The Parkline Tower

Multi-Residential

The Challenge

One block from Prospect Park in Brooklyn stands the Parkline, a mixed-use high-rise at 626 Flatbush Avenue. The property marks Prospect Lefferts Gardens' first new development of its scale in a generation. Before the 24-story tower was built, concerns were raised by neighbors and community groups about how the 254,000-square-foot property would impact the area's views and environment.

To address these concerns, Hudson Companies, the property management company for Parkline, assembled a team of architects, engineers, and construction experts to create a mixed-use building. This building incorporates community amenities like preschool classrooms from a nearby school and sustainable features such as rainwater harvesting and energy-efficient construction.

Mixed-use buildings typically consume more energy, not just for electricity but also for heating and hot water. To curb energy costs and reliance on the local power grid, Hudson Companies turned to Capstone Green Energy distributor RSP Systems to install an on-site cogeneration system.

Power Profile

Customer
The Parkline

Location
Brooklyn, New York

Commissioned
2016

Fuel
Pipeline Natural Gas

Technologies
- (1) C65 ICHP Dual Mode, Microturbine

Capstone Green Energy Distributor
RSP Systems

> **For the Parkline, the cogeneration systems' near-zero emissions profile enhanced energy efficiency, reduced reliance on grid power, and decreased carbon emissions in the building and the surrounding neighborhood."**
>
> — Bruce Beckwith, Executive Vice President
> RSP Systems

One Capstone C65 microturbines can generate 65 kW. Part of the CHP integration: C65 microturbines, circulating pumps & domestic hot water storage tanks

The Solution

Commissioned in 2016, the combined heat and power (CHP) system includes a Capstone C65 ICHP natural gas microturbine in the basement boiler room of the building. The setup produces 65kW of electricity, offsetting nearly a quarter of the building's total electrical consumption.

In the cogeneration process, the microturbine's exhaust heat is harnessed to create both electrical and thermal energy. The heat recovery module (HRM) installed in the C65 captures the microturbines waste heat as part of the CHP system. It feeds the building's boiler heating system via hot water storage tanks, which provides part of the heating system in the winter and domestic hot water throughout the year.

Aesthetically the system is quiet and takes up minimal space. With a noise output of only 65 decibels at 10 meters, the microturbine doesn't disturb residents.

As part of the installation, RSP Systems delivered a carefully executed strategy, which included securing public financing, minimizing service disruption to residents, and reducing noise and odor impacts to the neighborhood.

The Results

The cogeneration system has been fully operational since 2017, delivering notable energy savings and environmental benefits.

By the numbers:

- **50% -** Amount of the overall project expenses covered through an incentive program provided by the New York State Energy Research and Development Authority (NYSERDA) CHP Program (PON 2568).
- **60,000 hours (about 7 years) -** Approximate amount of the continuous run time logged.
- **65kW -** What the microturbine produces, reducing the site's total energy consumption by more than a third.
- **100% -** The microturbines are exclusively responsible for heating the building's water for domestic use year-round. In the winter, the system also contributes partially to heating the building.
- **$60,000 -** Utility fee (electricity and gas) savings through an average monthly reduction in usage of 35,000kWh.

Capstone C65 ICHP Microturbine

A C65 provides up to 65kW of electrical power while the UL-Certified C65 ICHP provides up to an additional 150kW of thermal power for CHP and CCHP applications.

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