipal Light Plant (MLP) to let them know about the start date and the mid-January project deadline, assuming Wellesley will submit a grant application in the Spring 2021 grant round. Marybeth spoke with FMD, MLP and Department of Public Works (DPW) about potential Green Communities projects for Spring 2021.

On October 1, Marybeth and Janet Mosley met with Neal Duffy, Wellesley's DOER representative, to discuss implementation and reporting of Wellesley's new Green Communities projects, potential projects for the 2021 grant round and a Request for Information, recently issued by DOER.

Janet has been gathering data from DPW, MLP, Building Department, Planning Department, and MetroWest Regional Transit Authority for the Green Communities Annual Report due on November 6. Marybeth reached out to Meghan about presenting the Annual Report to the Board of Selectmen for signature prior to submission.

Climate Action Plan

The Climate Action Plan (CAP) Steering Committee (Marybeth, Janet Mosley, Laura Olton, Fred Bungler, Sue Morris and Pam Posey) met on September 16 and September 29 to discuss CAP content and community outreach. Marybeth prepared an annotated CAP outline and incorporated comments from

Steering Committee members. Pam Posey is developing a contact sheet and is working with Marybeth on a community engagement strategy for the CAP.

Janet Mosley, with help from intern Colin Braun, is working to develop a generic wedge analysis to inform the draft CAP.

Greenhouse Gas Inventory

Janet developed a visual comparison of the current and future greenhouse gas inventory to help communicate changes in the inventory scope and methodology to the SEC.

Gas Leaks

MAPC and HEET will host a two-part webinar on gas leak safety. See information below to attend.

Gas Leak Safety for First Responders – Two Part Virtual Workshop on October 22 & 29

Massachusetts and Greater Boston have some of the oldest, leakiest gas pipes in the US. Gas leaks can lead to dangerous explosions and they are also a major source of greenhouse gas emissions, releasing as much pollution every year as all of the businesses in Massachusetts combined. Utilities and municipalities across the Commonwealth are working together to repair leaks and keep residents safe. Join MAPC and HEET for this two-part workshop for first responders, municipal staff, and residents to learn more about how gas leaks are measured and classified and how to respond to gas leaks in your community.

Part 1: Gas Leak Safety for First Responders on Thursday, October 22, 12:00-2:00 p.m.

Hear from first responders, community leaders, gas leaks experts, and your gas utility about how municipalities and first responders can address gas leaks. Register here: https://zoom.us/webinar/register/WN_keFjW2ySR82u8AE3fz7Mrw

Part 2: Interactive Discussion on Gas Leak Safety in Your Community on Thursday, October 29, 12:00-1:00 p.m.

Continue the discussion with your gas utility and other municipalities in your area. Register here: <https://zoom.us/meeting/register/tJEpf-CgrzMiE9lalPHdchTVSYqyy-0y4eoZ>

Wa\$teWi\$e Webinar

The Green Collaborative, along with the 3R Working Group, hosted a Wa\$te Wi\$e Welle\$ley Zoom webinar on September 30 that was well attended. The speakers were: Jamie Manzolini, Superintendent of Wellesley RDF; Kirstie Pecci, Director of the Zero Waste Project and a Senior Fellow at Conservation Law Foundation who focuses on waste reduction and zero waste solutions; Chris Beling a Member of the Assistance and Pollution Prevention Unit in the Office of Environmental Stewardship of the EPA who has worked on food waste issues for over 25 years.

The webinar program discussed the following:

The waste problem is growing and recycling is facing a number of challenges. The current scale and pace of waste generation is unsustainable. Municipal solid waste (MSW) includes disposed items from homes, schools, and businesses such as furniture, mattresses, clothing, food scraps and appliances. Between 2017 and 1990 total municipal solid waste in the US increased by nearly 30% to about 268 million tons. Food waste comprises about 15% of total MSW. Americans discard an estimated 40 million tons of food every year which equates to 80 billion pounds of food. The manufacture and use of products, as well as the management of resulting waste via landfills and incinerators, create greenhouse gas emissions thereby contributing to climate change. Landfills and incinerators also release toxic chemicals. Toxins make their way into air, land and water for uptake into plants, animals and humans. Toxins bleach coral reefs and disrupt food chains while plastics fill waterways and harm aquatic life. “Zero Waste” minimizes

the trash sent to incinerators and landfills. Wellesley's RDF is leader in municipal waste management. The Wellesley RDF continues to exhibit resiliency and continues to recycle and divert food waste in the face of a difficult international recycling market and the pandemic. The RDF processes roughly 7,500 tons of municipal solid waste, 5,500 tons of recyclable material and 80 tons of food waste annually. Because of on-site separation of high-quality materials at the RDF, Wellesley is able to sell certain recyclables like cardboard and newspaper for top dollar. The RDF still faces challenges but is doing well despite current market conditions.

Mobility Committee

The Mobility Committee met on September 24 to discuss a Request for Proposals. The RFP will seek proposals for a study to identify opportunities for reducing vehicle trips in Wellesley through, for example, public education, changes in regulations and bylaws, improvements in the availability, accessibility, and connections of bicycling and walking paths and sidewalks.

SEC Intern

Laura Olton and Marybeth Martello met with Cameron Curtin, Dana Hall student, and SEC intern. Cammie will assist the SEC with youth outreach and other programming.

Environmental Justice

Salem Alliance for the Environment Webinar

Salem Alliance for the Environment (SAFE) held a webinar on September 3 called *A Primer on Environmental Justice and Policy*. A summary is provided below:

We want to stand with Environmental Justice (EJ) communities but many of us need to learn more about: what EJ is, how the injustices came about, why they persist, and what we can do to bring about Environmental Justice. This webinar is a 20 minute primer by Marcos Luna, PhD, Professor of Geography and Sustainability, Salem State University. Dr. Luna worked with MA Rep. Adrian Madaro on the EJ amendment that passed the House unanimously. The presentation was followed by a 20 minute question and answer session. Dr. Luna knows EJ issues in Salem, East Boston, and Chelsea very well. He lives in East Boston, works in Salem, and is on the board of Chelsea's GreenRoots.

Let's stand for EJ in this devastating time for all of our Environmental Justice communities (including Salem) and become educated about the huge gaps in resources and access to power in our communities of color, low income communities, as well as among Limited English Proficiency (LEP) folks.

Webinar recording: <http://bit.ly/SAFEZoomEJ>

Presentation slides: <https://tinyurl.com/y2ah2wa7> (contains citations and more info in the notes)

New Report on Climate Change Adaptation and Environmental Justice

The University of Massachusetts Boston Sustainable Solutions Lab and the Hyams Foundation released a new report: [Views That Matter: Race and Opinions on Climate Change of Boston Area Residents](#).

A growing body of research finds that climate change places a disproportionate burden on communities of color in the United States. In spite of this evidence, important discussions taking place about climate

change—such as how it is experienced, which policy solutions are most critical, and how we can prepare for and adapt to its impacts—often leave out the voices of the very communities most affected. A new report from the Sustainable Solutions Lab starts to address this gap. The report was authored by Assistant Professor Lorena Estrada-Martínez, Professor Paul Watanabe, and Doctoral Student, Katsyris Rivera-Kientz. It was written in partnership with the Hyams Foundation and made possible in part through funding from the Barr Foundation.

Buildings

From Fred Bunger:

Municipal Sustainable Building Guidelines

BOS gave final approval of the Municipal Sustainable Building Guidelines at the September 30 BOS meeting.

Rocky Mountain Institute (RMI) Building Electrification Accelerator (BEA)

The Wellesley BEA team is working on building sustainability into future zoning. On September 15, the Planning Director, SEC Director, and two BEA team members met and discussed possibilities for improving Project of Significant Impact (PSI), Large House Review, and Design Review. The group discussed timing and sequence of by-law changes linked with Climate Emergency Article 12 in the October 2020 Special Town Meeting (STM), GHG Goals at the 2021 Town Meeting, and the CAP at the 2021 STM. Short-staffing and preparation for the October 26th STM will push further progress into November. Ellen Watts provided new AIA national criteria for design excellence pertinent to all project types that might be incorporated into design review criteria.

Meanwhile, a survey of Design Review sustainability examples was prepared to accompany the sustainable zoning examples in MA Towns.

Dan Rubin of the Green Newton Committee joined the September 18 BEA meeting to describe their Building Standards Committee and their process for influencing development to be sustainable and energy efficient. Education of Town Boards on sustainability and energy efficiency was a key element.

The RMI seminar on September 24 provided information relevant to developing and passing well-designed local resolutions to catalyze state legislation. Presentation topics:

- Health effects of natural gas appliances
- Metro area gas leaks
- Building sector improvement strategies and impact on employment
- Home energy ratings and electrification effects on real estate industry
- Energy efficient building practices including all-electric PassiveHouse design, particularly for multifamily.

The Brookline resolution draft was provided as a working example.

The Wellesley BEA team will work on a resolution to encourage MA state climate change action targeting 2021 STM.

The October 1 BEA meeting discussed how the RMI BEA climate resolution would integrate with the CAP, Planning bylaw changes, and the Article 12 warrant on climate concerns at the STM. A sequence and timeline will be developed.

Housing Authority

On October 2 Ellen Korpi, Fred Bunger, Marybeth Martello and Lise Olney met with the Wellesley Housing Authority's (WHA) Sean Barnicle (Executive Director), Maura Renzella (Chair) and Janice Coduri (member) to discuss Municipal Sustainable Building Guidelines, to understand WHA's responsibilities, governance, and financing, and to learn about any plans for renovation or upgrades of State-subsidized housing in Wellesley. WHA will review a report from Tise Design Associates on the potential for developing WHA properties at the October 6th WHA Board meeting. Fred offered to provide baseline energy efficiency calculations for all 234 WHA housing units.

US Department of Energy Better Buildings Webinar #1

The US DOE Better Buildings program conducted their *Building Resilient Communities: State and Local Perspectives* webinar on September 15.

- Will Lauwers of MA DOER spoke about the 2016 MA Exec. Order 569 calling for the state to mitigate and reduce greenhouse gas emissions, build resilience across the state and begin to adapt to the impacts of climate change. The MVP grant program was a result. MA is at the end of the utility supply chain, so resilience means reducing cost, diversifying supply and modernizing the grid. He described two Community Clean Energy Resilience grant awards:
 1. In CCERI Round 2, Sterling, MA municipal light plant project to install distribution scale battery (2 MW - 3.9 MWhr) to support a substation serving nearby police and fire dispatch for a week.
 2. CCERI Round 3 will focus on combined heat and power generation installation at hospitals to allow independent operation in power outages.He ended his presentation with support for electrification of building heating and citing a 1.4% premium for PassiveHouse high performance building envelopes to reduce loads.
- Megan Levy of the Wisconsin Office of Energy Innovation described climate adaptation and resilience programs in the Department of Defense, citing power and water backup provisions of 7 to 14 days for mission critical installations. The state is looking at microgrids to support water and wastewater systems, but first is trying to improve energy efficiency of the systems. She described a case study of individual microgrids versus a partial or full substation microgrid for Town Offices, Police Dept, a community health center and a food distribution center.
- Peter Brandon, Hillsboro, Oregon Project manager spoke on the challenges of planning resilience in a very fast growing town with plans to go 100% renewable and invest in solar facilities.

Webinar recording: <https://betterbuildingsolutioncenter.energy.gov/webinars/building-resilient-communities-state-and-local-perspectives>

Presentation slides:

<https://betterbuildingsolutioncenter.energy.gov/sites/default/files/slides/Building%20Resilient%20Communities%20-%20Slide%20Deck.pdf>

US Department of Energy Better Buildings Webinar #2

On September 22, the US DOE Better Buildings program conducted a webinar on *Innovative Energy Efficiency Financing in Public Housing*.

- Josh Geyer of the US Housing and Urban Development (HUD) Office of Environment and Energy led the discussion and talked about how to finance retrofits to achieve the Better Buildings Challenge of 20% improvement in 10 years.
- Joanne Sutton of the Manhattan, KS Housing Authority, spoke on the experience of financing an \$8 million retrofit of an 88 unit building using HUD, an energy performance contract with Johnson Controls, and the city's 30 year bonds with "Recoverable Advance Agreement."
- Stephen Cea of Jersey City, NJ Housing Authority spoke on their 2008 Sustainability Plan to upgrade many old housing sites. He listed a number of funding sources including energy performance contracts with Siemens.
- Tina Miller, Cambridge Housing Authority Energy Manager, spoke about the importance of benchmarking energy performance of multifamily buildings using Portfolio Manager. They contracted with AMARESCO to convert a 1970's electric resistance heated building from an Energy Star Rating of 1 to Energy Star 97. Tina would be a great resource on financing public housing energy upgrades in Massachusetts.

Webinar recording: <https://betterbuildingsolutioncenter.energy.gov/webinars/innovative-energy-efficiency-financing-public-housing>

Presentation slides:

<https://betterbuildingsolutioncenter.energy.gov/sites/default/files/slides/Innovative%20Energy%20Efficiency%20Financing%20in%20Public%20Housing-%20Slide%20Deck.pdf>

New Building Institute (NBI) Webinar

On September 24, NBI presented the *Getting to Zero Market Landscape and 2020 Getting to Zero Buildings List* webinar.

- The number of zero energy buildings tracked by NBI grew from 580 in 2019 to 683 in 2020. Presenters Alexi Miller and Kevin Carbonnier from NBI provided an overview of the trends and technology in zero energy, spotlighting heat pump hot water heaters.
- Kathryn Wright of USDN (Urban Sustainability Directors Network: 220 participating cities) spoke on trends in building energy policy across the US. She stressed the importance of improving building codes to improve new buildings and establishing building performance standards to upgrade existing building stock. She summarized the GHG goals of the leading world-wide cities.
- Michelle Amt, Director of Sustainability for VMDO reviewed the Arlington, VA success in a multi-year program of building zero net energy schools and community centers. She showed an interesting comparison of EUIs for several projects.
- Dan Aarons AIA/LEED certified with Perkin Eastman spoke on air-source and ground-source heat pump technology and on achieving zero net energy. Basic technique: Passive Design, High-performance technology and renewable power production. He noted one building design increased energy efficiency 8% just by better orienting toward the sun. Ventilation increases to meet a COVID-19 recommendation of 5 air changes per hour was met through improved filtration of recirculated air.
- Darryl Bryce, President of ASHRAE (American Society of Heating, Refrigeration and Air-conditioning Engineers) spoke on new ASHRAE headquarters which was a renovation of a 66,000 sq. ft. 1970's commercial building to achieve LEED Platinum with an EUI of 21 for \$11 million.

The presentation includes extensive studies of lighting strategies to be able to cut the window ratio from 79% to 33%, radiant heating & ventilation plans, and solar installation to achieve net zero energy in this all-electric building. The ASHRAE presentation is very relevant to Wellesley's existing office building stock and the eventual need to update and upgrade older buildings.

Webinar recording (you will need to register):

<https://register.gotowebinar.com/recording/1480756699439490831>

Presentation slides: [https://newbuildings.org/wp-](https://newbuildings.org/wp-content/uploads/2020/09/2020GTZWebinarSlides20200924_2slidesPerpage.pdf)

[content/uploads/2020/09/2020GTZWebinarSlides20200924_2slidesPerpage.pdf](https://newbuildings.org/wp-content/uploads/2020/09/2020GTZWebinarSlides20200924_2slidesPerpage.pdf)

Municipal Light Plant Update

From Francisco Frias:

Voluntary Renewable Energy Program (VREP):

The VREP working group continues to meet, at least once a month, to discuss projects, initiatives, and strategies. During September, the working group met twice, and among the topics of discussion were the renaming of the VREP program and the review of different scenarios for the Opt-Out program. The discussion about the renaming of the program came as a result of the nature of the Opt-Out program and how it broadens the scope of the VREP. After discussing this topic, the group decided that the Municipal Light Board should consider the renaming of this program to be the WMLP Customers Accelerated Emissions Reduction Program ("WCAERP"). Since the MLP has been working towards the reduction of emissions already, the group concluded that the Opt-Out program is a tool that is being recommended for the MLP to accelerate the reduction of emissions and reach its goal.

The existing Group participants include MLP Board members Jack Stewart and Scott Bender, SEC Chair Laura Olson, and from the MLP, Don Newell, Joanne Scannell, Terry Connolly, and Francisco Frias.

Electric Vehicles (EV) Program:

The MLP is working with Energy New England ("ENE") on the EV Education and Awareness program. They continue to target EV owners that are not signed up for the BYOC program to encourage off-peak charging of the vehicles. During September, Wellesley residents have been asked to complete an online survey, "Your Future Vehicle Choice". From the results of the survey, some residents will be asked to join a roundtable discussion called "Electric Car Insights: Your Local Dealer Roundtable". As of September 23, 275 people have completed the survey the deadline for the survey has been extended to October 15, 2020. The roundtable will take place in mid-October. It will include a strong panel of local dealership representatives, as well as EV interested customers to discuss EV purchasing and ownership. The web page Wellesley Drives Electric is continually updated with current information regarding EV's and applicable rebates.

Solar Rebate Program:

Our solar rebate program has been in effect for approximately 16 months. We have 14 completed installations. We have 6 more that are in progress. These 20 installs add up to 164.805 kW DC allocation against the 192 kW DC approved by the WMLP Board. After 16 months we are at 86%.

The deadline for program approval is December 30, 2020. That leaves roughly another three months. We're at "mile marker" 16 out of 19 months. That's ~84% along and we've allocated ~86% of the funds. We are on target to using 100% of the funds if the trend continues as it has been for the first 16 months. In the past week, there have been three applications to the ENE portal for which we have not yet received an application at WMLP. Assuming those three applications are made, that will get us very close to using up all of the funds.

Incentive/Rebate Programs:

The MLP's Appliance Rebate program, in FY2021 and through September 22, has accounted for a total of \$5,500 paid out in rebates, for a total of 58 rebates.

As mentioned at a previous MLP Board meeting, a new working group has been established to assist with redesigning the Incentive Program of the MLP. They held their second meeting on September 24, 2020 to discuss the Action Plan for the group. The group continues to work on taking a closer look at the existing rebate program and preparing recommendations for a revised incentive program that aligns with the values of the community and have a greater impact on emission reduction. In order to continually move forward with emissions reduction programs while the redesign of the program is being discussed and formulated, the group decided to restart a promotion of electronic billing and auto pay as well as the coordination of the distribution of Energy Savings Packs with the Council on Aging and Wellesley Housing Authority. These programs can be launched immediately with short term success. The working group participants are: Ellen Korpi, Mary Gard, Judson Jaffe, Fred Bungler, and Joanne Scannell

Home Energy Audits:

Remote Home Energy Audits were started in April, since then we have had thirteen (13) total done. We are working with ENE to advertise the program along with the EnergyXpert Self-Service Home Energy Assessment program. This online platform was launched the second week of September. As of September 24, we had 28 residents that had signed up for the assessment. Through the platform, customers can perform an online home energy assessment by answering a handful of simple questions. The platform will provide individualized insights about their homes' energy use to improve their overall performance. Additionally, the tool is integrated with a marketplace giving real-time suggestions and processes rebates that are available to them. This tool optimizes the customer journey and generates industry-leading conversion rates. We will continually work on promoting this tool through email promotions, and include the information in the new resident package for new MLP customers.

Large Scale Solar and & Battery Storage Projects:

Wellesley Sports Center: The MLP received seven (7) responses for the 900 Worcester Street solar installation RFP on August 28th. The responses have been analyzed, and questionable information has been clarified by respondents. The MLP will look to narrow the group of respondents to the top 3, and after getting approval from the Municipal Light Board, it will notify all respondents of its selection. Once this is done, the next step involves starting negotiations for the best Purchase Power Agreement, License Agreement, and Interconnection Agreement.

Municipal Way: The RFP for a battery storage system next to Station 41 (Building next to the MLP Office) and for the installation of solar panels at various locations within the MLP/DPW site, is almost complete and ready for release. A structural roof analysis by Weston & Sampson for the Water & Sewer building has been secured and will be done in the next week or two. This analysis will be necessary to determine if the roof of that building can sustain the installation of solar equipment.

Other Locations: MassBay Community College ("College") recently reached out to the MLP to inform us that they are meeting with the Department of Energy Resources (DOER) and other entities in the last week of September. They will discuss the MLP's idea about the canopy-based solar system on one of their parking lots. The DOER has said that the project looks promising. After they meet, the MLP will have a second meeting with all the parties involved to determine if this project will come to life. The MLP has a few other sites that could potentially accommodate solar installations, but further analysis and conversations with site owners will be necessary.