



Chicago Multifamily mCHP

Success Story: 5550 S. Dorchester Avenue, Chicago, IL



"Imagine if your water heater also made electricity and you didn't have to spend any more to keep it running."

— Jon Nichols,
Director of Sustainability for Antheus Capital/
Fernwood Property Management

Installed equipment

- Two Axiom Energy 4.4 kW mCHP units
- Integration with existing domestic hot water infrastructure
- On-site electricity generation for common-area building loads

Projected energy impact

- 50,000 kWh generated annually
- 20% of building electric load offset
- Recovered waste heat met 55% of annual hot water demand
- 95% total fuel utilization efficiency through mCHP generation

Building benefits

- Lower operating costs
- Improved energy efficiency
- Reduced strain on existing equipment
- Project completed in less than six months

How a Chicago apartment building improved efficiency and generated its own power with a micro combined heat and power (mCHP) system

The Peoples Gas Energy Efficiency Program helps multifamily building owners identify innovative ways to reduce energy costs while improving building performance.

At 5550 S. Dorchester in Chicago's Hyde Park neighborhood, a mCHP system was installed to generate electricity on-site while providing useful thermal energy for domestic hot water production.

The project demonstrates how mCHP technology can be successfully integrated into a typical multifamily building to improve efficiency, reduce operating costs, and increase overall system performance.

Key takeaways

Two 4.4-kilowatt (kW) Axiom Energy mCHP units were installed at a 120-unit multifamily residential building managed by Fernwood Property Management and Antheus Capital.

The system generates electricity that is used to offset common-area electrical demand within the building while simultaneously recovering thermal energy that is used to preheat domestic hot water.

The project was completed in less than six months and demonstrates how mCHP technology fits successfully in a typical multifamily building to drive energy savings and lower operating costs.

Addressing multifamily energy challenges

Like many multifamily buildings, 5550 S. Dorchester relies on centralized systems to provide domestic hot water and heating to residents.

Prior to the project, the building's domestic hot water system was operating reliably but required significant energy to meet demand. At the same time, rising electricity costs were increasing pressure on operating budgets.

The property owner was interested in identifying technologies capable of reducing energy costs while maintaining resident comfort and reliable service.

"5550 S. Dorchester is a regular old multifamily building," explained Jon Nichols, Director of Sustainability for Antheus Capital and Fernwood Property Management. "It's pretty typical of our portfolio."

The project offered an opportunity to evaluate whether mCHP technology could provide value not only for this property but potentially for other buildings throughout the company's portfolio.

Optimizing energy use with mCHP

Working with the Peoples Gas Energy Efficiency Program and project partners Boilersource and Premistar, the building owner evaluated opportunities to integrate mCHP technology into the existing domestic hot water system.

Because the technology was integrated into existing infrastructure, installation was completed with minimal disruption to residents and building operations.

The system's initial results are:

- Generate approximately **50,000 kWh** annually
- Supply approximately **55%** of domestic hot water demand
- Offset approximately **20%** of the building's electric load

"The installation of the mCHP has taken out a real chunk of our electricity cost," said Nichols. "Being able to reduce that kW demand is enormous."

The project also demonstrates that mCHP technology can be successfully deployed in typical multifamily buildings rather than only large commercial or industrial facilities. mCHP is a decarbonization opportunity for property owners looking to reduce their building's carbon footprint while meeting their energy needs.

"Almost any of our legacy buildings could be appropriate," Nichols noted.

For property owners facing rising energy costs, that may be the most valuable takeaway of all.



Interested in learning how mCHP
can work for your building?
Contact innovative-solutions@peoplesgasdelivery.com
to discuss your options.