



TOWN OF LINCOLN

MIDDLESEX COUNTY MASSACHUSETTS

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MEMORANDUM

To: Lincoln Select Board
Library Trustees
Green Energy Committee
Finance Committee
Capital Planning Committee
Community Preservation Committee

From: Daniel Pereira, Asst. Town Administrator

CC: Tim Higgins, Town Administrator
Colleen Wilkins, Finance Director
Brandon Kelly, Facilities Director
Beth Greenblatt, Beacon Integrated Solutions

Date: September 11, 2026

Subject: Final Evaluation of Library Decarbonization Options

In July, town staff presented a [summary of the continued evaluation of Library HVAC/decarbonization options](#), including updated project cost estimates, available incentives, procurement pathways, and a recommendation to continue working through the PowerOptions/Energy Systems Group (ESG) program. All relevant boards agreed to move forward with the PowerOptions program and requested additional information regarding projected energy and emissions impacts and final project costs.

Since that meeting, staff have continued working with PowerOptions/ESG, Energy Tax Savers, Beacon Integrated Solutions, and other project partners to further refine the project scope, cost assumptions, incentives, and projected energy and emissions impacts. The updated information is summarized below.

Project Budget Summary

The [updated budget comparison](#) tracks the cost of both the ground source heat pump/decarbonization option and the conventional high-efficiency boiler/AHU replacement option from January through August.

For the ground source heat pump/decarbonization option, the August estimate shows a total project cost of approximately \$6.25 million before incentives. After accounting for approximately \$2.55 million in anticipated incentives and grants, including the \$1 million Climate Leader Decarbonization Accelerator grant, the estimated net project cost is approximately \$3.70 million, a \$1.20 million increase since the January estimate. While the Town expects to receive additional incentives under the Eversource/Mass-Save program, the value of those incentives will not be known until the Town undertakes further technical analysis with Eversource. Therefore, the net project cost does not include those anticipated additional incentives.

For the conventional replacement option, the updated estimate shows a total project cost of approximately \$3.32 million. Because this option does not receive the same decarbonization incentives, the gross and net project costs are effectively the same.

The updated budget also identifies several scope and cost refinements since the earlier estimates, including additional or clarified costs related to ADA work, contingency, and broader project-level costs such as engineering, project management, construction management, commissioning, measurement and verification, bonds, overhead, and profit. The budget also currently carries approximately \$500,000 in potential electrical upgrade costs, including transformer and feeder work and a potential emergency generator. These items may not ultimately be necessary, but they remain in the project budget until the Town can confirm their necessity with Eversource in the coming weeks.

The updated comparison shows that the cost delta between the ground source heat pump option and the conventional option narrows significantly when incentives are considered, but the GSHP+ option remains more expensive. After currently identified incentives and grants are applied, the net difference is approximately \$373,000. If construction is delayed and market escalation is applied, the net difference increases to approximately \$476,000. ESG's proposed not-to-exceed pricing could provide greater cost certainty if the project proceeds through the PowerOptions program on the current timeline. Because the contract remains under negotiation, the Town should confirm the price cap, defined scope and exclusions, change-order limits, treatment of contingencies and allowances, and appropriate performance guarantees and measurement and verification requirements before making a final funding commitment.

Funding Strategy

The Town will need to evaluate a funding strategy that may include a combination of Community Preservation Act funds and Town Stabilization funds. The final recommendation should consider both CPA and stabilization fund capacity, the amount of borrowing or cash funding required, and the impact of each option on taxpayers and future capital flexibility.

Energy and Emissions Summary

The latest [energy and emissions analysis](#) compares the existing Library systems against two potential replacement options: a ground source heat pump/decarbonization option and a conventional high-efficiency boiler/AHU replacement option.

The analysis shows that the ground source heat pump option provides the strongest energy and emissions benefits. Compared with the actual utility baseline, the ground source heat pump option is projected to reduce total annual energy use by approximately 657 MMBtu. By comparison, the conventional replacement option is projected to reduce total annual energy use by approximately 104 MMBtu.

The ground source heat pump option would also eliminate on-site natural gas use for the Library HVAC system, while the conventional option would continue to rely on fossil fuel combustion. As a result, when compared against actual utility baseline, the ground source heat pump option projects annual greenhouse gas emissions reductions of approximately 32 metric tons of CO₂e, compared with approximately 8 metric tons of CO₂e for the conventional option.

The energy cost savings are limited and are more than offset by anticipated O&M and measurement and verification costs after the first year. This is because the ground source heat pump option shifts building heating from natural gas to electricity. The model shows that electricity use and electric demand would increase under the ground source heat pump option, while natural gas use would be eliminated. ESG has recommended evaluating a change from the current demand electric tariff to a non-demand tariff, if permitted by Eversource, because that rate structure may better match future building operations and reduce operating costs. The Town has confirmed that the building would qualify for the non-demand rate

tariff, which may help reduce future operating costs but does not change the overall conclusion that the project is not expected to generate net annual operating savings.

The updated budget comparison also shows that neither option is expected to generate net annual operating savings once anticipated energy, operations and maintenance, and measurement and verification costs are considered. The GSHP+ option is projected to generate approximately \$2,200 in annual energy cost savings, but this is more than offset by estimated annual O&M (operations & maintenance) and M&V (measurement and verification) costs after the first year, resulting in an estimated net annual cost increase of approximately \$8,500. The conventional replacement option is projected to generate approximately \$3,800 in annual energy cost savings, but estimated O&M and measurement and verification costs result in an estimated net annual cost increase of approximately \$10,200. These figures reinforce that the GSHP+ project should not be evaluated primarily as a near-term operating cost savings project, but rather as a decarbonization, emissions reduction, building modernization, and long-term infrastructure investment.

Overall, the energy and emissions data support the conclusion that the ground source heat pump option is the stronger decarbonization strategy. The conventional option has a substantially lower gross project cost, and after currently identified incentives are applied, the GSHP+ option remains approximately \$373,000 more expensive. The key financial concerns are therefore the higher net cost of the GSHP+ option, the fact that neither option is expected to generate net annual operating savings, and the significant increase in the GSHP+ project budget as the scope has been refined. The conventional option would provide some energy efficiency improvement at a lower cost, but it would not provide the same emissions reduction, fossil fuel elimination, or alignment with the Town's climate goals.

Considerations / Next Steps

Town boards are now being asked to evaluate the final project budget for the Library GSHP+ decarbonization project and determine whether it should be recommended to Town Meeting in October. The GSHP+ option provides the strongest decarbonization and emissions benefits, primarily by eliminating on-site natural gas use and reducing total annual energy use measured in MMBtu. However, because the project shifts heating load to electricity and adds anticipated O&M and measurement and verification costs after the first year, the project is not expected to generate net annual operating savings.

Because the GSHP+ option cost has increased by \$1.20 million, remains approximately \$373,000 more expensive than the conventional option after currently identified incentives, and is no longer expected to generate net annual operating savings, this updated budget warrants a full reanalysis by the Town's financial boards before any final recommendation is made. That review should consider the final project cost, available incentives, potential CPA and stabilization funding sources, long-term energy and emissions benefits, operating costs, debt or cash-flow impacts, and the financial tradeoffs compared with a conventional HVAC replacement.

If the Town chooses to move forward with the GSHP+ project, the final contract with ESG must include strong protections to ensure the project can be delivered within the budget being presented to Town Meeting. Those protections should include clear not-to-exceed pricing, a well-defined scope of work, transparent assumptions, allowances, and contingencies, limits on change orders, clear responsibility for unforeseen conditions, performance guarantees, measurement and verification requirements, and confirmation of incentive and domestic-content assumptions.