



NEWS RELEASE

MASSACHUSETTS MUNICIPAL WHOLESALE ELECTRIC COMPANY

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MMWEC Partners with Local Utilities to Launch Innovative Drone-Based Thermal Imaging Pilot

LUDLOW, MA – April 8, 2026 -- The Massachusetts Municipal Wholesale Electric Company (MMWEC), in collaboration with Marblehead Municipal Light Department (MMLD) and West Boylston Municipal Light Plant (WBMLP), is launching a pioneering pilot program to modernize residential energy audits using advanced aerial technology. The initiative, part of MMWEC's NextZero energy efficiency program, aims to provide homeowners and utilities with empirical data about how houses are leaking heat to accelerate energy efficiency improvements and support decarbonization goals.

Traditional energy audits often rely on manual, door-to-door inspections that can be time-consuming and invasive. This new project utilizes Kestrix, a drone-enabled thermal imaging and Artificial Intelligence (AI) platform, to scan approximately 900 properties across the 'Old Town' district of Marblehead and the Horseshoe Drive neighborhood of West Boylston.

The pilot focuses on a diverse range of housing, from Marblehead's 18th-century historic timber-frame structures to West Boylston's single-story ranch homes. By deploying drones equipped with radiometric thermal sensors during cool night hours, the project captures precise heat loss data for walls, windows, and doors without requiring auditors to enter the home. Only images of building exteriors are captured, and faces or personal details are not distinguishable. Imagery is stored and processed on a secure cloud platform with encryption to meet rigorous data protection standards.*

Kestrix's proprietary Rapid Thermal Performance Assessment (RaThPAs) technology then processes these images to create 3D models of home structures to identify heat loss spots to help utilities more proactively offer incentives for insulation, air sealing, and heat pump installations, and inform residents of quantifiable energy bill savings opportunities.

By making data collection and analysis less invasive and more streamlined, the program allows even small utilities to manage high-impact conservation programs efficiently.

"This project represents a shift from qualitative images to quantitative building physics," said Zoe Eckert, Sustainable Energy Program and Policy Senior Manager at MMWEC. "We are providing homeowners with visual 'proof of loss' through 3D heat maps, motivating the retrofits necessary to meet our climate targets."

"We are eager to see how this technology can streamline our efforts to identify homes in need of weatherization," said Jon Fitch, General Manager of West Boylston Municipal Light Plant. "By providing our customers with clear, data-driven insights, we can make energy efficiency more accessible and actionable for everyone in our community."

"Energy conservation remains the best ways for customers to reduce their costs and carbon emissions," added Jon Blair, General Manager of Marblehead Municipal Light Department. "This innovative approach enables us to support our customers with improving the efficiency and comfort of their homes in a nonintrusive way."

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The pilot program is expected to run through the conclusion of the current heating season, with data analysis continuing into the summer months. Following a successful evaluation of the results, MMWEC intends to explore expanding the drone-based thermal imaging service to additional municipal light departments across the Commonwealth as a standard option within the NextZero portfolio.

About MMWEC

MMWEC is a not-for-profit, public corporation and political subdivision of the Commonwealth of Massachusetts created by an Act of the General Court in 1975 and authorized to issue tax-exempt debt to finance a wide range of energy facilities. MMWEC provides a variety of power supply, financial, risk management and other services to the state's consumer-owned, municipal utilities. It is the largest provider of asset-owned generation for municipal light departments in New England.

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