University of Toledo
Toledo, Ohio

Capstone's exemplary Green Data Center project at Syracuse University, one of the world's greenest data centers, has a successor.

The University of Toledo's data center is the second in the country to implement Capstone's Hybrid UPS Microturbine technology, which is the first onsite power system to integrate low-emission microturbines with a dual-conversion UPS to provide power for mission-critical loads.

Four Capstone C65 Hybrid UPS Microturbines are the heart of the innovative combined cooling, heating, and power system that will boost the data center's energy efficiency. Using natural gas, the microturbines will produce electricity for the data center and a nearby recreational facility, while heat exhaust will be used to supply hot water that will heat the neighboring facility and 100 tons of chilled water for data center cooling. The system has a UPS rating of 320kVA and a power rating of 260kW.

When the system is commissioned in late 2012, it will be capable of providing 100 percent of the data center's critical electric and cooling needs. Excess electricity will be fed back into the campus grid and nearby recreational facility.

The modular mission-critical power system, which is based on microturbine technology, will deliver uninterrupted electrical power with an expected 85–90 percent overall system efficiencies. The high efficiencies will reduce energy and fuel consumption, emissions, and energy costs. In fact, the system is expected to reduce data center power consumption 50 percent and carbon emissions more than 50 percent when compared with a grid-powered data center. Even more significant, the Capstone Hybrid UPS system will replace the data center's existing backup generator and increase the facility's reliability by not relying on any utility power to operate. ∎

Four Capstone C65 Hybrid UPS Microturbines will be installed in University of Toledo's Green Data Center. The system will be capable of providing 100 percent of the data center's critical electric and cooling needs.

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