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SPP 609 WORKSHOP
FRAMINGHAM CASE PROFILE
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Eversource Networked Geothermal Pilot, Framingham

The nation's first utility-owned networked geothermal system, serving a mixed residential, commercial, and affordable housing neighborhood in Framingham, Massachusetts.

LOCATION
Framingham, Middlesex County, Massachusetts

PROJECT TYPE
Utility (Eversource)

CURRENT STATUS
Operating (formal O&M phase, August 2025)

LEAD ORGANIZATION
Eversource Energy (NSTAR Gas)

SYSTEM SCALE
36 buildings, 88 boreholes (600–700 ft), 375 tons, ~135 customers

ESTIMATED COST
~$22M gross (Phase 1); net cost pending IRA confirmation

KEY OBSTACLE
Scalability and replicability at sustainable cost without long-term subsidies

PROJECT DESCRIPTION

The Eversource pilot in Framingham is the first utility-owned and utility-operated networked geothermal system in the United States.[1] The project consists of about one mile of ambient-temperature loop serving single-family homes, multifamily buildings, small businesses, a fire station, and five Framingham Housing Authority affordable apartment buildings.[1] Eversource owns and operates the entire system, which draws thermal energy from 88 boreholes drilled across three borefields: the main field under the Farley Lot at MassBay Community College, a satellite field behind the fire station on Concord Street, and a third at Rose Kennedy Lane.[1,2]

Across 36 buildings, the loop serves approximately 375 tons of heating and cooling load, replacing a prior mix of gas, oil, electrical resistance, and delivered fuel with ground-source heat pumps.[1,3] The project matters because it demonstrates that a regulated gas utility can own and operate networked geothermal infrastructure under

TIMELINE

2017: HEET pitches concept to Eversource

2020: DPU approves pilot (Docket 19-120)

June 2023: Construction groundbreaking

August 2025: Formal O&M phase begins

POLICY ANCHOR

Massachusetts DPU Order, Docket D.P.U. 19-120, approving the geothermal pilot as part of the

existing franchise rights, potentially offering a model for gas utility decarbonization statewide and nationally.[1,2]

KEY ACTORS AND GOVERNANCE

The concept originated when Zeyneb Magavi and Audrey Schulman, co-executive directors of HEET, pitched a utility-owned networked geothermal pilot to Bill Akley, then president of gas distribution at Eversource.[1] Nikki Bruno, vice president of clean technologies at Eversource, drove the project through the DPU rate case process, while Eric Bosworth, manager of clean technologies, led day-to-day construction and operations management through 2025.[1,3] Liam Needham (director of thermal solutions) and Cindy Galvin (community partner) provided technical oversight and neighborhood outreach.[1,3]

On the municipal side, Shawn Luz, sustainability coordinator for the City of Framingham, helped bring institutions such as the fire station, Framingham Housing Authority, and MassBay Community College into the project.[1] The Massachusetts DPU, through Docket D.P.U. 19-120, serves as the primary regulatory authority, and the LeGUp research team has been conducting independent data collection since July 2024.[2]

FUNDING AND COSTS

Phase 1 was funded entirely through Eversource ratepayer funds approved in the DPU rate case, with a total gross cost of approximately $22 million.[1] Customers paid no direct capital cost; Eversource covered all equipment, HVAC conversions, electrical panel upgrades, and building retrofits as part of the pilot scope.[3] A nominal monthly service fee was established ($8/month income-eligible, $10/month residential, $20/month commercial), primarily to create a billing relationship rather than recover costs.[3]

Preliminary performance data as of December 2025 indicates gas customers are saving approximately $16/month, rising to about $50/month under the new heat pump utility rate effective November 2025. Oil customers are saving approximately $68/month, rising to about $104/month under the new rate.[2] Per-building costs of roughly $611,000 raise questions about whether the model can scale without significant subsidies or a different approach to building conversion.[1,3]

PERMITTING AND APPROVALS

All permits required for Phase 1 construction were obtained before the June 2023 groundbreaking.[2] The permit list included NPDES Construction General and Dewatering General permits, a Massachusetts Historical Commission notification, a MassDOT

Eversource NSTAR Gas rate case (2020).[1]

NEXT STEP

Phase 2 (Flagg Loop) expansion construction, pending MA DPU approval, funded by a DOE implementation grant of approximately $7.8–8.6M.

access permit for Route 126, Conservation Commission Notice of Intent, a potential zoning special permit for the wellfield in a residential zone, Grant of Location, street and trench opening permits, and standard building, electrical, plumbing, gas, and demolition permits.[4]

Notable challenges included a Conservation Commission requirement to modify fencing to accommodate a turtle tunnel near Gleason Pond, the MassDOT permit for Route 126, and property boundary constraints that prevented deviated drilling at the fire station and Rose Kennedy borefields, requiring traditional vertical drilling instead.[3,5] The project is classified as utility infrastructure under Eversource's existing gas franchise rights, which allowed it to proceed under the DPU rate case framework without new enabling legislation.[1]

COMMUNITY ENGAGEMENT AND EQUITY

HEET led an initial neighborhood charrette before construction began.[1] Eversource then conducted door-to-door canvassing, community meetings, four public webinars (April 2023, October 2023, October 2024, December 2025), direct mail, municipal briefings, a dedicated project hotline, weekly construction updates, school STEM events, and an open-house tent on Concord Street.[2,3] Approximately 80% of eligible residential homeowners along the route opted to participate, with 40 signed letters of interest generated in the first weekend of canvassing alone.[3]

No opposition was documented in any source reviewed. Equity was explicitly built into the project's design: the FHA affordable housing buildings received the largest proportional energy and emissions benefits, converting from electric resistance heating to achieve approximately 75% reductions in both cost and emissions.[3]

WHY THIS CASE MATTERS

Framingham is the only networked geothermal case in Massachusetts that has fully navigated the utility-led pathway from concept to formal operations, under existing regulatory authority, without new enabling legislation, and with a regulated utility bearing all upfront capital risk.[1,2] It demonstrates that a gas utility can own and operate geothermal loop infrastructure under its existing franchise rights and DPU oversight. The case also surfaces the central tension in utility-led deployment: behind-the-meter building conversion costs were more complex and expensive than the loop infrastructure itself, and per-building costs of ~$611,000 raise serious questions about scalability.[1,3] Framingham is proof of technical feasibility but not yet proof of economic replicability.

Sources

1. Building Decarbonization Coalition, "Case Study: Framingham, Massachusetts," 2025. PJ2_BDC_Case_Study_01 — https://buildingdecarb.org/case-studies/framingham-massachusetts
2. Eversource Energy, "Geothermal Pilot Project Page and Construction Updates," 2022–2025. PJ2_Eversource_Project_Page_Construction_Updates_01 — https://www.eversource.com/content/mass-gas/residential/about/geothermal-pilot
3. Eversource Energy, "Networked Geothermal Pilot Webinar Transcripts," April 2023, October 2023, October 2024, December 2025. PJ2_Webinar_April_2023_01; PJ2_Webinar_October_2023_01; PJ2_Webinar_October_2024_01; PJ2_Webinar_December_2025_01
4. Permitting Plan Appendix F. PJ2_Permitting_Plan_Appendix_01 (URL not yet located)

Sources still needed: DPU Docket D.P.U. 19-120 full order text (would confirm exact pilot scope, rate structure, and expansion conditions); independent LeGUp evaluation report (would provide verified absolute carbon savings and payback period; not published as of March 2026); IRA tax credit application confirmation (referenced but not confirmed for Phase 1); DOE expansion grant award documentation (amount conflicts between sources at $7.8M and $8.6M).