

1350 Avenue of the Americas

It's easy to locate 1350 Avenue of the Americas (AOA) during a blackout in New York City – it's the place with the lights on.

The building is a beacon in the darkness because it doesn't fully rely on Consolidated Edison for its power – thanks to natural-gas microturbines from Capstone Turbine that generate electricity and heat onsite.

On the 16th floor set-back roof of the 35-story building sit 12 Capstone C65 High Pressure Dual Mode ICHP units that create an individual power plant generating 780kW of clean and secure electricity – about 35 percent of the building's day-to-day electricity needs – regardless of the status of the aging electric grid surrounding it.

The power plant of Capstone microturbines is owned and operated by OfficePower Inc., a Connecticut-based company that offers multi-tenant office building owners an option that once was impossible: energy independence and financial competitiveness.

OfficePower is teaming with Capstone to increase the facility's power reliability and overall asset value by reducing 1350 AOA's consumption of grid power during high-cost peak periods. In addition, the Capstone microturbines provide thermal energy that carry up to 80 percent of the building's heating load during colder months. A Capstone Heat Recovery Module is installed on the top of each microturbine, capturing exhaust heat energy normally unused and sent into the atmosphere.

"In the office space real-estate market, the newest amenity that is rapidly becoming a necessity is a building's ability to deliver power," said Joel Wilson, CEO of OfficePower. "Energy is the raw material for production of financial services, legal, accounting, and other similar enterprises."



At a glance

Location

Manhattan, New York, USA

Commissioned

- 2006 – 12 Capstone C60 High Pressure Dual Mode ICHP units
- 2008 – all 12 microturbines upgraded to C65 High Pressure Dual Mode ICHP units

Fuel

Natural gas

Technologies

- 12 Capstone C65 High Pressure Dual Mode ICHP units generating 780kW of clean-and-secure electricity.
- Capstone Heat Recovery Module on each microturbine captures exhaust heat energy.

Customer

- OfficePower Inc., a Connecticut-based company that offers multi-tenant office building owners energy independence and financial competitiveness.
- Building: 1350 Avenue of the Americas, a 35-story office tower in Manhattan.

Results

- Capstone microturbines provide 35% of building's day-to-day electricity needs and up to 80% of heating needs.
- The microturbines are 2 to 2.5 times more efficient than a central fire plant.
- Microturbines cut the CO₂ footprint in half, or better.
- During a "grid event" the microturbines reconfigure near-seamlessly to provide back-up power to designated "protected" loads.
- Building's total power costs are never more than the cost of remaining tied to the grid.

“Installing Capstone microturbines is a way for building owners to differentiate their buildings in the marketplace so they can attract higher-level tenants.”

— Joel Wilson, CEO, OfficePower

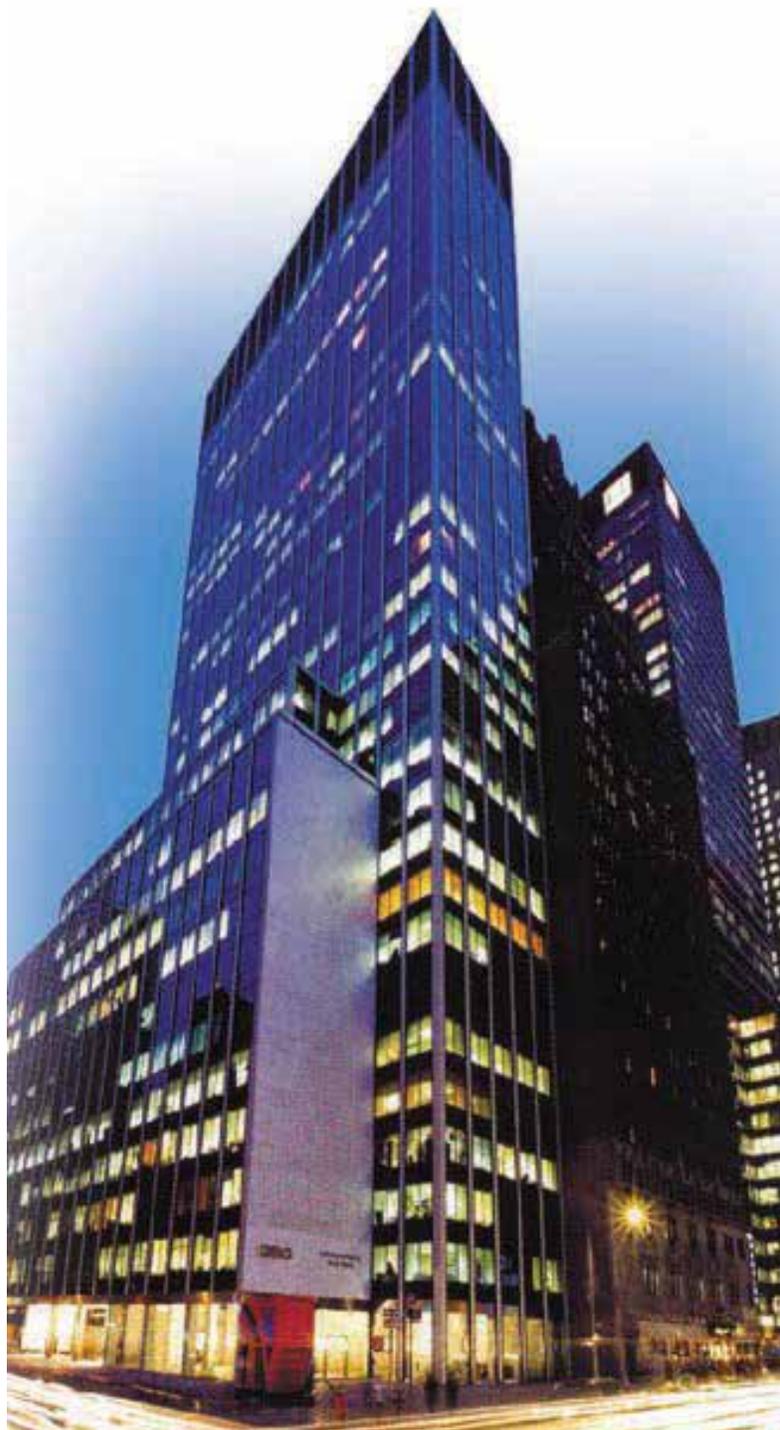
Combined heat and power is an essential feature of Mayor Michael Bloomberg’s energy road map for the future – PlaNYC 2030. Capstone Turbine provides a path to that future with its clean and advanced microturbines.

Beginning operation in August 2006, the 1350 AOA Capstone installation has experienced 99.8 percent availability – an almost unheard of figure for a distributed generation system.

“Installing Capstone microturbines is a way for building owners to differentiate their buildings in the marketplace so they can attract higher-level tenants and increase the value of their building at the same time. Because of their outstanding efficiency, reliability, almost complete lack of vibration, and super-green emission levels, Capstones are the right power generator for virtually all urban buildings,” Wilson said.

OfficePower owns and operates the power plant in a long-term arrangement with the building owner. Under terms of the agreement, OfficePower ensure a building’s total power costs do not exceed the cost of remaining completely tied to the grid.

“Our economic business model aside, this also is about what we’re bringing to the market by relieving the grid of some of its problems and how that, in turn, benefits the environment,” Wilson said. “If we’re twice as efficient as the grid, then we cut in half the CO₂ footprint of buildings on the grid. We partnered with Capstone because they share our vision of an energy option that not only serves building owners, but also is environmentally responsible.” ■



Twelve Capstone microturbines provide electricity and heat for this 35-story office tower in Manhattan.