

# Town of Harvard Energy Advisory Committee

BRIAN SMITH – CHAIR  
 DAVID FAY  
 FORREST HODGKINS  
 PETER KELLY-JOSEPH  
 ELLEN SACHS-LEICHER

ASSOCIATE MEMBERS:  
 STUDENT MEMBER:  
 LIAISONS:

GUY HERMANN  
 OPEN  
 KARA MINAR, SELECT BOARD  
 SUSANMARY REDINGER, SCHOOL COMMITTEE  
 SHARLENE CRONIN, CAPITAL PLANNING  
 TBD, FINANCE COMMITTEE  
 GUY HERMANN, PERMANENT BUILDING COMMITTEE

## Meeting Minutes 10/11/23

Attendees: B. Smith, F. Hodgkins, E. Sachs Leicher, Guy Hermann; Debra Skauen (guest)  
 Peter Kelly-Joseph, Kara Minar (late)

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: 876 9914 7888

- Admin
- HEAC approved the minutes of 9/13 3 -0 without comment.
  - School Committee liaison to HEAC is on hold pending finding a replacement for SC member Sharlene Cronin.
- 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. – <b>no change</b>
	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. – <b>no change</b>

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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>	<p>Not started.</p>	<p>Develop and issue RFP by Nov 2022.</p> <ul style="list-style-type: none"> <li>a. Brian ask John Snell about grant for RFP.</li> <li>b. Forrest ask DOER about Technical Assistance grant.</li> <li>c. Investigate MVP grant.</li> </ul> <p>Obtain funding and target plan by Sep 2023.</p> <ol style="list-style-type: none"> <li>1. 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</li> <li>2. 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.</li> <li>3. 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. <b>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</b></li> </ol>	

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			<p style="color: red;">meeting to review with all stakeholders.</p> <p>4. 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. efficiency.	Working to have audits performed at no charge – no options yet	<p>1. Coordinate with TBS building study.</p> <p>2. <span style="color: red;">Forrest/David working with UMASS (Ben Weiss) on a 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.</span></p>

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.	<p>1. 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.</p> <p>2. Discuss info gap about vehicle use, miles, lifecycle cost, etc.</p> <p>a. Ford Hybrid Interceptor – wait until Feb – in process</p> <p>b. CPIC – electric vehicle for future; wait until IRA incentives</p> <p>c. 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.</p> <p>d. Fire Chief purchased a vehicle.</p> <p>e. Federal IRA incentives may be available for Hybrid vehicles.</p>	
2. Identify candidates for replacement in short term.	Initially replacing police vehicles with Hybrids. Consider conversions to Hybrid of light or medium-duty	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.	

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		vehicles.	
<b>4</b>	<b>Vehicles – Charging Stations</b>	<b>Lead: Brian</b>	<b>Support: Peter</b>
	1. Create Charger Plan for Town use on Town property.	Feasibility reviews performed by ECI. Chargers are only partially funded if not public use.	Focus on Public Safety Building. 1. 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. 2. Determine if build-out (or any) will exceed electric supply? 3. 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.	1. ECI to process application to NGRID for certain locations. Focus on HES #2/TBS. Any data on usage? 2. Brian to issue latest plan. – no change 3. 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. – <span style="color: red;">Brian follow up with School Committee Abby Besse</span>

<b>5</b>	<b>Green Community Program – Meet Obligations and Maximize Grants</b>	<b>Lead: Brian</b>	<b>Support: Forrest/David</b>
	<b>Action</b>	<b>Status</b>	<b>Next Step</b>
	1. 2022 Block 2 Competitive grant.	In process	Library Weatherization Phase 2 and Vehicle Police Hybrid were the only 2 items on the application. 1/3/23 – DOER awarded GC Grant for \$10,000 for hybrid car and \$17,173 for Library Weatherization. 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. <span style="color: red;">Brian to close out project and</span>

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			reporting by end October.
Fall 2023 Block 2 Grant project ideas	Target list of project by Aug 2023.	<ol style="list-style-type: none"> <li>1. Bromfield pilot classroom project – Univent? Forrest explained that this is in the preliminary stages with ECI. <span style="color: red;">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.</span></li> <li>2. 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.</li> <li>3. Tentative list includes:                         <ol style="list-style-type: none"> <li>a. Police Charging Station, police vehicles 1-2.</li> <li>b. Bromfield Univents in classroom – Forrest to connect with Patrick H. Discuss with ECI to obtain retrofit for proof of concept installation. Forrest contact Chris Collins of ECI. Forrest held call with ECI for a scope to electrify the classroom loads away from the central boiler plant. ECI will discuss further with Patrick Harrigan. No significant energy savings; primary driver is electrification/decarbonization. Adds AC to classrooms. Project size dependent on grant max. Strategy to plan for a pilot project.</li> <li>c. Change school vans to electric this year? <span style="color: red;">Current plan is to purchase used gas-powered vans – quantity 2.</span></li> <li>d. Bromfield heating electrification heat pump for RTUs.</li> <li>e. Mass Energize renewal.</li> <li>f. PowerOptions membership.</li> </ol> </li> </ol>	
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. 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>	

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			<u>Plan of action</u> 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.
	3. Hire Municipal clean energy coordinator. (e.g., Sustainability Coordinator, Energy Manager)	No work yet.	Define role and plan by Jun 2023. 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.
	4. Complete 2023 Annual Report	Update MEI Data	David working on it. Brian to request assistance from MRPC as part of the support. <span style="color: red;">Online Form is available through MEI for annual reporting.</span>
<b>6</b>	<b>Renewable Electricity – Solar Photovoltaic Systems</b>	<b>Lead: David</b>	<b>Support: Brian</b>
	<b>Action</b>	<b>Status</b>	<b>Next Step</b>
	1. SB Green Initiative Goal 1) Utilize the capital fund for at least one solar PV project on a town-owned building	Priority 1 - New COA  Purchase - IRA direct 30% ITC makes direct purchase more attractive	<p><b>COA;</b> PBC working with Energy Sage as a PV system broker. Town Meeting article approved for \$170k for direct 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&amp;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/Solect presentation by PBC. Solect requires a LOI to proceed. <span style="color: red;">No change – waiting for LOI from Solect lawyer.</span> Guy to follow up.</p> <p><b>Public Safety</b> – The solar PV system is on hold pending replacement of a new roof within 10 years. <span style="color: red;">Charles Oliver and Jeff Hayes are behind the CPIC application for a new roof and PV solar to be evaluated.</span></p> <p><b>Bromfield</b> - Reviewed Bromfield with Patrick Harrigan – new roof planned within 5 years. Canopies are not ideal. There have been concerns about some roof areas. <span style="color: red;">State program that pays for roof replacement in advance of solar PV systems – Solect to evaluate – will need a grant writer.</span> Next Step – find out roof timing. – Request details from SusanMary. Will need a study to evaluate concerns.</p>

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			<b>New Field Complex</b> – consider if there are any opportunities to add solar PV.
2. SB Green Initiative Goal 2) Meet with HEAC on the status of their investigation into a municipal solar panel field to generate revenues	Solect confirmed Stow Road gravel pit good for solar PV.	<ol style="list-style-type: none"> <li>1. Obtain PPA proposal from Solect. – Pending Also part of Revenue Ideation committee. Solect has assigned a new replacement for Steve Clairmont, Byron Woodman. David/Brian to setup call with Solect to review status – scheduled for 6/29. Kara indicated the gravel pit is main priority for SB. Meeting held 6/29 with Solect. Solect to evaluate the electrical feeder connection. David to provide table of electrical use and allocation to different sources. Solect define target size. Max size 3MW DC 2MW AC 3.3 GWh. Possible off-taker for Town CCA. – Waiting for Solect input on the gravel pit project. Brian to investigate lack of response with Solect Energy – <span style="color: red;">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.</span></li> <li>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 Solect and Tighe and Bond (via Tim Bragan) to determine if this is possible.</li> <li>3. Town pump station ground mounted solar PV – review with Tim Bragan.</li> </ol>	
4. Prepare overall solar PV strategy.		<ol style="list-style-type: none"> <li>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.</li> <li>2. Brian to prepare draft presentation for review with Kara and then report to the Select Board.</li> <li>3. Determine requirements for new buildings such as DPW and Fire Station.</li> </ol> <p><span style="color: red;">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.</span></p>	

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	4. Evaluate solar PV feasibility of remaining property. Hire 3 <sup>rd</sup> Party?	Informal evaluation of several sites done.	Discuss need for 3 <sup>rd</sup> 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.	1. Establish project scope and owner. – Brian obtain assistance to justify project. David identified the demand charges need to be understood to justify the project (>\$15/kW).
<b>7</b>	<b>Renewable Electricity – Energy Supply</b>	<b>Lead: Ellen</b>	<b>Support: David</b>
	<b>Action</b>	<b>Status</b>	<b>Next Step</b>
	1. Town Procurement evaluate renewable supply for Town Electric contract.	Town Supply renewal due in Fall 2024	DOER Climate Leaders program specifies 100% Class 1 Renewable option.
	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.	1. Existing Athol array \$75k at 20% discount. 2. 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.
<b>8</b>	<b>Streetlights – Replace with LED Fixtures</b>	<b>David</b>	<b>Brian</b>
	<b>Action</b>	<b>Status</b>	<b>Next Step</b>
	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.	Determine plan for town wide fixture replacement. <ol style="list-style-type: none"> <li>1. Discussed dimming controls with NGrid – not feasible at this time.</li> <li>2. Best Option - Investigating shields with NGRID on the new pole. Examples are in Bolton.</li> <li>3. NGRID received approval to move one of the poles.</li> </ol>

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		4. Bromfield students are interested in a senior project around the installation of LED fixtures. No change
		Meeting adjourned 9:12 pm (voted 5-0).
Future Meetings	2023: Nov 8, Dec 13 HEAC Meeting Location/Time: 8 pm. – Virtual until further notice	

### Other Items

1. HEAC received an invitation to have a member serve on a new Transfer Station committee. Brian notified Julie Doucet that the charter of the new committee does not seem to align with HEAC's goals and that they likely intended to invite someone from HCIC. Kara noted that they may have been thinking about the future solar PV on the landfill project which will not start until the Town meets the DEP's landfill closure requirements. The landfill project is not listed in the charter of the Transfer Station Committee. Kara will follow with the Select Board.
2. 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.
3. 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.
4. Historical Commission requested a liaison from HEAC to supporting applications for energy related issues.
5. Discuss pond pump 3- Phase power installation issues at next meeting.