

# 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 8/9/23

Attendees: B. Smith, F. Hodgkins, E. Sachs Leicher, Guy Hermann; Debra Skauen (guest)

Location: This Meeting was held virtually in accordance with Chapter 2 of the Acts of 2023, An Act Making Appropriations for the Fiscal Year 2023 to Provide for Supplementing Certain Existing Appropriations and for Certain Other Activities and Projects, and signed into law on March 29, 2023  
Zoom Meeting ID: 812 9890 2354

Admin 1. HEAC approved the minutes of 7/19 4-0 without comment.  
2. CPIC forms due 9/1.  
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"> <li>Brian ask John Snell about grant for RFP.</li> <li>Forrest ask DOER about Technical Assistance grant.</li> <li>Investigate MVP grant.</li> </ol> <p>Obtain funding and target plan by Sep 2023.</p> <ol style="list-style-type: none"> <li>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 3 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>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 ensure continuity of ventilation service and adds AC. The incentives are lower for this option.</li> <li>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.</li> <li>Bromfield RTU replacement – School Committee submitted a plan for \$3M to replace a large number of units. – on hold pending heat pump option.</li> <li>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</li> </ol>

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			buildings and obtain quotes through a consultant.
	2. Define objective of audits – electrification vs. efficiency.	Working to have audits performed at no charge – no options yet	1. Coordinate with TBS building study.

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.	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. 2. Discuss info gap about vehicle use, miles, lifecycle cost, etc. – a. Ford Hybrid Interceptor – wait until Feb – in process b. CPIC – electric vehicle for future; wait until IRA incentives 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. d. Fire Chief purchased a vehicle. e. 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 <b>Peter to request Dept heads to identify vehicle replacement candidates.</b> 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.	Focus on Public Safety Building. 1. Obtain quote for Fast charger from ECI for police cruisers. –

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		Chargers are only partially funded if not public use.	<p>– Quote received. Cost \$125k total less \$50k incentive = \$75k from town. Provide to Chief Babu to include in capital plan. – <b>no change</b></p> <p>2. Determine if build-out (or any) will exceed electric supply?</p> <p>3. <b>Workplace chargers – ask Town depts.</b></p>
	2. Create Charger Plan for public use on Town property	Feasibility reviews performed by ECI. DC Fast chargers are only partially funded.	<p>1. ECI to process application to NGRID for certain locations. Focus on HES #2/TBS. Any data on usage?</p> <p>2. Brian to issue latest plan. – <b>no change</b></p> <p>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. <b>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.</b></p>

<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	<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; <b>NGRID inspected the work.</b></p>
	Fall 2023 Block 2 Grant project ideas	Target list of project by Aug 2023.	<p>1. Bromfield pilot classroom project – Univent?</p> <p>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.</p> <p>3. Brian to obtain grant guidelines and forward to HEAC for review. – <b>Guidelines sent to HEAC</b></p> <p>4. Tentative list includes:</p> <p>a. Police Charging Station, police vehicles 1-2.</p>

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			<p>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. <b>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.</b></p> <p>c. Change school vans to electric this year? <b>NA – purchase used gas powered vans.</b></p> <p>d. Bromfield heating electrification heat pump for RTUs.</p> <p>e. Mass Energize renewal.</p> <p>f. 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. Ellen/Brian/David met 5/22 with Stacia Donohue of Planning Board and Town Inspector Jeff Hayes and developed the plan below.</p> <p><u>Plan of action</u></p> <ol style="list-style-type: none"> <li>1. Plan for public education for Fall 2023 (early Nov).</li> <li>2. Prepare/hold vote at April 2024 Town Meeting</li> <li>3. Adopt code in effect for Jan 2025.</li> </ol>
	3. Hire Municipal clean energy coordinator. (e.g., Sustainability Coordinator, Energy Manager)	No work yet.	<p>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.</p>
6	<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	Priority 1 - New COA	<b>COA</b> ; 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&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. <b>No change – waiting for LOI from Solect. Guy to follow up.</b></p> <p><b>Public Safety</b> – The solar PV system is on hold pending replacement of a new roof within 10 years.</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. Next Step – find out roof timing. – Request details from SusanMary. Will need a study to evaluate concerns.</p> <p><b>New Field Complex</b> – 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	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. – <b>Waiting for Solect input on the gravel pit project.</b></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</li> </ol>

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			percentages for electric allocation from solar PV/ net metering credits and plan for future usage. 2. Brian prepare draft presentation for review with Kara and then report to the Select Board. 3. Determine requirements for new buildings such as DPW and Fire Station.
	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 finalize 100% renewable supply as default option starting Nov 2022.	Completed Town selected one year term expires Nov 2023.	DOER Climate Leaders program specifies 100% Class 1 Renewable option. Include for renewal in Q3 2023.
	2. Support selection/ execution of plan expiring Nov 2023.	Marie Sobalvarro has executed renewal with Colonial Power	The Town has agreed to a renewal for 24 months with default plan 100% renewable from Nov 23 to Nov 25. <b>No further action.</b>
	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>

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	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> <li>4. Bromfield students are interested in a senior project around the installation of LED fixtures.</li> </ol> No change
		Meeting adjourned 8:50 pm (voted 4-0).	
	Future Meetings	2023: 14, Sep 13, Oct 11 HEAC Meeting Location/Time: 8 pm. – Virtual until further notice	

### Other Items

1. Chapter 40B development developer will attend HCIC meeting 8/10. Building will only have solar PV and heat pumps for heating, cooling and water [no fossil fuel].
2. Revenue Ideation – consider PV Solar opportunities above.