

The Girard East Market

Multi-Family Residential



The Challenge

1199 Ludlow is a 245,000-square-foot (74,676-square-meter) residential tower with 240 apartments featuring modern amenities such as an outdoor swimming pool, terrace, bike storage, tuning area, fitness center, and demonstration kitchen. National Real Estate Development developed the project on behalf of the ownership group led by National Real Estate Advisors. It is part of East Market, a pedestrian-oriented mixed-used project, revitalizing a Philadelphia neighborhood by blending urban shopping and dining experiences with contemporary work and living spaces.

Because the 1199 Ludlow's residential buildings have a facade with a high percentage of glass, it was imperative to find a solution that would assist the project to meet targets for the highest efficiency standards. Developers turned to Capstone microturbines. "We did it primarily to increase our energy efficiency, lower energy costs and meet LEED (Leadership in Energy and Environmental Design) goals," said Charles Norman, National Real Estate Development Manager. Norman pioneered Capstone microturbines in a New York Battery Park project 15 years ago. "There are different options however, microturbines are a technology we're familiar and comfortable with" says Norman. "The low emission microturbines are favorably received in Philadelphia. When we were going to get our approvals for the project, to be able to tell the city we were doing this combined heat and power (CHP) project as a green energy conservation measure was attractive to them and it helped with our approvals process for the project." As a result, National Real Estate Development turned to E-Finity Distributed Generation for the solution.

The Solution

1199 Ludlow features two Capstone C65 integrated combined heat and power (ICHP) systems which provide electricity, domestic hot water, and heat the exterior lap pool. "Microturbines are mounted on a rooftop outside of the public eye," Norman points out. "They are working in the background to provide electricity and supply hot water simultaneously. Not only do the two

Power Profile

Customer

National Real Estate Development

Location

Philadelphia, Pennsylvania

Commissioned

Spring 2019

Fuel

Low Pressure Natural Gas

Technologies

- Two Capstone C65 ICHP Grid Connect Microturbines

Capstone Turbine Distributor

E-Finity Distributed Generation

"In a four-season climate like Philadelphia, it allows us to keep our pool open for most of the year and offer a great amenity to our tenants."

— Charles Norman, National Development Manager
National Real Estate Development



Reliable power when and where you need it. Clean and simple.



Two Capstone C65 ICHP microturbines ensure high reliability while also benefiting the environment.

microturbines provide electricity and domestic hot water to the building, but they also provide heating for the pool. In a four-season climate like Philadelphia, it allows us to keep our pool open for most of the year and offer a great amenity to our tenants.”

The Results

The installation of the two Capstone C65 cogeneration units is expected to reduce the annual utility bill and lower CO₂ emissions. The project recently received \$53,933 from PECO, Pennsylvania’s largest electric and natural gas utility, through its combined heat and power (CHP) incentive program. The 1199 Ludlow project – along with the other two projects in the development’s first phase – was awarded LEED Silver V3. The U.S. Green Building Council’s LEED rating system recognizes best-in-class building strategies and green building practices. Once the site is fully occupied, National Real Estate Development staff will conduct a formal analysis of the microturbines’ performance. “We’re collecting utility data and monitoring the system’s performance to make sure everything is on track,” says Norman. Although the use of the turbines as back-up in the event of grid failure wasn’t engineered into the project, Norman sees it as a remarkable benefit. “We’re happy with the performance of these,” Norman says. “If the payback is there, we will definitely include this technology in future projects with hot water demands.”

Capstone C65 ICHP Microturbine



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