

ENR East

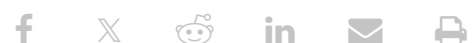
2025 East Best Projects

Best Residential/Hospitality/Excellence in Sustainability: NYCHA Eastchester and Jackson Houses & Geothermal DHW and Heating Upgrade



Photo courtesy Adams European Contracting Inc.

November 19, 2025



NYCHA Eastchester and Jackson Houses – Geothermal DHW and Heating Upgrade

Bronx, N.Y.

EXCELLENCE IN SUSTAINABILITY and BEST PROJECT, RESIDENTIAL/HOSPITALITY

Submitted by CSA Group

Construction Manager: Adams European Contracting Inc.

Owner/Developer: New York City Housing Authority

Lead Design Firm, Structural and MEP Engineer: CSA Group

Civil Engineer: Matrix New World Engineering

Geothermal System Design and Construction: Buffalo Geothermal

The \$65-million pilot project introduced a groundbreaking geothermal system tailored for dense, multifamily urban housing, setting a new standard in sustainable residential infrastructure. The existing traditional fossil-fuel-based domestic hot water systems were replaced with high-efficiency, closed-loop vertical geothermal heat pumps that will supply year-round hot water to 1,745 apartments across 17 multifamily buildings.

Each building required boreholes drilled 500 ft into bedrock to serve as renewable thermal sources. In partnership with a geothermal systems manufacturer, the project team developed an innovative 30-ton dual-compressor heat pump capable of producing domestic hot water at more than 140°F. This design resulted in increased efficiency and stable high-temperature output with a coefficient of performance (COP) of approximately 4—double the typical results at that temperature.



Photo courtesy Adams European Contracting Inc.

The system's advanced liquid injection method and double-walled heat exchangers meet stringent health codes and industry performance standards. High-efficiency storage tanks and instant-response mixing valves ensure minimal water waste while meeting critical temperature standards to mitigate the risk of viruses that can cause severe pneumonia and flu-like illnesses.



Photo courtesy Adams European Contracting Inc.

Installing geothermal infrastructure in active residential buildings required minimizing disruption to tenants via a phased construction process that also maintained site accessibility. Securing utility approvals for power upgrades required navigating lengthy regulatory processes. A dedicated liaison facilitated communication and expedited timelines through early and continuous engagement with the utility.

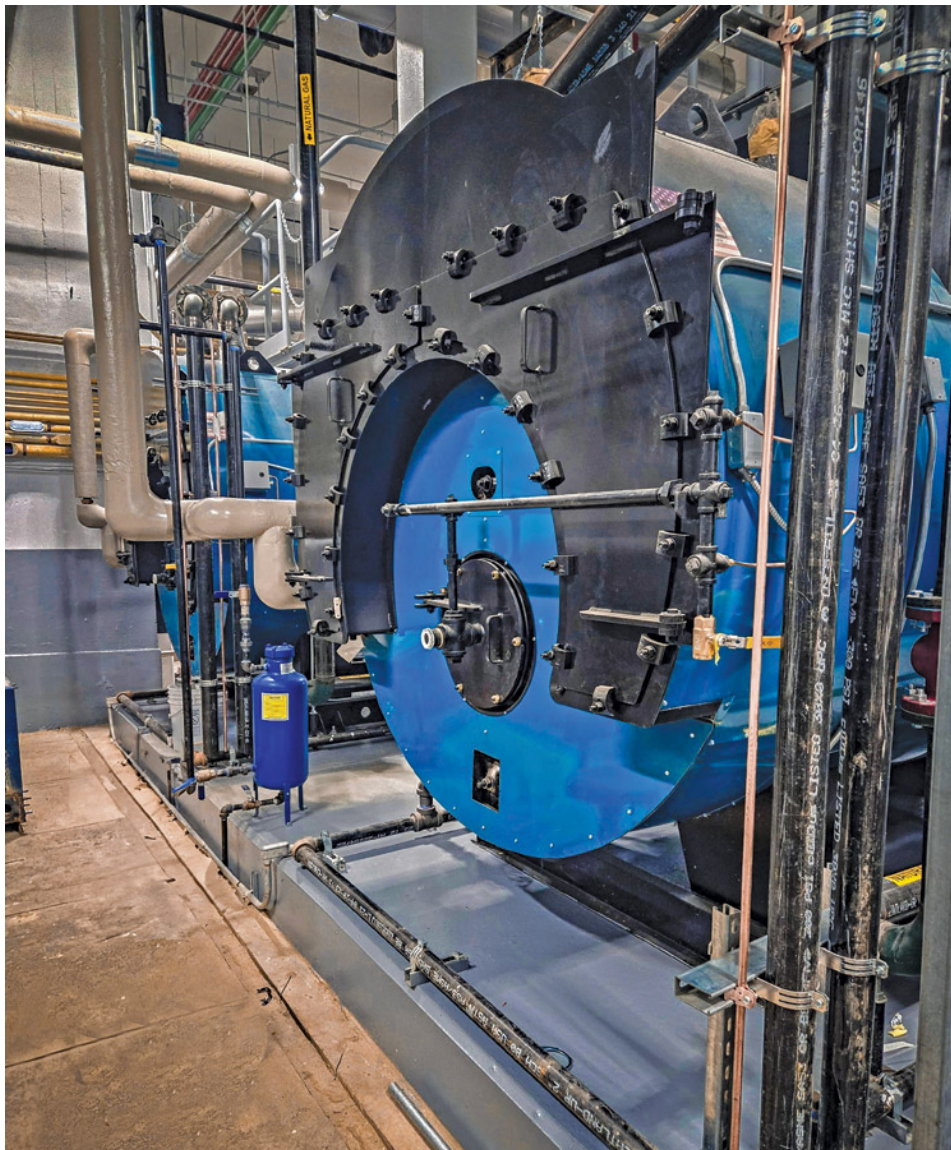


Photo courtesy Adams European Contracting Inc.

Once construction was underway, leaks in legacy piping systems were addressed swiftly through targeted inspections and emergency repairs. Advanced leak detection tools and coordinated scheduling helped maintain project momentum. Despite these and other hurdles, the team delivered the project ahead of schedule and within budget. By switching the apartment complex from gas/oil to geothermal, the project avoids direct greenhouse gas emissions, contributing to long-term environmental resilience. It also protects vulnerable populations from utility price volatility while providing reliable, efficient hot water.

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