

Town of Harvard Energy Advisory Committee

BRIAN SMITH – CHAIR
DAVID FAY
FORREST HODGKINS
PETER KELLY-JOSEPH
ELLEN SACHS-LEICHER
ASSOCIATE MEMBER: GUY HERMANN

STUDENT MEMBER:
LIAISONS:

OPEN
KARA MINAR, SELECT BOARD
TBD, FINANCE COMMITTEE
TBD, SCHOOL COMMITTEE
TBD, CAPITAL PLANNING
REBECCA SEWALL, HARVARD HISTORICAL COMMISSION
GUY HERMANN, PERMANENT BUILDING COMMITTEE

Meeting Minutes 11/8/23

Attendees: B. Smith, D. Fay, F. Hodgkins, E. Sachs Leicher
Peter Kelly-Joseph, (late), Rebecca Sewall (part time)

Location: This Meeting was held virtually in accordance with Chapter 20 of the Acts of 2021, An Act Relative to Extending Certain COVID-19 Measures Adopted During the State of Emergency and signed into law on June 16, 2021

Zoom Meeting ID: 849 8613 7136

Admin

1. HEAC approved the minutes of 10/11 4 -0 without comment.
2. School Committee liaison to HEAC is on hold. New member, Liz Joyce, replaced member Sharlene Cronin but no liaison has been assigned yet.
3. The Historical Commission assigned Rebecca Sewall as liaison from the Harvard Historical Commission to HEAC.

Guests NA

Membership NA

1	Goal: Decarbonization Plan – Reduce Emissions	Lead: Brian	Support: Ellen
	Action	Status	Next Step
	1. Municipal Decarbonization plan – finalize plan by May 2023	Initial review by stakeholders with review of climate plan complete	1. The Municipal Decarbonization plan will be revised as final prior to the end of May. 2. Stakeholder meeting – Brian set up with Town/Schools – Stakeholder meeting will be set up for the Municipal Decarbonization Plan review with Tim Bragan and Marie Sobalvarro prior to the end of May. Brian revise and issue final plan and presentation. – no change
	3. Community Decarbonization plan – finalize by May 2023	Initial review by key personnel complete	1. The Municipal Decarbonization plan will be revised as final prior to the end of May. 2. Stakeholder meeting – Brian set up with Town/Schools – Stakeholder meeting will be set up for review with Tim Bragan and Marie Sobalvarro prior to the end of May. The Community plan will be included but the primary focus will be the Municipal Plan. Brian revise and issue final plan and presentation. – no change

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2	Goal: Buildings – Electrification Plan; Assessment / Energy Reduction Projects	Lead: Forrest	Support: Brian/David
	Action	Status	Next Step
	<p>1. Develop a detailed long-range plan for strategic building electrification, with financial analysis, to upgrade municipal building heating systems.</p> <p>Parallel tracks</p>	Not started.	<p>Develop and issue RFP by Nov 2022.</p> <ol style="list-style-type: none"> Brian ask John Snell about grant for RFP. Forrest ask DOER about Technical Assistance grant. Investigate MVP grant. <p>Obtain funding and target plan by Sep 2023.</p> <ol style="list-style-type: none"> NGRID funded an Electrification Assessment performed by B2Q (via NGRID) at no charge. The focus will be to replace the Bromfield heating system which is the biggest source of emissions. 2/8 - B2Q report provided three options: (1) Air to Air VRF Heat Pump System (adds cooling) (2) Air to Water Heat Pump System (3) Water Source Geothermal Heat Pump System Forrest reviewed a list of pros/cons for at a meeting with Schools (Linda Dwight, Patrick Harrigan and SusanMary Redinger). The Schools selected an option to install air to air heat pumps to be installed into the rooftop units. This option ensures continuity of ventilation service and adds AC. The incentives are lower for this option. Next Step – Issue RFP for a detailed design to be performed in accordance with the recommended heat pump option. It is recommended that this work should be coordinated with any plans for a new roof or solar PV. – RFP for HVAC Design/Retrofit will be finalized upon Ingrid Nilsson’s return. HEAC reviewed and commented on the RFQ received from the School department. Forrest to clean up and submit to the School Dept by 9/15. The School department received the comments and will advise of any questions. The School Committee advised they were interested in being involved in the process. Forrest is setting up a meeting to review with all stakeholders. – no change

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			<p>4. UV Heat Pumps Forrest had a meeting with ECI who is preparing a proposal to address the middle school wing (classroom heating units) which would eliminate the heating hot water load. It would also add AC for a portion of the building that is often overheated. Targeting \$300k for each phase</p> <ol style="list-style-type: none"> 1. Determine Green Community grant application option \$500k or \$200k. The \$500k option is for electrification/decarbonization and requires a 25% Town match. 2. Action → Forrest/ECI prepare grant table and review the grant viability with Kelly at DOER. Determine the difference in criteria between \$200k and \$500k projects and best path forward. 3. The limit is \$300k for public bidding process as allowed by recent changes to the Green Community Act. ECI has broken down the project into (2) \$200k in two subsequent application rounds.. 4. Schools plan for design and construction for roof top units. 5. Forrest coordinated comments on the ECI proposal. Not integrated into the BMS? How will this be handled? Recirculating heat and cooling in the space. Not removing the existing system. Some spaces not being addressed. Science rooms not addressed. 6. Stakeholders – is Patrick Harrigan on board? What are the Increased utility bills including extra for cooling and is School Administration on board? Is there a way to separate utilities from schools or find a separate funding source to pay for any increase in utility costs for decarbonization projects? 7. Heat pumps visible from road. Is there any way to minimize this impact? Under ramp? <p>5. Building Electrification plan – goal to eliminate fossil fuels for space heating. Focus TBS, Town Hall and Public Safety building. – Need to develop a strategy for Town buildings and obtain quotes through a consultant.</p>
	2. Define objective of audits – electrification vs.	Working to have audits performed at	<ol style="list-style-type: none"> 1. Coordinate with TBS building study. 2. Forrest/David working with UMASS (Ben Weiss) on a

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	efficiency.	no charge – no options yet	program to help Towns increase efficiency and recommendations for decarbonization. They may be able to assist reviewing project scope/bids. Forrest provided building plans to UMass.
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3	Vehicles – Convert to Electric Vehicles	Lead: Peter	Support: Forrest
	Action	Status	Next Step
	1. Prepare Town Vehicle Inventory. Coordinate with NGRID Fleet Advisory program consultant.	Inventory complete. Report and implementation plan in process.	<ol style="list-style-type: none"> Review Fleet Electrification report and recommendations. Review with Town Staff by Oct 2022. – Draft report being reviewed. The ICF study will be used as a reference. Remove this item. Discuss info gap about vehicle use, miles, lifecycle cost, etc. <ol style="list-style-type: none"> Ford Hybrid Interceptor – wait until Feb – in process CPIC – electric vehicle for future; wait until IRA incentives School \$15k electric vehicles – to replace existing COA vans; Ford E350 – replace existing vehicles for attrition. Replace CASE older vans. Typically have 2 consistently. Evaluate IRA option. Aligned with Fleet Electrification plans. CPIC will evaluate. Fully support. Fire Chief purchased a vehicle. Federal IRA incentives may be available for Hybrid vehicles.
	2. Identify candidates for replacement in short term.	Initially replacing police vehicles with Hybrids. Consider conversions to Hybrid of light or medium-duty vehicles.	Work with Tim Bragan and town staff to select vehicles. Plug in Hybrid retrofits available for medium duty trucks Peter to request Dept heads to identify vehicle replacement candidates. Initially Police and recently Fire Chief is interested in hybrid option.
4	Vehicles – Charging Stations	Lead: Brian	Support: Peter
	1. Create Charger Plan for Town use on Town property.	Feasibility reviews performed by ECI. Chargers are only partially funded if not public use.	<p>Focus on Public Safety Building.</p> <ol style="list-style-type: none"> Obtain quote for Fast charger from ECI for police cruisers. – – Quote received. Cost \$125k total less \$50k incentive = \$75k from town. Provide to Chief Babu to include in capital plan. – Brian to provide to Peter and Chief Babu to submit to CPIC.

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			<ol style="list-style-type: none"> Determine if build-out (or any) will exceed electric supply? Workplace chargers – ask Town depts.
	2. Create Charger Plan for public use on Town property	Feasibility reviews performed by ECI. DC Fast chargers are only partially funded.	<ol style="list-style-type: none"> ECI to process application to NGRID for certain locations. Focus on HES #2/TBS. Any data on usage? Brian to issue latest plan. – no change Priority - Bromfield Level 2 Charger in back. School committee suggest installing one charger at Bromfield. Brian to set deadline for ECI proposal. – ECI provided proposal. \$10k net to Town for networking and warranty. Obtain approval from School Committee. Presented to the School Committee on 7/24/23. The School Committee review the Bromfield charger in the budget subcommittee. Other concerns are about the cost and public access. They also suggested a Staff survey by Green team. – Brian follow up with School Committee Abby Besse

5	Green Community Program – Meet Obligations and Maximize Grants	Lead: Brian	Support: Forrest/David
	Action	Status	Next Step
	1. 2022 Block 2 Competitive grant.	In process	<p>Library Weatherization Phase 2 and Vehicle Police Hybrid were the only 2 items on the application.</p> <p>1/3/23 – DOER awarded GC Grant for \$10,000 for hybrid car and \$17,173 for Library Weatherization.</p> <p>4/19 – Goal - Library project to be done end May and close grant end of June. Completed; Started 6/27 and finished 7/6; NGRID inspected the work. Brian to close out project and reporting by end October.</p>
	Fall 2023 Block 2 Grant project ideas	Target list of project by Aug 2023.	<ol style="list-style-type: none"> Bromfield pilot classroom project – See discussion in section 2 above. Vehicles – EV and Hybrid; Peter will reach out to Tim Bragan to determine if there are any planned purchases that can take advantage of a green community grant to be applied to a future purchase in Feb 2024. Tentative list includes: <ol style="list-style-type: none"> Police Charging Station, police vehicles 1-2. Change school vans to electric this year? Current plan is to purchase used gas-powered vans –

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			<p>quantity 2.</p> <p>c. Bromfield heating electrification heat pump for RTUs.</p> <p>d. Mass Energize renewal.</p> <p>e. PowerOptions membership.</p>
	2. Specialized MA Stretch Building Code –Adopt in 2023.	Reviewing impact with key stakeholders	<p>Determine path forward. Create plan by Dec 2022. Goal to bring to Town Meeting for Spring 2023. DOER issued revised Specialized Stretch Building Code for public comment.</p> <p>Ellen/Brian/David met 5/22 with Stacia Donohue of Planning Board and Town Inspector Jeff Hayes and developed the plan below.</p> <p>9/13 - No update – pending training of Town Inspector Jeff Hayes</p> <p><u>Plan of action</u></p> <ol style="list-style-type: none"> 1. Plan for public education for Fall 2023 (early Nov). 2. Prepare/hold vote at April 2024 Town Meeting 3. Adopt code in effect for Jan 2025. <p>Stretch Code – Meeting planned for 11/14 to review plan to adopt the Opt In Specialized code. Town Inspector Jeff Hayes training on the change to the Stretch Code. Specialized code is a minor change to the Stretch Code.</p>
	3. Hire Municipal clean energy coordinator. (e.g., Sustainability Coordinator, Energy Manager)	No work yet.	<p>Define role and plan by Jun 2023.</p> <p>Evaluate options – shared or dedicated. - Ellen sent Draft Sustainability Job Description sent to HEAC for review. – Description, Brian to review and plan to submit for Town budget; combine with a grant writer position. – On Hold due to budget concerns.</p>
	4. Complete 2023 Annual Report	Update MEI Data	<p>David working on it. Brian to request assistance from MRPC as part of the support. Online Form is available through MEI for annual reporting. MEI data is done. MRPC can help for future MEI data instead of David Fay. New group purchasing and vendor changes. Deadline for Dec 1 and Brian to review.</p>
6	Renewable Electricity – Solar Photovoltaic Systems	Lead: David	Support: Brian
	Action	Status	Next Step
	1. SB Green Initiative Goal 1) Utilize the capital fund for at	Priority 1 - New COA	COA; PBC working with Energy Sage as a PV system broker. Town Meeting article approved for \$170k for direct

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least one solar PV project on a town-owned building	Purchase - IRA direct 30% ITC makes direct purchase more attractive	<p>purchase. Guy reported the system is expected to be 78kW. The 30% tax credit will be returned to Town as free cash flow (possibly a separate account for O&M of PV system or future projects). COA working with Marie to involve PowerOptions to satisfy the bidding options. Next Step - Waiting for review of PowerOptions/Select presentation by PBC. Select requires a LOI to proceed. No change – waiting for LOI from Select lawyer. Guy to follow up.</p> <p>Public Safety – The solar PV system is on hold pending replacement of a new roof within 10 years. Charles Oliver and Jeff Hayes are behind the CPIC application for a new roof and PV solar to be evaluated.</p> <p>Bromfield - Reviewed Bromfield with Patrick Harrigan – new roof planned within 5 years. Canopies are not ideal. There have been concerns about some roof areas. State program that pays for roof replacement in advance of solar PV systems – Select to evaluate – will need a grant writer. Next Step – find out roof timing. – Request details from SusanMary. Will need a study to evaluate concerns.</p> <p>New Field Complex – consider if there are any opportunities to add solar PV.</p>
2. SB Green Initiative Goal 2) Meet with HEAC on the status of their investigation into a municipal solar panel field to generate revenues	Select confirmed Stow Road gravel pit good for solar PV.	<ol style="list-style-type: none"> 1. Obtain PPA proposal from Select. – Pending Also part of Revenue Ideation committee. Select has assigned a new replacement for Steve Clairmont, Byron Woodman. David/Brian to setup call with Select to review status – scheduled for 6/29. Kara indicated the gravel pit is main priority for SB. Meeting held 6/29 with Select. Select to evaluate the electrical feeder connection. David to provide table of electrical use and allocation to different sources. Select define target size. Max size 3MW DC 2MW AC 3.3 GWh. Possible off-taker for Town CCA. – Waiting for Select input on the gravel pit project. Brian to investigate lack of response with Select Energy – Byron Woodman holding biweekly calls. David – preparing a one-page overview prior to individual projects. Gravel pit system exceeds the Town load and need a strategy for the space available. 2. Landfill Solar PV – DEP will require the Town to follow landfill closure requirements which requires monitoring wells. Forrest suggested that the cost of closure could be rolled into a Solar PV PPA. David will contact Select and

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			<p>Tighe and Bond (via Tim Bragan) to determine if this is possible.</p> <p>3. Town pump station ground mounted solar PV – review with Tim Bragan.</p>
	4. Prepare overall solar PV strategy.		<p>1. David revise strategy document to make a recommendation. Incorporate decisions for ownership model – when to buy vs PPA. Include plans for all viable systems for planning use by Town/CPIC. Include percentages for electric allocation from solar PV/ net metering credits and plan for future usage.</p> <p>2. Brian to prepare draft presentation for review with Kara and then report to the Select Board.</p> <p>3. Determine requirements for new buildings such as DPW and Fire Station.</p> <p>Overdue – need input from Solect on PV projects. David is preparing a draft strategy. Charles Oliver asked for interest in a solar farm to offer an advantage to town residents for projects on town land. This can be considered once a site is identified. A decision is to be made of the priority for solar PV projects on town property.</p> <p>Solect – Byron Woodman – Gravel Pit modeling PPA numbers – financially not as good as thought (28 cents per kWh) Requesting direct purchase option. If large it requires a battery installation and it doubles the price. Need approval by NGRID. Smaller project better chance of getting approved. Buy direct vs PPA. COA project – legal debate on wording. Need interconnect approval and SMART incentive approval.</p>
	4. Evaluate solar PV feasibility of remaining property. Hire 3 rd Party?	Informal evaluation of several sites done.	Discuss need for 3 rd party quote for Town evaluation. – Kara has list of possible sites. On Hold
	5. Battery Storage - Add to HES PV system and evaluate others; evaluate funding source.	No work yet.	<p>1. Establish project scope and owner. – Brian obtain assistance to justify project.</p> <p>David identified the demand charges need to be understood to justify the project (>\$15/kW).</p>
7	Renewable Electricity – Energy Supply	Lead: Ellen	Support: David
	Action	Status	Next Step
	1. Town Procurement evaluate renewable supply	Town Supply renewal due in Fall	DOER Climate Leaders program specifies 100% Class 1 Renewable option.

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	for Town Electric contract.	2024	
	Net Metering Credit Purchase Agreements	Multiple offers (3) have been received due to the number of recent interconnection of dormant projects. Std Offer is 10%; 20-year contracts.	<ol style="list-style-type: none"> Existing Athol array \$75k at 20% discount. Advise Town Procurement on a max NMC appetite \$300k (~kWh). Max credits shall be less than the total electric consumption. Negotiate more than 10% which is \$30k of the \$300k. Prefer a company that we have experience Oak Partners. The above recommendation will be provided by David Fay to Marie Sobalvarro to meet with the available companies. Require a cancellation clause. Voted 4-0 to make the above recommendation. – On Hold pending Select Board endorsement of Solar PV Strategy.
8	Streetlights – Replace with LED Fixtures	David	Brian
	Action	Status	Next Step
	2. Review with Historical Commission	Completed Jan-Mar 2022; Requested warmer light	Need final approval. No feedback received.
	3. NGRID install warmer light test fixture	Warmer fixture installed in the correct location.	<p>Determine plan for town wide fixture replacement.</p> <ol style="list-style-type: none"> Discussed dimming controls with NGrid – not feasible at this time. Best Option - Investigating shields with NGRID on the new pole. Examples are in Bolton with a shade. NGRID received approval to move one of the poles. Bromfield students are interested in a senior project around the installation of LED fixtures. <p>No change. HHC Rebecca Sewall to assist to determine status.</p>
		Meeting adjourned 9:20 pm (voted 5-0).	
	Future Meetings	2023: Dec 13; 2024: Jan 10, Feb 14, Mar 13 HEAC Meeting Location/Time: 8 pm. – Virtual until further notice	

Other Items

- CPIC forwarded questions regarding several project applications being review by the committee for HEAC input: Police Stations Solar PV, Library HVAC and Police Station Roof. There is a meeting on Sept 21 during which they would like to review the questions. HEAC will need time to prepare answers to the questions. Ellen may be able to attend part of the meeting. – **Brian to find out status**.

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2. MRPC has hired a grant writer to help member communities (Molly Singer, Dexterity Management). Select Board is preparing a grant writer position for approval at Spring Town Meeting.
3. Discuss pond pump 3- Phase power installation issues at next meeting. – The 3-Phase power will reduce the operating costs. The pond pump is currently broken.