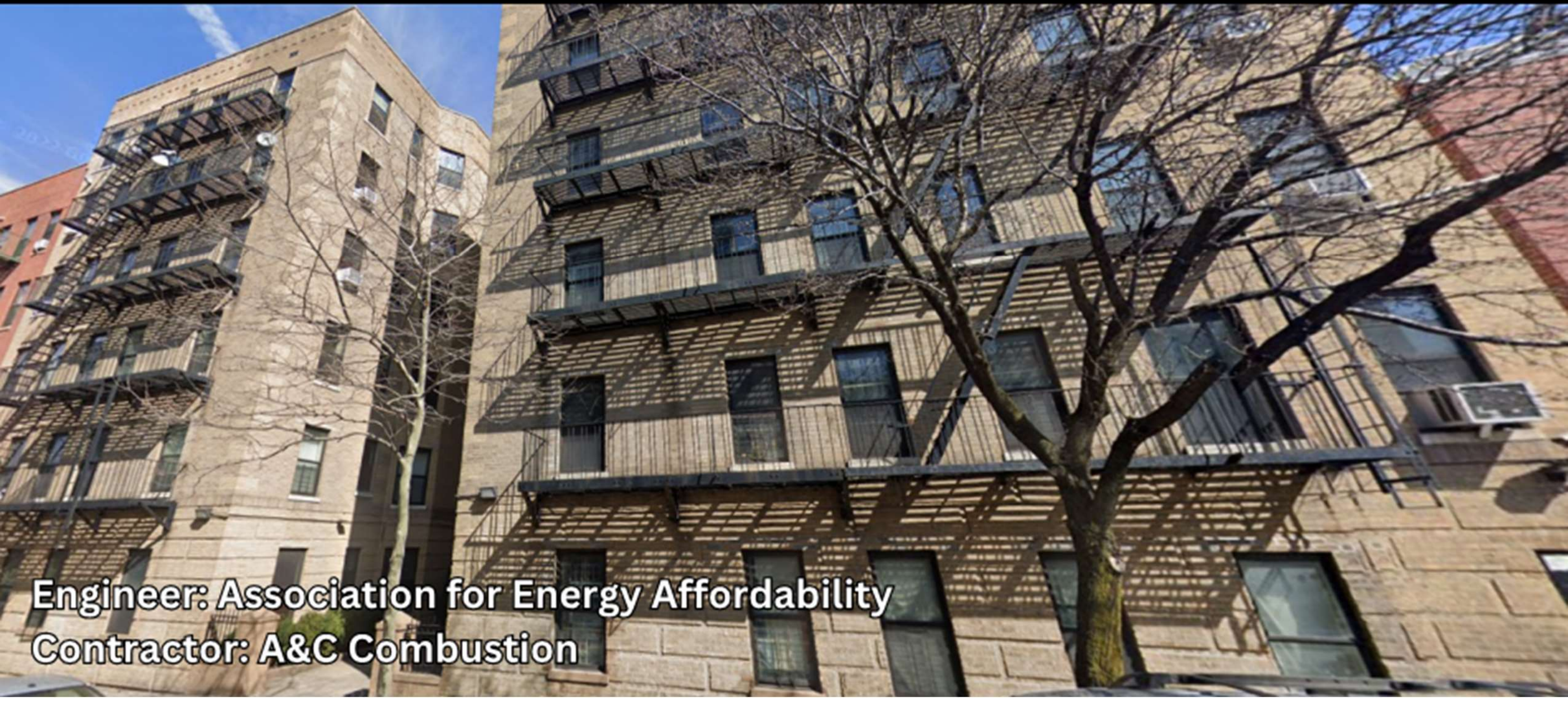
850 BRYANT AVE - APARTMENT COMPLEX
DHW Heat Pump System



Laars E-Therm® Case Study: 850 Bryant Ave, Bronx, NY

Project Overview

850 Bryant Ave is a 48-unit, six-story apartment complex in the Bronx, New York. The property was selected for an electrification upgrade to improve energy efficiency, reduce carbon emissions, and modernize aging mechanical systems. As part of a broader initiative to enhance sustainability, the project focused on replacing its existing gas-fired water heating system with a high-performance commercial heat pump water heater. Since the replacement, the engineering team has begun developing an optimized hybrid approach in which the control system automatically alternates between the heat pump and the existing gas-fired system based on real-time efficiency. This strategy aims to ensure optimal performance year-round while maximizing carbon footprint reduction.

Project Details

- Location: Bronx, NY

- Building Specs: 48-unit, six-story multifamily residence

- Scope: Electrification of the domestic hot water system

- Key Stakeholders: Association for Energy Affordability (AEA), Rathe Associates, A&C Plumbing, South East Bronx Community Organization (SEBCO), Father Gigante Organization

Project Origin & Key Stakeholders

The Association for Energy Affordability (AEA), a nonprofit that specializes in energy efficiency and electrification upgrades for low- and moderate-income buildings, often partners with local organizations to identify and implement impactful solutions. AEA plays a key role in helping buildings access state and federal funding opportunities to support weatherization and electrification initiatives.

At 850 Bryant Ave, AEA collaborated with the South East Bronx Community Organization (SEBCO) and the Father Gigante organization to secure a grant through New York State's Weatherization Assistance Program (WAP). With funding in place, the team moved forward with a long-overdue upgrade to the building's aging mechanical systems, aiming to implement a domestic hot water solution that offered both high efficiency and low emissions—aligned with New York City's carbon reduction goals and Local Law 97 compliance.

Solution Implemented

After evaluating several options, the project team selected the **Laars E-Therm®** electric air-source heat pump water heater. A key reason was its use of **R-744 (CO2) refrigerant**, which performs well in low ambient temperatures and has a global warming potential of just 1—helping future-proof the installation against refrigerant phase-out regulations.

A standout feature is its integrated double-wall heat exchanger, which eliminates the need for glycol. The unit takes in potable water and delivers hot water directly, without requiring an external buffer tank or secondary loop. This reduces the number of installed components, saves space, and limits maintenance needs.

Avoiding glycol also improves overall efficiency, as glycol reduces heat transfer and requires more pumping energy. Additionally, the production, maintenance, and disposal of glycol-based fluids come with environmental and cost burdens.

Taken together with the unit's high temperature output and modular design, these advantages made it a strong choice for this multifamily electrification effort.

Conclusion

The successful deployment of the Laars E-Therm® at 850 Bryant Ave highlights its potential as a scalable, efficient, and sustainable domestic hot water solution for multifamily buildings. By leveraging advanced heat pump technology and natural refrigerants, this project sets a benchmark for future electrification upgrades in New York City's residential sector.

Future Considerations

Following the initial installation, the team has begun working on a hybrid approach that integrates the building's existing gas-fired system. The goal is to allow the control system to intelligently switch between the heat pump and the gas-fired heater based on real-time performance and outdoor conditions. This strategy is expected to further optimize energy efficiency, reduce operational costs, and maximize carbon footprint reduction—especially during peak winter conditions when heat pump performance naturally dips.