

Boston Green Ribbon Commission

BOSTON GREEN RIBBON COMMISSION REQUEST FOR PROPOSALS (RFP)

Boston-Area Thermal Energy Network (BosTEN) Feasibility Assessment

IMPORTANT DATES:

EVENT	DATE
RFP issued	April 1, 2026
Written questions due	April 13, 2026 by 12:00pm
Applicants Q&A webinar	April 14, 2026, from 1:00-2:00pm EDT
Proposals Due	April 29, 2026, by 5:00pm EDT

The full RFP schedule is available in Section 8.

QUESTIONS:

Questions regarding this RFP can be submitted in writing to home@greenribboncommission.org no later than 12:00pm EDT on April 13, 2026.

We will also host an informational webinar for interested applicants on April 14, 2026, from 1:00-2:00pm EDT to provide a brief overview of the RFP and an opportunity to ask clarifying questions regarding the scope, technical requirements, and submission process.

Participation is optional but encouraged. Register for the informational webinar here:

<https://us06web.zoom.us/meeting/register/qtQb8uz0TmKINUzUqRDD2A>.

Written answers to all questions received by the April 13th deadline and/or during the Q&A webinar will be shared with interested applicants shortly thereafter.

You can access this RFP and related documents on the Boston Green Ribbon Commission website, at www.greenribboncommission.org/cleanthermalRFP.

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1. Project Summary

The Boston Green Ribbon Commission (GRC) is a voluntary leadership network whose mission is to accelerate implementation of the City of Boston's Climate Action Plan by convening, organizing, and enabling leaders from Boston's key sectors. The GRC's 40 CEO-level members represent major sectors including the City of Boston, the Commonwealth, commercial real estate, higher education, healthcare, utilities, renewable energy, finance, and consulting.

The GRC, via its fiscal agent the Innovation Network for Communities (INC), is seeking a qualified engineering firm or technical consultant (“Lead Technical Consultant” or “Consultant”) with demonstrated expertise in ground- and water-source heat pump-driven thermal energy networks (TENS) to conduct a comprehensive feasibility study for developing clean thermal infrastructure in the Boston metropolitan area. This project is supported by a generous grant from the Massachusetts Clean Energy Center (MassCEC) and the City of Boston.

Over the last five years, Boston has averaged 16 days with temperatures over 90 degrees F. By 2070, the city is expected to have as many as 90 days of 90 degree temperatures. With a weakening Jet Stream, the city has seen greater variability in cold temperatures during the winter. With this understanding, this study will explore the technical, regulatory and economic feasibility of using thermal energy from Boston-area water and ground sources below the river to support a transition away from the use of natural gas. The resulting report will provide needed information for policy makers to select the best method(s) for further investigation and potential enactment.

Massachusetts' Clean Energy and Climate Plan requires that by 2050, more than 80% of buildings transition to efficient electric heating systems. Achieving this goal represents a major systems challenge: retrofitting over two million homes and businesses within 25 years while simultaneously upgrading energy infrastructure and maintaining affordable energy costs. To meet this challenge while minimizing stranded assets, the Commonwealth must move beyond building-by-building decarbonization toward coordinated, street-segment and district-scale solutions. Clean thermal networks are one potential tool to support this transformation.

The transition away from natural gas in the Boston region will require fundamentally rethinking how heating and cooling are delivered, with a focus on scalable, low-carbon thermal solutions. This shift will unfold over decades in multiple phases, beginning with large energy users (“anchor institutions”) and expanding into surrounding neighborhoods. Starting with anchor institutions offers important advantages: their scale and capital capacity may support early investment, enabling lower-cost incremental expansion over

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time, stimulating the market, and helping to reduce overall energy costs for future participants. Thermal Energy Networks (TENs) represent a particularly promising pathway to decarbonize heating and cooling at scale, while laying the groundwork for a more connected and equitable thermal energy system.

This project focuses on a critical early phase of that transition: identifying and evaluating new sources of clean thermal energy that support TEN development and serve anchor institutions as initial hubs. To advance this work, the project is being implemented in partnership with a diverse portfolio of large thermal energy users – including higher education, health care, commercial real estate, and governmental and quasi-governmental institutions – located near the water bodies being assessed, with the goal of enabling expansion into surrounding communities over time.

These anchor institutions operate a wide variety of legacy heating and cooling systems and are at different stages in developing long-term thermal decarbonization strategies. Many have already assessed the extent to which on-site thermal resources – such as geothermal, water-based thermal, and waste heat recovery – could meet their current and projected future needs. In most cases, these analyses indicate that on-site resources alone can supply only a limited share of total demand.

For clean thermal to be viable at scale, anchor institutions will need access to additional sources of clean thermal energy located beyond their property boundaries. These external resources must be cost-effective and capable of meeting the temperature, load, and operational requirements of evolving legacy systems, which will vary significantly by customer.

The targeted thermal reservoirs for assessment include:

- Water in the Charles River, Mystic River, Boston Harbor, and Fort Point Channel as sources; and
- Bedrock beneath the Charles and Mystic Rivers as thermal sources and sinks that could be accessed through inclined drilling or other emerging drilling techniques.

Attachment A includes additional detail on the Boston area targeted thermal reservoirs for assessment.

For these thermal reservoirs, the study will address five core questions:

1. **Thermal Supply.** How much thermal energy can be reliably extracted from or, in the case of bedrock, also stored in the targeted thermal reservoirs?

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2. **Thermal Distribution and Energy Exchange.** How can this energy be cost-effectively distributed to potential users, while also capturing and redistributing waste heat from buildings and other sources? How can these flows be integrated with existing district or campus energy systems to optimize overall system energy balance in the near, medium, and long term, and what phased distribution infrastructure strategy would enable staged expansion aligned with institutional readiness and capital planning cycles?
3. **Thermal Demand and System Energy Balance.** For heating and cooling, what is the potential phased demand among anchor institutions, and how does that demand align with opportunities to recover and reuse excess or waste energy? Is the combined load profile – accounting for both consumption and recoverable thermal output – sufficient to justify capital investment in extraction, storage, distribution and end-use infrastructure?
4. **Investment Opportunities.** Where technical, economic, and regulatory feasibility is demonstrated, what next steps are needed to advance these opportunities toward projects that are ready for investment?
5. **Regulatory and Permitting Barriers.** What regulatory and permitting challenges apply to the proposed thermal energy networks, and what policy or regulatory changes would be needed to enable their development and operation?

Partnering with anchor institutions as early adopters of district-scale clean thermal supply systems will create a learning environment that supports the development of workforce capacity, supply chains, and institutional knowledge, enabling cities and the Commonwealth to scale clean thermal networks rapidly and cost-effectively.

Successful implementation of this work will yield multiple benefits, including:

- Reduced local emissions and improved public health outcomes through the displacement of on-site fossil fuel use;
- Reduced demand for natural gas;
- Reduced electricity consumption for heating and cooling; and
- The creation of clean thermal supply networks that can be extended over time to additional customers, including residential neighborhoods.

The GRC recognizes the rapid evolution of thermal energy network technologies, including the emergence of “fifth-generation” thermal energy networks (5G TENs). These systems interconnect building-level heat pumps through ambient-temperature water loops and can operate at significantly higher efficiencies than fossil fuel systems, traditional district energy systems, and standalone air-source heat pumps by balancing heating and cooling loads across the network. Their modular design enables phased expansion.

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The project team anticipates that 5G TEN systems that evolve over time may be the best solution for delivering new clean thermal infrastructure and some Boston-area anchor institutions are exploring moving toward 5G TENs. However, many anchor institutions currently rely on legacy systems that are not currently compatible with ambient, bi-directional networks or are pursuing alternative independent decarbonization pathways. Given this variety of existing conditions and options for clean distribution networks, the appropriate solution and phasing in period may differ by institution.

As a result, the GRC seeks a lead consultant or team with demonstrated expertise in ambient-temperature systems and in hot-water and ambient-temperature systems, river- and seawater-source heat pumps, geo-exchange, waste heat recovery, and district energy systems more broadly.

Partners

The anchor institutions described above may serve as early adopters of new thermal energy networks. Their detailed building data will ground the analysis and inform a replicable set of technical and financial options that can be applied across multiple sites to support both initial deployment and future expansion. Additional core project stakeholders include MassCEC; the cities of Boston, Cambridge, Medford, and Somerville; regulated utilities (Eversource and National Grid); and the local district energy provider (Vicinity Energy). Attachment B provides more detail on project partners and stakeholders.

2. Scope of Services

The selected Lead Technical Consultant will serve as the prime technical contractor and will be responsible for integrating engineering, techno-economic, and systems analysis across the following deliverables, encompassing clean thermal supply, distribution, demand, and investment opportunity analysis. The selected Consultant will also assess regulatory authority, permitting pathways, and utility oversight considerations necessary to enable deployment of clean TENs in Massachusetts.

While these deliverables are described in sequential order, it is understood that the analysis will need to be iterative and address the questions of supply, distribution and demand in an integrated way at multiple levels of detail. Early in the project schedule it will be important for the Consultant to provide a high-level assessment of the system design options that can address supply, distribution and demand feasibility, as a way of beginning to narrow the scope on the options that should be addressed at a higher level of detail.

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Deliverable 1 – Clean Thermal Supply

Key Question 1: *How much clean thermal energy can be reliably extracted from or stored in the targeted thermal reservoirs?*

The Consultant will conduct comprehensive analysis for each of the targeted thermal sources (Charles/Mystic River water/bedrock and Fort Point Channel and the Boston Harbor), including:

- Estimate of seasonal peak and capacity of each thermal reservoir.
- Ability of thermal reservoir capacity to meet estimated thermal demand.
- Assessment of the available and most economical technology to extract thermal energy from each thermal reservoir.
- For each reservoir, projected installed cost per MMBtu of thermal energy supplied to the distribution system by each thermal extraction/exchange option.
- The willingness of the organizations that own and control each thermal reservoir to consider its use.
- Installation timeline for required thermal extraction/exchange infrastructure.
- Potential technical, cost, and other implementation challenges.
- Potential emission reductions over time if a phased thermal network plan is enacted, with a focus on potential emission reductions from promising sites identified through the other key questions.

Deliverable 2 – Clean Thermal Distribution and Energy Exchange

Key Question 2: *How can this energy be cost-effectively distributed to potential users, while also capturing and redistributing waste heat from buildings and other sources? How can these flows be integrated with existing district or campus energy systems to optimize overall system energy balance in the near, medium, and long term, and what phased distribution infrastructure strategy would enable staged expansion aligned with institutional readiness and capital planning cycles?*

The Consultant will perform an analysis of:

- Options for design of clean thermal distribution systems that can connect with potential early stage customers (existing demand and demand from new developments) in a cost effective manner, including identification of priority Phase 1 corridors, enabling infrastructure required for later expansion, and decision points that trigger subsequent phases. Recognizing that participating institutions operate diverse legacy steam, hot-water, and chilled-water systems, the analysis will evaluate multiple integration pathways rather than presuming compatibility with a single network typology.

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- Key infrastructure challenges of transporting clean thermal supplies from the source to the user, including the inherent difficulties of installing new underground infrastructure in a dense urban setting.
- The distribution system installation speed and costs for each network, in ways that meet anticipated future load demands from potential customers. The analysis should include a recommended phasing schedule for distribution buildout, identifying logical sequencing of trunk lines, interconnections, and expansion segments to minimize stranded assets and optimize capital deployment.
- The Consultant shall evaluate the extent to which proposed clean thermal supply and distribution configurations require dedicated backup generation, on-site energy storage, microgrid integration, or other resilience measures to maintain critical heating and cooling services during grid outages.
- Identification of specific locations for distribution infrastructure, especially exit points from water bodies.
- The key challenges – including technical, policy, and regulatory challenges – of installing the needed distribution systems.
- Estimated delivered cost per MMBtu of thermal energy from the proposed distribution system(s), assuming the costs are amortized over the lifetime of the system(s), in consultation with the Department of Public Utilities and local utilities as relevant.

Deliverable 3 – Thermal Demand and System Energy Balance

Key Question 3: For heating and cooling, what is the potential phased demand among anchor institutions, and how does that demand align with opportunities to recover and reuse excess or waste energy? Is the combined load profile – accounting for both consumption and recoverable thermal output – sufficient to justify capital investment in extraction, storage, distribution and end-use infrastructure?

The Consultant will work with identified anchor institutions and relevant planning and development stakeholders to evaluate current thermal demand and conduct a market potential analysis. This analysis should also incorporate projected future development to inform energy demand forecasts and assess the overall economic viability of new clean thermal services, including:

- How the institution’s applicable buildings could connect to new clean thermal supply infrastructure in phases, and how aggregated institutional demand growth should inform the sequencing of network expansion, and building retrofits, and capital investment.
- The estimated total future thermal demand (in terms of needed peak, base load and annual cumulative thermal load) for new clean thermal energy.

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- Identification of the potential pre-existing local heating and cooling assets that could be connected to the local thermal network as backup supplemental assets, including costs to interconnect and run the assets, heating/cooling capacity, emissions, water use, and estimated lifetime.
- Identification of the types of energy uses that the proposed thermal network could not meet in a financially viable way.
- Identification of adjacent communities that would be good candidates for network extensions and expansions.

The GRC will work in collaboration with the Consultant and the participating municipalities to facilitate the development of these property owner data sets. The resulting data will be shared under a standard form NDA between the consultant and the individual anchor institutions, to protect the confidentiality of the owners.

Deliverable 4 – Investment Opportunities Framework

Key Question 4: *For those new thermal opportunities where feasibility is validated by the technical, and economic analysis, what next steps will help convert those opportunities into projects ready for investment?*

The Consultant will recommend a framework for assessing the cost effectiveness of thermal networks in a way that quantifies avoided costs and anticipated future reductions in marginal costs due to improvements in engineering know-how, technology, supply chains and other production factors. The goal will be to have a standardized way of comparing the “Levelized Cost of Energy” (LCOE) for thermal networks with other forms of energy that can meet our state’s emissions mandates while providing heating and cooling services. The cost effectiveness framework should account for the financial implications of maintaining thermal service during electric grid outages, particularly for healthcare, research, and other mission-critical institutional facilities. This framework will help private and public investors make informed decisions about how and when to invest in thermal network projects.

The cost effectiveness framework will be used by the project to assess the economic feasibility of each identified opportunity to connect users to targeted thermal sources through viable distribution and temperature configurations appropriate to each institution. For new thermal supply opportunities where feasibility is validated, the Consultant will provide a phased implementation roadmap identifying concrete near-term economically viable investment opportunities to achieve early successes from which to build, mid-term system expansion phases, and long-term network scaling pathways.

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Deliverable 5 – Regulatory and Policy Analysis

Key Question 5: *What regulatory and permitting challenges apply to the proposed thermal energy networks, and what policy or regulatory changes would be needed to enable their development and operation?*

This Consultant will assess the city, state, and federal regulatory and permitting landscape governing the proposed TENs in Massachusetts and identify the policy changes needed to enable their development and operation. The Consultant will analyze the applicability of existing statutes, regulations, and precedent – including oversight by the Massachusetts Department of Public Utilities (DPU), distinctions among gas, electric, steam, and thermal services, and relevant utility definitions, franchising structures, and service obligations – to clarify how TENs are currently treated under state law.

The analysis will also evaluate allowable ownership and business models, including utility-owned and rate-based systems, third-party-owned networks, and public–private partnership structures. The Consultant will assess which business models are permissible under current laws and regulations, identify constraints, and determine what changes may be required to enable new TENs projects.

In parallel, the Consultant will map permitting and approval pathways at the municipal, state, and federal levels, including rights-of-way access, environmental and waterways permits, MEPA review, and coordination with existing utility infrastructure. A comparative review of regulatory frameworks in other U.S. and international jurisdictions with established thermal networks will identify transferable concepts and best practices.

The task will culminate in clear, actionable recommendations outlining regulatory actions possible under existing authority, areas requiring legislative reform, and a sequenced implementation pathway for pilots, rulemakings, or demonstration projects, including defined roles for utilities, municipalities, and state agencies.

3. Required Qualifications and Expertise

The selected Consultant must demonstrate comprehensive expertise in thermal energy network planning, design, and implementation. The following qualifications are required:

General Requirements

- Proven experience with the design, engineering, modeling, implementation and/or operation of water-source and/or geo-exchange thermal systems.
- Experience working with large institutional or campus-scale energy users.

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- Ability to conduct techno-economic feasibility analyses suitable for public-sector and investor audiences.
- Experience collaborating with regulated utilities and public agencies.

Thermal Energy Network Design and Operations

- Demonstrated experience designing, installing, and/or operating clean thermal energy networks, and campus- or district-scale clean thermal systems.
- Knowledge of thermal network control systems, monitoring, and operational optimization.
- Experience with TENs expansion planning and interconnection strategies.

Thermal Reservoir Technologies

The Consultant must have direct experience with designing and/or operating infrastructure to access multiple thermal reservoir types including two or more of the following:

- Seawater systems and marine thermal extraction.
- River water thermal extraction systems.
- Shallow geothermal (including inclined borehole arrays).
- Thermal conductivity testing and geological assessment.

Urban Infrastructure Installation

- Design and installation of underground infrastructure in dense urban environments.
- Understanding of urban construction logistics and disruption minimization.
- Coordination with municipal planning and public works departments.

Permitting and Regulations

- Experience with utility regulation, preferably in Massachusetts or New England.
- Familiarity with public utility ratemaking and cost recovery.
- Experience analyzing novel or emerging utility services.
- Understanding of energy infrastructure permitting related to accessing the targeted thermal reservoirs (e.g., rivers, harbor waters, wastewater, and bedrock geo-exchange).

Additional Required Expertise

- Economic modeling and life-cycle cost analysis for thermal energy network systems.
- Experience evaluating the implications of thermal energy networks on electricity demand.
- Heat pump technology integration and specification.

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- Building retrofit and interconnection analysis.
- Utility coordination and integrated energy planning.
- Experience evaluating options for maintaining service during grid outages.
- Environmental impact assessment.
- Ability to provide clear, policy-relevant recommendations.
- Ability to provide communications materials clearly understandable to the general public.

Team Composition

- Lead project manager and technical director with relevant TENs experience.
- Key personnel with specific expertise areas (thermal systems, geotechnical, regulatory, economic).
- Resumes and relevant project experience for all key team members.
- Any subcontractors and their areas of responsibility.

4. Project Timeline, Budget and Process

The project will be completed within 12 months of contract signing unless the contractor and the Green Ribbon Commission decide to extend the project end date.

The total contract amount will not exceed \$320,000.

Anchor institution partners will provide in-kind support through staff time for data collection, building analysis, and demand assessment.

A Technical Advisory Group will provide feedback to GRC throughout the project related to complex technical issues that shape the feasibility and scalability of clean thermal systems. A Stakeholder Advisory Group will provide feedback as potential offtakers related to economics, thermal supply, thermal demand, thermal distribution, and regulatory and permitting issues.

The Lead Technical Consultant will:

- Participate in project kickoff, midpoint, and final convenings.
- Coordinate closely with the GRC project management team.
- Engage regularly with relevant utilities and anchor institutions and periodically with the project Stakeholder and Technical Advisory Boards.
- Be expected to submit interim drafts of key deliverables for GRC's review and approval, allowing sufficient time to accommodate this process.
- Participate in public presentations of the report and findings.

5. Proposal Submission Requirements

Proposals shall include:

- **Cover Letter**
 - Consultant name, primary contact, and statement of interest
- **Consultant Qualifications and Relevant Experience**
 - Alignment of firm experience with required expertise, including description of relevant projects, particularly involving water-source thermal or TENS
- **Proposed Team and Roles**
 - Identification of key personnel and any subconsultants with resumes
 - Description of roles and responsibilities
- **Technical Approach and Work Plan**
 - Methodology for each deliverable
 - Key assumptions, analytical tools, and modeling approaches to be used
 - Proposed schedule aligned with the 12-month project timeline
- **Methodology and Best Practices for Key System Design Issues**
 - Identifying optimal locations for thermal energy networks in urban environments
 - Criteria for thermal reservoir selection and evaluation
 - Assessing thermal density and demand diversity for site viability
 - Evaluating accessibility of thermal resources vs. proximity to demand
 - Underground space availability and infrastructure conflict analysis
 - Geological and geotechnical assessment priorities
 - Identification of anchor institutions and their role in system viability
 - Environmental and regulatory considerations in site selection
 - Community engagement and stakeholder analysis for site development
- **Budget and Fee Proposal**
 - Not-to-exceed cost with task-level breakdown
 - Identification of any anticipated reimbursable expenses
- **Examples of Relevant Past Work and References**
 - Examples of relevant past work
 - At least three relevant client references

The main proposal narrative (excluding cover letter, resumes, and supporting materials) **should not exceed 30 pages**. Supplementary materials may be included in appendices.

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6. Evaluation Criteria

The following criteria will be used to guide selection of the final proposal.

Evaluation Criteria	Points	Elements
Relevant Experience and Qualifications	30	Extent to which the firm demonstrates directly relevant experience as articulated in “Required Qualifications and Expertise”.
Technical Approach and Methodology	25	Quality, rigor, and practicality of the proposed approach, including understanding of project objectives, constraints, and decision-making needs.
Team Composition and Key Personnel	20	Qualifications and experience of the project manager and key technical staff; appropriateness and clarity of roles for any subconsultants or partners; and demonstrated ability to manage multi-disciplinary teams and coordinate with external stakeholders. Teams that combine North American and international TENS experience will be viewed favorably.
Utility, Regulatory and Stakeholder Experience	10	Demonstrated experience working with regulated utilities, public agencies and municipalities, and large energy users like anchor institutions.
Cost Proposal and Value	10	Reasonableness and transparency of the proposed budget and alignment between level of effort and proposed scope. Lowest cost will not necessarily receive the highest score; emphasis will be placed on value and cost effectiveness.
Project Schedule and Management Plan	5	Feasibility of the proposed project schedule, including coordination with the regulatory analysis and key regulatory decision makers.
TOTAL	100	

Following initial scoring, the evaluation committee may:

- Shortlist top-ranked firms for interviews;
- Request clarifications or best-and-final offers;
- Adjust final scores based on interviews, if conducted.

The Green Ribbon Commission, via the Innovation Network for Communities (INC), reserves the right to:

- Reject any or all proposals.
- Request clarification or additional information.
- Negotiate scope and fees with the selected firm.
- Select the proposal that represents the best overall value, not necessarily the highest numerical score.
- Modify the RFP schedule as necessary.

7. Submission Instructions

Proposals must be received by **5:00pm EDT on April 29, 2026**.

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The proposals should be submitted in PDF format by emailing to home@greenribboncommission.org with the following subject line: “Boston-Area Thermal Energy Network (BosTEN) Proposal.”

8. Selection Timeline

- RFP issued: April 1, 2026
- Written questions about the RFP due: April 13, 2026 by 12pm EDT
- Applicants Q&A webinar: April 14, 2026 at 1:00-2:00pm EDT
- Proposals due: April 29, 2026 by 5pm
- Finalists notified and interviews scheduled: May 27, 2026
- Finalist interviews: Week of June 1, 2026
- Awardee notification: June 5, 2026
- Contract execution: June 12, 2026

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Attachment A – Background on Targeted Thermal Reservoirs

Seawater

The water in the Boston harbor ranges between 38 and 67 degrees Fahrenheit. This water is completely replaced every four days so there is no chance of depleting the reservoir. A tunnel can pump water in from the harbor, run the water through an evaporator heat exchanger and transfer the thermal energy to a refrigerant to be used in a thermal network. Large seawater heat pumps provide thermal energy in Stockholm, Sweden; Seward, Alaska; and Esbjerg, Denmark. The Environment Dept. of the city of Boston is already actively interested in a seawater heat pump and the University of Massachusetts Boston is planning to install a seawater campus cooling system.



River Water

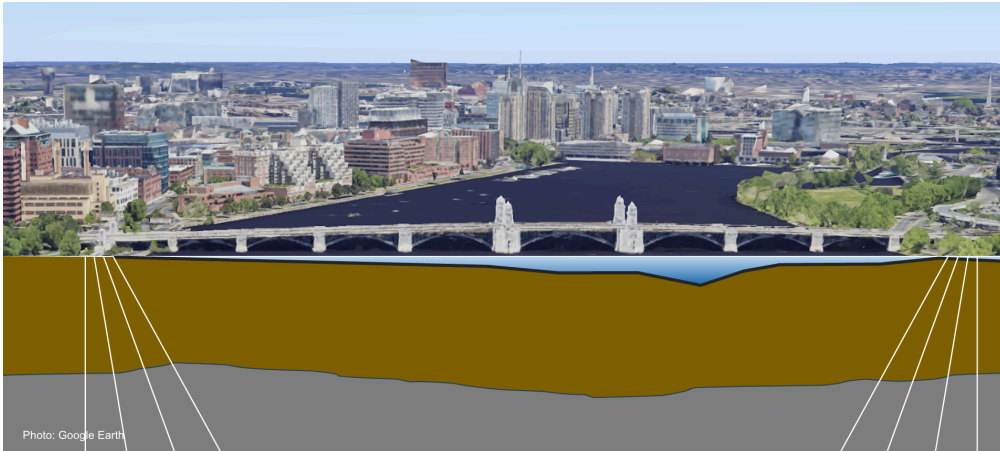
Vicinity already has permits to utilize the thermal energy from the Charles River. Heat extracted from rivers can help to restore river temperatures to pre-climate change conditions and can be less capital intensive than geo-exchange. The feasibility of river water thermal reservoirs will depend on a number of factors, including water temperature across seasons; river flow rates; and existing/planned permits for thermal extraction.

Inclined Boreholes

Estimates from drillers and designers suggest that drilling a horizontal array of boreholes into the bedrock of the Charles River or Mystic River from a barge might not be economically worthwhile. Thus, the project will instead explore installing arrays of inclined boreholes from paved areas along the rivers as well as from appropriate areas on property owned by property owner partners.

Inclined borehole arrays can be installed under a surface area the size of a single parking spot, with the boreholes angling out in all directions. Installed in diverse locations along the shore and on campuses, these inclined arrays can maximize the bedrock under the river and under the property of anchor institutions while minimizing surface area disturbance. Afterward the surface area is restored and the land utilized as before.

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Potential Inclined Borehole Strategy

Deep Geothermal

Deep geothermal is a technology that is rapidly evolving and could be a potential future option for the Boston area. However, it is not yet a proven thermal technology in the state and it is outside of the scope of this study to do a full assessment of the viability of this technology. The project goal will be to make recommendations on a future process for stakeholders to collaborate on a commercial viability assessment for deep geothermal.

Wastewater

This project is not assessing the feasibility of wastewater as a thermal source. The Massachusetts Department of Environmental Protection is managing a separate project for that purpose.

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Attachment B – Project Partners and Stakeholders

Governmental Partners

Governmental partners, whether at the state or city level, play a key role in enabling, planning for, and potentially funding TENS. In this project, the governmental partners will:

- Share pertinent information as necessary about the local underground infrastructure and local planned development.
- Identify regulatory barriers and share ideas for regulatory reform to remove those barriers.
- Identify key funding needs, strategies, and sources to support thermal energy development.
- Identify adjacent communities as candidates for expansion of existing networks.

Core governmental partners include the Commonwealth of Massachusetts and the cities of Boston, Cambridge, Medford, and Somerville.

The City of Boston’s Building Emissions Reduction and Disclosure Ordinance (BERDO) and the City of Cambridge’s Building Energy Use Disclosure Ordinance (BEUDO) require large buildings to publicly report emissions and meet net-zero targets by 2050 and 2035, respectively. These datasets can help ground this analysis and inform replicable technical and financial strategies to support near-term implementation and long-term expansion across multiple sites.

The following additional government partners have been approached for participation:

- The Commonwealth Executive Office of Energy and Environmental Affairs
- The Department of Public Utilities

A special focus of government partners will be those organizations that control regulatory access to thermal sources. The project will work closely with these players on Deliverable 5 – Regulatory and Permitting Analysis.

Large Energy Users (“Anchor Institutions”)

The Clean Thermal project will ground its feasibility assessment in actionable data from identified major energy users (“anchor institutions”) from the higher education, health care, commercial real estate and government sectors. Many of these organizations have their own district energy systems that they are in the process of upgrading and decarbonizing. They

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will be able to “ground truth” the viability of new clean thermal services for large property owners.

The role of property owner partners will be to:

- Provide their building and energy data and estimate their projected future demand for new clean thermal energy in terms of needed peak, base load and annual cumulative thermal load. Recognizing that participating institutions operate diverse legacy steam, hot-water, and chilled-water systems, the analysis will evaluate multiple integration pathways rather than presuming compatibility with a single network typology.
- Advise on business models for delivering clean thermal that would most appeal to them as potential consumers/producers.
- Advise on the barriers and challenges to retrofitting their buildings and district systems to accommodate new thermal supplies.

Several new developments are being planned in the vicinity of the assessed water bodies; it is expected that these additional property owners will join as partners as we move forward on the project. Identification of additional large property owners will be driven by which properties are within a feasible geographic reach of the targeted thermal reservoirs.

These institutions are some of the largest in the Boston area. They are the largest customers of the local utilities and collectively play a key role in local gas and electric utility collaboration. They are unlikely to relocate and thus any distribution system installed beneath them is likely to be used and useful far into the future, making the investment very secure.

Utility Partners

Utilities are key partners in the natural gas transition and will need to play leadership roles in the transition for it to occur in the time required by state law and regulation. Enormous progress has been made in the last several years in creating a legal and regulatory framework that can enable gas utilities to transition to help the state meet its emissions mandates by 2050. The GRC has engaged as partners National Grid and Eversource, as well as Vicinity Energy, the local district energy system.

The role of these organizations will be to:

- Share any plans for investing in thermal energy networks and other clean thermal energy systems in the participating cities.
- Share knowledge on best practices and lessons learned from their innovations and deployment of infrastructure at scale.
- Share information about their utility infrastructure throughout the study area.

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- Provide estimates of the costs and potential speed of the installation of any proposed thermal distribution systems.
- With the Department of Public Utilities' approval, calculate an estimated customer energy bill for the proposed installation, assuming the costs are amortized over the lifetime of the distribution system.
- Provide input on potential business and financing models.
- Identify regulatory barriers to thermal network development, with suggested regulatory reforms.

Technical Advisory Group

The Technical Advisory Group (TAG) will provide independent, expert guidance to help translate the Boston area's clean thermal ambitions into practical, implementable solutions. Comprising five members with deep, real-world experience in the engineering, design, economics, development, and operation of clean thermal energy networks, the TAG will offer focused input on complex technical issues that influence system feasibility and scalability. Final membership will be determined following selection of the lead consultant, with the expectation that some participants may be drawn from proposing firms.

Stakeholder Advisory Group

The Stakeholder Advisory Group (SAG) will serve as the project's core stakeholder body, guiding its development and ensuring alignment with real-world needs and opportunities. Building on early input that helped shape the proposal, the SAG will inform ongoing project design, provide feedback on interim deliverables, including those related to economics, thermal supply and demand, distribution, and regulatory and permitting considerations, and review project recommendations from the perspective of potential offtakers. Members will also play a key role in championing next-step implementation strategies.